

**ПРОТЯЖКИ С НАВЕРТНЫМ ХВОСТОВИКОМ  
ДЛЯ ШЛИЦЕВЫХ ОТВЕРСТИЙ С ЭВОЛЬВЕНТНЫМ  
ПРОФИЛЕМ ДИАМЕТРОМ ОТ 55 ДО 130 ММ,  
МОДУЛЕМ ОТ 3 ДО 5 ММ С ЦЕНТРИРОВАНИЕМ  
ПО НАРУЖНОМУ ДИАМЕТРУ.**

**ГОСТ  
28050—89**

**Конструкция**

Broaches with diameter from 55 to 130 mm for slitting holes  
with involute profile with wind round tail and centring at outside diameter  
with modul from 3 to 5 mm.  
Construction

ОКП 39 2340

Дата введения 01.07.90

**Несоблюдение стандарта преследуется по закону**

Настоящий стандарт распространяется на однопроходные протяжки универсального назначения с навертным хвостовиком диаметром  $D$  от 55 до 130 мм модулем  $m$  от 3 до 5 мм, предназначенные для обработки шлицевых втулок с эвольвентным профилем по ГОСТ 6033 с центрированием по наружному диаметру.

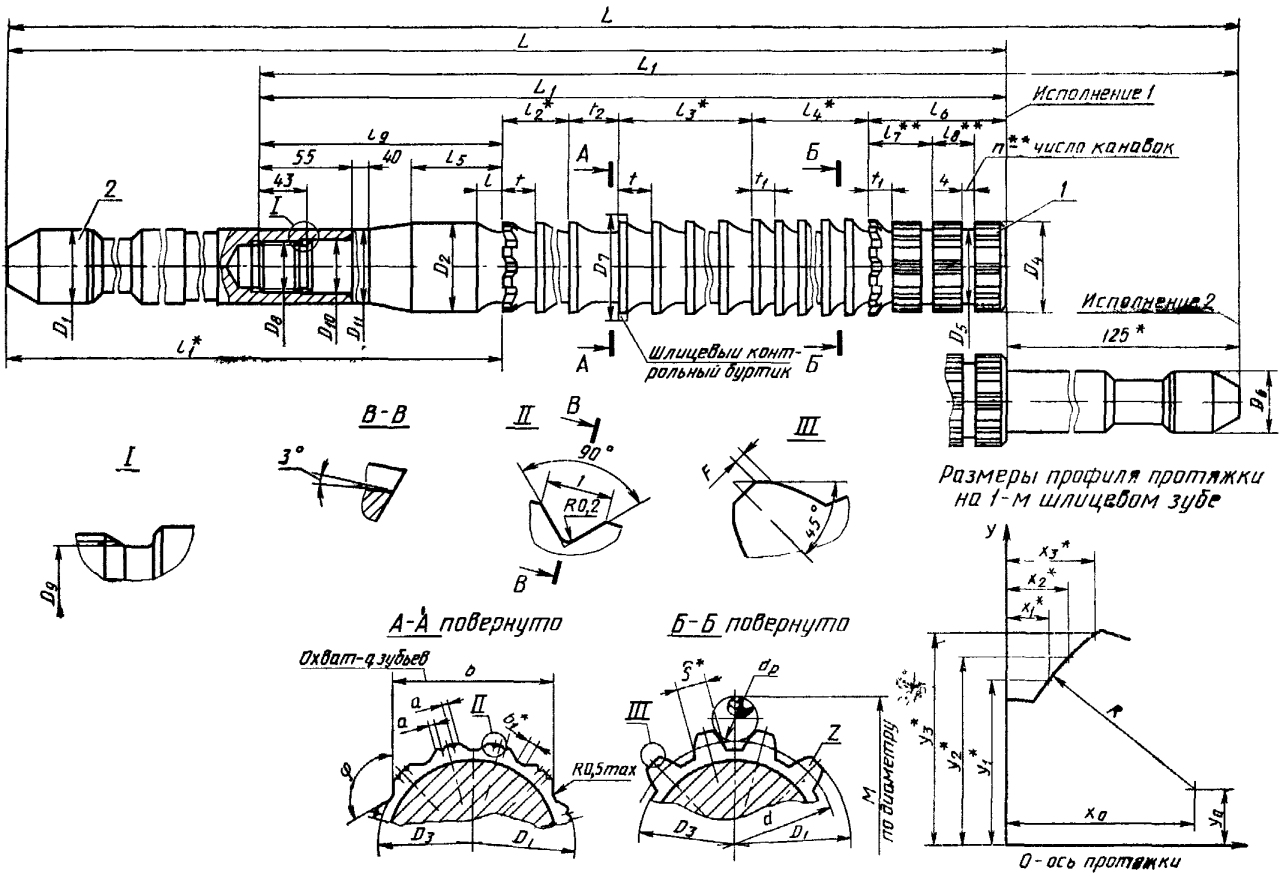
1. Конструкция и размеры протяжек должны соответствовать указанным на черт. 1 и в табл. 1, 3, 4. Размеры навертного хвостовика — по ГОСТ 28048.

Изготовление навертного хвостовика к протяжке производят по взаимной договоренности заказчика с потребителем.

Допускается по требованию заказчика корректировать размеры  $M$  (табл. 3) и диаметры в чистовых и калибрующих зубьев (табл. 4).

2. Обозначение деталей протяжек должно соответствовать табл. 2.

3. Размеры протягиваемого отверстия и усилие протягивания должны соответствовать указанным на черт. 2 и в табл. 5.



Черт. 1

\* Размеры для справок.

\*\* Размеры и параметр — рекомендуемые.

## Размеры, мм

Таблица 1

С. 3 ГОСТ 28050—89

| Обозначение<br>протяжки | Прямле-<br>ность | Обозначение<br>протяжки | Прямле-<br>ность | DxH    | Z     | Составные<br>полей<br>допусков<br>D и e | S     | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub><br>не<br>более | D <sub>4</sub><br>(пред.<br>откл.<br>-0,2) | D <sub>5</sub> | D <sub>6</sub> | D <sub>7</sub> | D <sub>8</sub><br>(поле<br>допуска,<br>8g) | D <sub>9</sub> | D <sub>10</sub> | D <sub>11</sub> | L<br>ясполе-<br>ния |      | L <sub>1</sub><br>для исполне-<br>ния |      | i   |
|-------------------------|------------------|-------------------------|------------------|--------|-------|---|-------|----------------|----------------|-------------------------------|--|----------------|----------------|----------------|--|----------------|-----------------|-----------------|---------------------|------|---------------------------------------|------|-----|
|                         |                  |                         |                  |        |       |   |       |                |                |                               |  |                |                |                |  |                |                 |                 | 1                   | 2    | 1                                     | 2    |     |
|                         |                  |                         |                  |        |       |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2532               |                  | 2403-2533               |                  | 55x3   | 17    | H7-9H                                   | 5,197 | 45             | 49             | 48,4                          | 54,3                                       | 46             | 36             | 55,2           | M30x2                                      | 27,0           | 32              | 45              | 1150                | 1275 | 975                                   | 1100 | 9,5 |
| 2403-2534               |                  | 2403-2535               |                  |        |       | H8-11H                                  | 5,277 |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2536               |                  | 2403-2537               |                  |        |       | H7-9H                                   | 5,197 |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2538               |                  | 2403-2539               |                  | H8-11H | 5,277 | 60x3                                    | 18    | 54             | 53,4           | 59,3                          | 51   | 59,6           | M36x3          | 31,6           | 38   | 50             | 1375            | 1500            | 1175                | 1300 | 11,0                                  |      |     |
| 2403-2541               |                  | 2403-2542               |                  | H7-9H  | 6,351 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2543               |                  | 2403-2544               |                  | H8-11H | 6,431 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2545               |                  | 2403-2546               |                  | H7-9H  | 6,351 | 65x3                                    | 20    | 59             | 58,4           | 64,3                          | 56   | 65,0           | M48x3          | 43,6           | 50   | 63             | 1400            | 1525            | 1200                | 1325 | 12,0                                  |      |     |
| 2403-2547               |                  | 2403-2548               |                  | H8-11H | 6,431 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2549               |                  | 2403-2551               |                  | H7-9H  | 5,774 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2552               |                  | 2403-2553               |                  | H8-11H | 5,854 | 70x3                                    | 22    | 64             | 63,4           | 69,3                          | 61   | 70,2           | M48x3          | 43,6           | 50   | 63             | 1150            | 1275            | 975                 | 1100 | 9,5                                   |      |     |
| 2403-2554               |                  | 2403-2555               |                  | H7-9H  | 5,774 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2556               |                  | 2403-2557               |                  | H8-11H | 5,854 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2558               |                  | 2403-2559               |                  | H7-9H  | 5,197 | 75x3                                    | 24    | 69             | 68,4           | 74,3                          | 66   | 74,4           | M48x3          | 43,6           | 50   | 63             | 1240            | 1365            | 1025                | 1150 | 9,5                                   |      |     |
| 2403-2561               |                  | 2403-2562               |                  | H8-11H | 5,277 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2563               |                  | 2403-2564               |                  | H7-9H  | 5,197 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2565               |                  | 2403-2566               |                  | H8-11H | 5,277 | 80x3                                    | 25    | 74             | 73,4           | 79,3                          | 71   | 80,0           | M48x3          | 43,6           | 50   | 70             | 1440            | 1565            | 1225                | 1350 | 12,0                                  |      |     |
| 2403-2567               |                  | 2403-2568               |                  | H7-9H  | 4,619 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2569               |                  | 2403-2571               |                  | H8-11H | 4,699 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2572               |                  | 2403-2573               |                  | H7-9H  | 4,619 | 85x3                                    | 27    | 79             | 78,4           | 84,3                          | 76   | 85,4           | M48x3          | 43,6           | 50   | 70             | 1490            | 1615            | 1275                | 1400 | 12,0                                  |      |     |
| 2403-2574               |                  | 2403-2575               |                  | H8-11H | 4,699 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2576               |                  | 2403-2577               |                  | H7-9H  | 5,774 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2578               |                  | 2403-2579               |                  | H8-11H | 5,854 | 80x3                                    | 25    | 74             | 73,4           | 79,3                          | 71   | 80,0           | M48x3          | 43,6           | 50   | 70             | 1265            | 1390            | 1025                | 1150 | 9,5                                   |      |     |
| 2403-2581               |                  | 2403-2582               |                  | H7-9H  | 5,774 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2583               |                  | 2403-2584               |                  | H8-11H | 5,854 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2585               |                  | 2403-2586               |                  | H7-9H  | 5,197 | 85x3                                    | 27    | 79             | 78,4           | 84,3                          | 76   | 85,4           | M48x3          | 43,6           | 50   | 70             | 1515            | 1640            | 1275                | 1400 | 12,0                                  |      |     |
| 2403-2587               |                  | 2403-2588               |                  | H8-11H | 5,277 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2589               |                  | 2403-2591               |                  | H7-9H  | 5,197 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 |                     |      |                                       |      |     |
| 2403-2592               |                  | 2403-2593               |                  | H8-11H | 5,277 |   |       |                |                |                               |  |                |                |                |  |                |                 |                 | 1265                | 1390 | 1025                                  | 1150 | 9,5 |
|                         |                  |                         |                  |        |       |   |       |                |                |                               |  |                |                |                |  |                |                 |                 | 1515                | 1640 | 1275                                  | 1400 |     |

Размеры, мм

| Обозначение<br>протяжки. | Применя-<br>емость | Обозначение<br>протяжки | Применя-<br>емость | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | l <sub>10</sub> | Зубья черновые и переход-<br>ные |               |    |                       | Зубья чи-<br>стовые и ка-<br>либрующие<br>(число зубь-<br>ев — 10) |                       | t <sub>2</sub> | b<br>(пред.<br>откл.<br>—0,04) | b <sub>1</sub> | φ<br>(пред.<br>откл.<br>±1°) | g | F, не более | C<br>для исполне-<br>ния |       | n     | a     | f  |    |
|--------------------------|--------------------|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------------------------|---------------|----|-----------------------|--|-----------------------|----------------|--------------------------------|----------------|------------------------------|---|-------------|--------------------------|-------|-------|-------|----|----|
|                          |                    |                         |                    |                |                |                |                |                |                |                |                |                |                 | Число зубьев                     |               | t  | Номер<br>профи-<br>ля | t <sub>1</sub>   | Номер<br>профи-<br>ля |                |                                |                |                              |   |             | 1                        | 2     |       |       |    |    |
|                          |                    |                         |                    |                |                |                |                |                |                |                |                |                |                 | фасоч-<br>ных                    | шлице-<br>вых |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| Исполнение 1             |                    | Исполнение 2            |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2532                |                    | 2403-2533               |                    | 380            | 98             | 490            | 90             | 70             | 73             | 24             | 13             | 205            |                 | 8                                | 35            | 14 | 10                    | 10   | 6                     |                |                                |                |                              |   |             |                          |       | 0,244 | 0,275 | 4  | 17 |
| 2403-2534                |                    | 2403-2535               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2536                |                    | 2403-2537               |                    | 415            | 128            | 640            | 99             | 80             | 74             | 23             | 11             | 215            |                 |                                  | 40            | 16 | 11                    | 11   | 7                     | 19             |                                |                |                              |   |             |                          | 0,294 | 0,325 | 5     | 19 |    |
| 2403-2538                |                    | 2403-2539               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2541                |                    | 2403-2542               |                    | 380            | 112            | 476            | 90             | 70             | 73             | 24             | 13             | 205            |                 | 9                                |               | 14 | 10                    | 10   | 6                     |                |                                |                |                              |   |             |                          | 0,244 | 0,275 | 4     |    |    |
| 2403-2543                |                    | 2403-2544               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2545                |                    | 2403-2546               |                    | 425            | 144            | 612            | 117            | 90             | 81             | 25             | 12             | 225            |                 |                                  |               | 18 | 12                    | 13   | 8                     | 21             |                                |                |                              |   |             |                          | 0,300 | 0,331 | 5     | 18 |    |
| 2403-2547                |                    | 2403-2548               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2549                |                    | 2403-2551               |                    | 380            | 98             | 490            | 90             | 70             | 73             | 24             | 13             | 205            |                 | 8                                |               | 14 | 10                    | 10   | 6                     | 19             |                                |                |                              |   |             |                          | 0,244 | 0,275 | 4     | 17 |    |
| 2403-2552                |                    | 2403-2553               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2554                |                    | 2403-2555               |                    | 425            | 144            | 630            | 117            | 90             | 89             | 25             | 11             | 225            |                 |                                  |               | 18 | 12                    | 13   | 8                     | 20             |                                |                |                              |   |             |                          | 0,306 | 0,338 | 6     | 18 |    |
| 2403-2556                |                    | 2403-2557               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2558                |                    | 2403-2559               |                    | 420            | 112            | 518            | 90             | 70             | 81             | 24             | 12             | 205            |                 |                                  |               | 14 | 10                    | 10   | 6                     | 19             |                                |                |                              |   |             |                          | 0,256 | 0,288 | 5     | 16 |    |
| 2403-2561                |                    | 2403-2562               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2563                |                    | 2403-2564               |                    | 460            | 144            | 612            | 117            | 110            | 86             | 25             | 11             | 245            |                 |                                  |               | 18 | 12                    | 13   | 8                     | 21             |                                |                |                              |   |             |                          | 0,306 | 0,338 | 6     | 15 |    |
| 2403-2565                |                    | 2403-2566               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2567                |                    | 2403-2568               |                    | 420            | 112            | 518            | 90             | 70             | 81             | 24             |                | 205            |                 |                                  |               | 14 | 10                    | 10   | 6                     | 19             |                                |                |                              |   |             |                          | 0,256 | 0,288 |       |    |    |
| 2403-2569                |                    | 2403-2571               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2572                |                    | 2403-2573               |                    | 460            | 144            | 666            | 117            | 110            | 82             | 26             | 12             | 245            |                 | 9                                | 37            | 18 | 12                    | 13   | 8                     | 21             |                                |                |                              |   |             |                          | 0,319 | 0,350 |       | 16 |    |
| 2403-2574                |                    | 2403-2575               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2576                |                    | 2403-2577               |                    | 445            | 112            | 518            | 90             | 70             | 81             | 24             |                | 205            |                 |                                  |               | 14 | 10                    | 10   | 6                     | 19             |                                |                |                              |   |             |                          | 0,256 | 0,288 |       | 18 |    |
| 2403-2578                |                    | 2403-2579               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2581                |                    | 2403-2582               |                    | 485            | 152            | 646            | 126            | 110            | 84             | 25             | 13             | 245            |                 |                                  |               | 19 | 12                    | 14   | 9                     | 22             |                                |                |                              |   |             |                          | 0,319 | 0,350 |       | 17 |    |
| 2403-2583                |                    | 2403-2584               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2585                |                    | 2403-2586               |                    | 445            | 112            | 518            | 90             | 70             | 81             | 24             | 12             | 205            |                 |                                  |               | 14 | 10                    | 10   | 6                     | 19             |                                |                |                              |   |             |                          | 0,256 | 0,288 |       | 18 |    |
| 2403-2587                |                    | 2403-2588               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |
| 2403-2589                |                    | 2403-2591               |                    | 485            | 152            | 646            | 126            | 110            | 84             | 25             | 13             | 245            |                 |                                  |               | 19 | 12                    | 14   | 9                     | 22             |                                |                |                              |   |             |                          | 0,319 | 0,350 |       | 17 |    |
| 2403-2592                |                    | 2403-2593               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                       |  |                       |                |                                |                |                              |   |             |                          |       |       |       |    |    |

## Размеры, мм

Продолжение табл. 1

| Обозначение<br>протяжки | Применя-<br>емость | Обозначение<br>протяжки | Применя-<br>емость | D × t    | z  | Сочета-<br>ние полей<br>допусков<br>D и e | S     | D <sub>1</sub> | D <sub>2</sub> | D <sub>2</sub> ,<br>не<br>более | D <sub>3</sub><br>(прек.<br>откл.<br>-0,2) | D <sub>4</sub> | D <sub>5</sub> | D <sub>7</sub> | D <sub>8</sub><br>(поле<br>допуска<br>8g) | D <sub>9</sub> | D <sub>10</sub> | D <sub>11</sub> | L<br>для исполне-<br>ния |      | L <sub>1</sub><br>для исполне-<br>ния |      | l    |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
|-------------------------|--------------------|-------------------------|--------------------|----------|----|---|-------|----------------|----------------|---------------------------------|--|----------------|----------------|----------------|---|----------------|-----------------|-----------------|--------------------------|------|---------------------------------------|------|------|------|-----|--|--|--|--|--|--|--|--|------|---|------|---|------|------|------|------|------|------|--|
|                         |                    |                         |                    |          |    |   |       |                |                |                                 |  |                |                |                |   |                |                 |                 | 1                        | 2    | 1                                     | 2    |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| Исполнение 1            |                    | Исполнение 2            |                    |          |    |   |       |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2594               |                    | 2403-2595               |                    | 90 × 3   | 28 | H7-9H                                     | 6,351 | 63             | 84             | 83,4                            | 89,3                                       | 81             | 90,0           |                |   |                |                 |                 |                          | 1265 | 1390                                  | 1025 | 1150 | 9,5  |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2596               |                    | 2403-2597               |                    |          |    | H8-11H                                    | 6,431 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2598               |                    | —                       |                    |          |    | H7-9H                                     | 6,351 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  | 1540 | — | 1300 | — | 12,0 |      |      |      |      |      |  |
| 2403-2599               |                    | —                       |                    |          |    | H8-11H                                    | 6,431 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2601               |                    | 2403-2602               |                    | 95 × 3   | 30 | H7-9H                                     | 5,774 | 63             | 89             | 88,4                            | 94,3                                       | 86             | 95,2           |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2603               |                    | 2403-2604               |                    |          |    | H8-11H                                    | 5,854 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2605               |                    | 2403-2606               |                    | 100 × 3  | 32 | H7-9H                                     | 5,197 | 63             | 94             | 93,4                            | 99,3                                       | 91             | 99,3           |                |   |                |                 |                 |                          | 1265 | 1390                                  | 1025 | 1150 | 9,5  |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2607               |                    | 2403-2608               |                    |          |    | H8-11H                                    | 5,277 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2609               |                    | 2403-2611               |                    | 105 × 3  | 34 | H7-9H                                     | 4,629 | 63             | 99             | 98,4                            | 104,3                                      | 96             | 104,6          | M48 × 3        | 43,6                                      | 50             | 70              |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2612               |                    | 2403-2613               |                    |          |    | H8-11H                                    | 4,719 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2614               |                    | —                       |                    |          |    | H7-9H                                     | 4,629 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2615               |                    | —                       |                    |          |    | H8-11H                                    | 4,719 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      | 1515 | —    | 1275 | —    | 12,0 |  |
| 2403-2616               |                    | 2403-2617               |                    | 110 × 3  | 35 | H7-9H                                     | 5,784 | 63             | 104            | 103,4                           | 109,3                                      | 101            | 109,2          |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2618               |                    | 2403-2619               |                    |          |    | H8-11H                                    | 5,874 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2621               |                    | 2403-2622               |                    | 120 × 3  | 38 | H7-9H                                     | 6,361 | 63             | 114            | 113,4                           | 119,3                                      | 111            | 120,3          |                |   |                |                 |                 |                          |      | 1265                                  | 1390 | 1025 | 1150 | 9,5 |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2623               |                    | 2403-2624               |                    |          |    | H8-11H                                    | 6,451 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2625               |                    | 2403-2626               |                    | 130 × 3  | 42 | H7-9H                                     | 5,207 | 63             | 124            | 123,4                           | 129,3                                      | 121            | 129,4          |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2627               |                    | 2403-2628               |                    |          |    | H8-11H                                    | 5,297 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2629               |                    | 2403-2631               |                    | 55 × 3,5 | 14 | H7-9H                                     | 6,810 | 63             | 45             | 48                              | 47,4                                       | 54,3           | 45             | 36             | 54,4                                      | M30 × 2        | 27,0            | 32              | 45                       |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2632               |                    | 2403-2633               |                    |          |    | H8-11H                                    | 6,879 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2634               |                    | 2403-2635               |                    |          |    | H7-9H                                     | 6,810 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      | 1400 | 1525 | 1200 | 1325 | 11,0 |  |
| 2403-2636               |                    | 2403-2637               |                    |          |    | H8-11H                                    | 6,879 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2638               |                    | 2403-2639               |                    | 60 × 3,5 | 16 | H7-9H                                     | 5,664 | 63             | 53             | 52,4                            | 59,3                                       | 50             | 60,2           |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2641               |                    | 2403-2642               |                    |          |    | H8-11H                                    | 5,744 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2643               |                    | 2403-2644               |                    |          |    | H7-9H                                     | 5,664 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2645               |                    | 2403-2646               |                    |          |    | H8-11H                                    | 5,744 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2647               |                    | 2403-2648               |                    | 65 × 3,5 | 18 | H7-9H                                     | 4,510 | 63             | 58             | 57,4                            | 64,3                                       | 55             | 64,8           |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |
| 2403-2649               |                    | 2403-2651               |                    |          |    | H8-11H                                    | 4,590 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |      |      |     |  |  |  |  |  |  |  |  |      |   |      |   |      |      |      |      |      |      |  |

Размеры, мм

| Обозначение проточки | Группа | Обозначение проточки | Группа | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | l <sub>10</sub> | Зубья черновые и переходные |          |    |               | Зубья чистовые и калибрующие (число зубьев — 10) |               | t <sub>2</sub> | b (пред. откл. —0,04) | b <sub>1</sub> | φ (пред. откл. ±1) | γ | F, не более | С для исполнения |       | n     | a | j   |  |
|----------------------|--------|----------------------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------------------|----------|----|---------------|--|---------------|----------------|-----------------------|----------------|--------------------|---|-------------|------------------|-------|-------|---|-----|--|
|                      |        |                      |        |                |                |                |                |                |                |                |                |                |                 | Число зубьев                |          | t  | Номер профиля | t <sub>1</sub>                                   | Номер профиля |                |                       |                |                    |   |             | 1                | 2     |       |   |     |  |
|                      |        |                      |        |                |                |                |                |                |                |                |                |                |                 | фасочных                    | шлицевых |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| Исполнение 1         |        | Исполнение 2         |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2594            |        | 2403-2595            |        | 445            | 112            | 518            | 90             | 70             | 81             | 24             | 12             | 205            | 9               | 37                          | 14       | 10 | 10            | 6  | 19            |                |                       |                |                    |   |             |                  | 0,256 | 0,288 | 5 |     |  |
| 2403-2596            |        | 2403-2597            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 64,04          | 1,69                  | 102°52'        |                    |   |             |                  |       |       |   |     |  |
| 2403-2598            |        | —                    |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2599            |        | —                    |        | 485            | 171            | 646            | 126            | 110            | 90             | 25             | 11             | 245            | 10              | 34                          | 19       | 12 | 14            | 9  | 22            |                |                       |                |                    |   |             | 0,325            | —     | 6     |   |     |  |
| 2403-2601            |        | 2403-2602            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2603            |        | 2403-2604            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 64,37          | 1,84                  | 96°00'         |                    |   |             |                  |       |       |   |     |  |
| 2403-2605            |        | 2403-2606            |        | 445            | 112            | 518            | 90             | 70             | 81             | 24             | 12             | 205            | 9               | 37                          | 14       | 10 | 10            | 6  | 19            |                |                       |                |                    |   |             | 0,256            | 0,288 |       |   |     |  |
| 2403-2607            |        | 2403-2608            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 71,04          | 1,68                  | 101°16'        |                    |   |             |                  |       |       |   |     |  |
| 2403-2609            |        | 2403-2611            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   | 0,24        |                  |       |       |   |     |  |
| 2403-2612            |        | 2403-2613            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2614            |        | —                    |        | 485            | 171            | 627            | 126            | 110            | 84             | 25             | 13             | 245            | 10              | 33                          | 19       | 12 | 14            | 9  | 22            |                |                       |                |                    |   |             | 0,319            | —     | 5     |   |     |  |
| 2403-2615            |        | —                    |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2616            |        | 2403-2617            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2618            |        | 2403-2619            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 73,35          | 1,90                  | 92°34'         |                    |   |             |                  |       |       |   |     |  |
| 2403-2621            |        | 2403-2622            |        | 445            | 112            | 518            |                |                | 81             | 24             |                |                | 9               | 37                          |          |    |               |  |               |                |                       |                |                    |   |             | 0,256            | 0,288 |       |   |     |  |
| 2403-2623            |        | 2403-2624            |        |                |                |                | 90             | 70             |                |                |                | 205            |                 |                             | 14       | 10 | 10            | 6  | 19            |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2625            |        | 2403-2626            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2627            |        | 2403-2628            |        |                | 126            | 546            |                |                |                |                |                |                | 10              | 39                          |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2629            |        | 2403-2631            |        |                |                |                |                |                | 64             | 21             | 12             |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             | 0,262            | 0,294 |       |   |     |  |
| 2403-2632            |        | 2403-2633            |        | 380            | 112            | 560            |                |                |                |                |                |                | 9               | 40                          |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2634            |        | 2403-2635            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 35,56          | 2,20                  | 102°52'        |                    |   |             |                  |       |       |   |     |  |
| 2403-2636            |        | 2403-2637            |        | 415            | 144            | 656            | 99             | 80             | 66             | 23             |                | 215            | 10              |                             | 16       | 11 | 11            | 7  | 20            |                |                       |                |                    |   |             | 0,300            | 0,331 |       |   |     |  |
| 2403-2638            |        | 2403-2639            |        |                |                |                |                |                |                |                |                |                |                 | 41                          |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2641            |        | 2403-2642            |        | 380            | 98             | 574            | 90             | 70             | 64             | 21             |                | 205            | 8               |                             | 14       | 10 | 10            |  | 19            |                |                       |                |                    |   |             | 0,262            | 0,294 |       |   | 2,0 |  |
| 2403-2643            |        | 2403-2644            |        |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2645            |        | 2403-2646            |        | 425            | 144            | 648            | 108            | 90             | 79             | 25             | 11             | 225            |                 |                             | 36       | 18 | 12            | 8  | 21            |                | 1,86                  | 112°30'        |                    |   |             | 0,306            | 0,338 | 5     |   |     |  |
| 2403-2647            |        | 2403-2648            |        |                |                |                |                |                |                |                |                |                | 9               |                             |          |    |               |  |               |                |                       |                |                    |   |             |                  |       |       |   |     |  |
| 2403-2649            |        | 2403-2651            |        | 380            | 112            | 560            | 90             | 70             | 64             | 21             | 12             | 205            |                 |                             | 40       | 14 | 10            | 7  | 19            |                | 2,22                  | 100°00'        |                    |   |             | 0,262            | 0,294 | 4     |   |     |  |

## Размеры, мм

Продолжение табл. 1

| Обозначение<br>протяжки | Применя-<br>емость | Обозначение<br>протяжки | Применя-<br>емость | D <sub>ж</sub> | z  | Сочета-<br>ние полей<br>допусков<br>D и e | S     | D <sub>1</sub> | D <sub>2</sub> | D <sub>2</sub> ,<br>не<br>более | D <sub>4</sub><br>(пред.<br>откл.<br>-0,2) | D <sub>5</sub> | D <sub>6</sub> | D <sub>7</sub> | D <sub>8</sub><br>(поле<br>допуска<br>8g) | D <sub>9</sub> | D <sub>10</sub> | D <sub>11</sub> | L<br>для испол-<br>нения |      | L <sub>1</sub><br>для испол-<br>нения |      | I |
|-------------------------|--------------------|-------------------------|--------------------|----------------|----|---|-------|----------------|----------------|---------------------------------|--|----------------|----------------|----------------|---|----------------|-----------------|-----------------|--------------------------|------|---------------------------------------|------|---|
|                         |                    |                         |                    |                |    |   |       |                |                |                                 |  |                |                |                |   |                |                 |                 | 1                        | 2    | 1                                     | 2    |   |
| Исполнение 1            |                    | Исполнение 2            |                    |                |    |   |       |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2652               |                    | 2403-2653               |                    | 65×3,5         | 18 | H7-9H                                     | 4,510 | 50             | 58             | 57,4                            | 64,3                                       | 55             | 64,8           | M36×3          | 31,6                                      | 38             | 50              | 1450            | 1575                     | 1250 | 1375                                  | 12,0 |   |
| 2403-2654               |                    | 2403-2655               |                    |                |    | H8-11H                                    | 4,590 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2656               |                    | 2403-2657               |                    | 70×3,5         |    | H7-9H                                     | 7,396 | 63             | 62,4           | 69,3                            | 60   | 69,8           |                |                |   |                |                 | 1350            | 1475                     | 1150 | 1275                                  | 9,5  |   |
| 2403-2658               |                    | 2403-2659               |                    |                |    | H8-11H                                    | 7,476 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2661               |                    | 2403-2662               |                    | 75×3,5         | 20 | H7-9H                                     | 6,242 | 68             | 67,4           | 74,3                            | 65   | 75,3           |                |                |   |                | 63              | 1340            | 1465                     | 1125 | 1250                                  | 12,0 |   |
| 2403-2663               |                    | 2403-2664               |                    |                |    | H8-11H                                    | 6,322 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2665               |                    | 2403-2666               |                    |                |    | H7-9H                                     | 6,242 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2667               |                    | 2403-2668               |                    | 80×3,5         | 22 | H8-11H                                    | 6,322 | 73             | 72,4           | 79,3                            | 70   | 79,7           |                |                |   |                |                 | 1515            | 1640                     | 1300 | 1425                                  | 9,5  |   |
| 2403-2669               |                    | 2403-2671               |                    |                |    | H7-9H                                     | 5,087 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2672               |                    | 2403-2673               |                    |                |    | H8-11H                                    | 5,167 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2674               |                    | —                       |                    |                |    | H7-9H                                     | 5,087 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2675               |                    | —                       |                    | 85×3,5         | 24 | H8-11H                                    | 5,167 | 63             | 78             | 77,4                            | 84,3                                       | 75             | 85,2           | M48×3          | 43,6                                      | 50             | 70              | 1640            | —                        | 1400 | —                                     | 12,0 |   |
| 2403-2676               |                    | 2403-2677               |                    |                |    | H7-9H                                     | 3,932 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2678               |                    | 2403-2679               |                    |                |    | H8-11H                                    | 4,012 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2681               |                    | —                       |                    | 90×3,5         |    | H7-9H                                     | 3,932 | 83             | 82,4           | 89,3                            | 80   | 90,4           |                |                |   |                |                 | 1365            | 1490                     | 1125 | 1250                                  | 9,5  |   |
| 2403-2682               |                    | —                       |                    |                |    | H8-11H                                    | 4,012 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2683               |                    | 2403-2684               |                    |                |    | H7-9H                                     | 6,819 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2685               |                    | 2403-2686               |                    |                |    | H8-11H                                    | 6,899 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2687               |                    | —                       |                    | 95×3,5         | 26 | H7-9H                                     | 6,819 | 88             | 87,4           | 94,3                            | 85   | 94,5           |                |                |   |                |                 | 1640            | —                        | 1400 | —                                     | 12,0 |   |
| 2403-2688               |                    | —                       |                    |                |    | H8-11H                                    | 6,899 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2689               |                    | 2403-2691               |                    |                |    | H7-9H                                     | 5,664 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2692               |                    | 2403-2693               |                    | 100×3,5        | 28 | H8-11H                                    | 5,744 | 93             | 92,4           | 99,3                            | 90   | 100,0          |                |                |   |                |                 | 1365            | 1490                     | 1125 | 1250                                  | 9,5  |   |
| 2403-2694               |                    | 2403-2695               |                    |                |    | H7-9H                                     | 4,510 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2696               |                    | 2403-2697               |                    | 105×3,5        | 29 | H8-11H                                    | 4,590 | 98             | 97,4           | 104,3                           | 95   | 104,8          |                |                |   |                |                 | 1365            | 1490                     | 1125 | 1250                                  | 9,5  |   |
| 2403-2698               |                    | 2403-2699               |                    |                |    | H7-9H                                     | 5,386 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2701               |                    | 2403-2702               |                    |                |    | H8-11H                                    | 5,476 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2703               |                    | 2403-2704               |                    | 110×3,5        | 30 | H7-9H                                     | 6,252 | 103            | 102,4          | 109,3                           | 100  | 109,4          |                |                |   |                |                 |                 |                          |      |                                       |      |   |
| 2403-2705               |                    | 2403-2706               |                    |                |    | H8-11H                                    | 6,342 |                |                |                                 |  |                |                |                |   |                |                 |                 |                          |      |                                       |      |   |

Размеры, мм

Продолжение табл. 1

| Обозначение протяжки | Применяемость | Обозначение протяжки | Применяемость | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | l <sub>10</sub> | Зубья черновые и переходные |          |    |               | Зубья чистовые и калибрующие (число зубьев — 10) |               | t <sub>2</sub> | b (пред. откл. — 0,04) | b <sub>1</sub> | φ (пред. откл. ± 1°) | φ       | F, не более | С для исполнения |       | п     | а   | j  |  |
|----------------------|---------------|----------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------------------|----------|----|---------------|--|---------------|----------------|------------------------|----------------|----------------------|---------|-------------|------------------|-------|-------|-----|----|--|
|                      |               |                      |               |                |                |                |                |                |                |                |                |                |                 | Число зубьев                |          | t  | Номер профиля | t <sub>1</sub>                                   | Номер профиля |                |                        |                |                      |         |             | 1                | 2     |       |     |    |  |
|                      |               |                      |               |                |                |                |                |                |                |                |                |                |                 | фасочных                    | шлицевых |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| Исполнение 1         |               | Исполнение 2         |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2652            |               | 2403-2653            |               | 425            | 162            | 648            | 117            | 90             | 77             | 25             | 11             | 225            | 10              | 36                          | 18       | 12 | 13            | 8  | 21            | 42,42          | 2,22                   |                |                      |         |             |                  | 0,313 | 0,344 |     | 20 |  |
| 2403-2654            |               | 2403-2655            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                | 100°00'              | 5       |             |                  |       |       |     |    |  |
| 2403-2656            |               | 2403-2657            |               | 405            | 140            |                |                |                | 80             | 23             | 12             |                | 11              |                             |          |    |               |  |               | 46,19          | 2,29                   |                |                      |         |             | 0,288            | 0,319 | 5     | 22  |    |  |
| 2403-2658            |               | 2403-2659            |               |                |                | 616            | 90             | 70             |                |                |                |                |                 | 44                          | 14       | 10 | 10            | 7  | 19            |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2661            |               | 2403-2662            |               | 420            | 112            |                |                |                | 83             | 22             |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             | 0,281            | 0,313 |       | 17  |    |  |
| 2403-2663            |               | 2403-2664            |               |                |                |                |                |                |                |                |                |                | 9               |                             |          |    |               |  |               | 53,25          | 1,98                   | 108°00'        |                      |         |             |                  |       |       |     |    |  |
| 2403-2665            |               | 2403-2666            |               | 460            | 144            | 702            | 117            | 110            | 71             | 25             | 13             | 245            |                 | 39                          | 18       | 12 | 13            | 8  | 21            |                |                        |                |                      |         |             | 0,325            | 0,356 | 4     | 16  |    |  |
| 2403-2667            |               | 2403-2668            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2669            |               | 2403-2671            |               | 445            | 126            | 602            | 90             | 70             | 83             | 22             |                | 205            |                 | 43                          | 14       | 10 | 10            | 7  | 19            |                |                        |                |                      |         |             | 0,281            | 0,313 |       | 15  |    |  |
| 2403-2672            |               | 2403-2673            |               |                |                |                |                |                |                |                |                |                | 10              |                             |          |    |               |  |               | 53,16          | 2,20                   | 98°10'         |                      |         |             |                  |       |       |     |    |  |
| 2403-2674            |               | —                    |               | 485            | 171            | 760            | 126            | 110            | 77             | 25             | 11             | 245            |                 | 40                          | 19       | 12 | 14            | 9  | 21            |                |                        |                |                      |         |             | 0,350            | —     |       | 14  |    |  |
| 2403-2675            |               | —                    |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2676            |               | 2403-2677            |               | 445            | 112            | 616            | 90             | 70             | 83             | 22             | 13             | 205            |                 | 44                          | 14       | 10 | 10            | 7  | 19            |                |                        |                |                      |         |             | 0,281            | 0,313 |       | 15  |    |  |
| 2403-2678            |               | 2403-2679            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 59,98          | 2,16                   |                |                      | 0,28    |             |                  |       |       | 2,0 | 15 |  |
| 2403-2681            |               | —                    |               | 485            | 152            | 779            | 126            | 110            | 77             | 25             | 11             | 245            | 9               | 41                          | 19       | 12 | 14            | 9  | 21            |                |                        |                |                      |         |             | 0,350            | —     |       |     |    |  |
| 2403-2682            |               | —                    |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2683            |               | 2403-2684            |               | 445            | 112            | 616            | 90             | 70             | 83             | 22             | 13             | 205            |                 | 44                          | 14       | 10 | 10            | 7  | 19            |                |                        | 105°00'        |                      |         |             |                  | 0,281 | 0,313 |     |    |  |
| 2403-2685            |               | 2403-2686            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 64,00          | 2,07                   |                |                      |         |             |                  |       | 5     | 20  |    |  |
| 2403-2687            |               | —                    |               | 485            | 171            | 760            | 126            | 110            | 76             | 25             | 11             | 245            |                 | 40                          | 19       | 12 | 14            | 9  | 22            |                |                        |                |                      |         |             | 0,350            | —     |       |     |    |  |
| 2403-2688            |               | —                    |               |                |                |                |                |                |                |                |                |                | 10              |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2689            |               | 2403-2691            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2692            |               | 2403-2693            |               |                | 126            | 602            |                |                |                |                |                |                |                 | 43                          |          |    |               |  |               | 68,31          | 2,26                   | 96°56'         |                      |         |             |                  |       |       |     |    |  |
| 2403-2694            |               | 2403-2695            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2696            |               | 2403-2697            |               | 445            | 112            | 616            | 90             | 70             | 83             | 22             | 13             | 205            | 9               | 44                          | 14       | 10 | 10            | 7  | 19            |                |                        | 70,81          | 2,14                 | 102°52' |             |                  | 0,281 | 0,313 |     | 19 |  |
| 2403-2698            |               | 2403-2699            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2701            |               | 2403-2702            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2703            |               | 2403-2704            |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     |    |  |
| 2403-2705            |               | 2403-2706            |               | 126            | 602            |                |                |                |                |                |                |                | 10              | 43                          |          |    |               |  |               |                |                        |                |                      |         |             |                  |       |       |     | 20 |  |
|                      |               |                      |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 74,48          | 2,27                   | 96°00'         |                      |         |             |                  |       |       |     |    |  |



| Обозначение проточки | Применяемость | Обозначение проточки | Применяемость | D×t     | z  | Сочетание полей допусков D и e | S     | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> не более | D <sub>4</sub> (пред откл. -0,2) | D <sub>5</sub> | D <sub>6</sub> | D <sub>7</sub> | D <sub>8</sub> (поле допуска 8g) | D <sub>9</sub> | D <sub>10</sub> | D <sub>11</sub> | L для исполнения |      | L <sub>1</sub> для исполнения |      | l    |
|----------------------|---------------|----------------------|---------------|---------|----|--------------------------------|-------|----------------|----------------|-------------------------|----------------------------------|----------------|----------------|----------------|----------------------------------|----------------|-----------------|-----------------|------------------|------|-------------------------------|------|------|
|                      |               |                      |               |         |    |                                |       |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1                | 2    | 1                             | 2    |      |
| Исполнение 1         |               | Исполнение 2         |               |         |    |                                |       |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2707            |               | 2403-2708            |               | 120×3,5 | 34 | H7—9H                          | 3,942 |                | 113            | 112,4                   | 119,3                            | 110            |                | 120,3          |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2709            |               | 2403-2711            |               |         |    | H8—11H                         | 4,032 | 70             |                |                         |                                  |                |                |                | M48×3                            | 43,6           | 50              | 70              | 1365             | 1490 | 1125                          | 1250 |      |
| 2403-2712            |               | 2403-2713            |               | 130×3,5 | 36 | H7—9H                          | 5,674 |                | 123            | 122,4                   | 129,3                            | 120            |                | 129,8          |                                  |                |                 |                 |                  |      |                               |      | 9,5  |
| 2403-2714            |               | 2403-2715            |               |         |    | H8—11H                         | 5,764 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2716            |               | 2403-2717            |               |         |    | H7—9H                          | 8,442 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1325             | 1450 | 1150                          | 1275 |      |
| 2403-2718            |               | 2403-2719            |               | 60×4    | 13 | H8—11H                         | 8,522 |                | 52             | 51,2                    | 59,2                             | 49             |                | 59,3           |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2721            |               | 2403-2722            |               |         |    | H7—9H                          | 8,442 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1500             | 1625 | 1300                          | 1425 | 11,0 |
| 2403-2723            |               | 2403-2724            |               |         |    | H8—11H                         | 8,522 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2725            |               | 2403-2726            |               |         |    | H7—9H                          | 6,710 | 50             |                |                         |                                  |                |                |                | M36×3                            | 31,6           | 38              | 50              | 1325             | 1450 | 1150                          | 1275 | 9,5  |
| 2403-2727            |               | 2403-2728            |               | 65×4    | 15 | H8—11H                         | 6,790 |                | 57             | 56,2                    | 64,2                             | 54             |                | 65,3           |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2729            |               | 2403-2731            |               |         |    | H7—9H                          | 6,710 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1500             | 1625 | 1300                          | 1425 | 11,0 |
| 2403-2732            |               | 2403-2733            |               |         |    | H8—11H                         | 6,790 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2734            |               | 2403-2735            |               | 70×4    | 16 | H7—9H                          | 7,287 |                | 62             | 61,2                    | 69,2                             | 59             |                | 70,0           |                                  |                |                 |                 | 1325             | 1450 |                               |      |      |
| 2403-2736            |               | 2403-2737            |               |         |    | H8—11H                         | 7,367 |                |                |                         |                                  | 50             |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2738            |               | 2403-2739            |               |         |    | H7—9H                          | 7,864 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      | 1150                          | 1275 | 9,5  |
| 2403-2741            |               | 2403-2742            |               | 75×4    | 17 | H8—11H                         | 7,944 |                | 67             | 66,2                    | 74,2                             | 64             |                | 75,0           |                                  |                |                 |                 | 1365             | 1490 |                               |      |      |
| 2403-2743            |               | 2403-2744            |               |         |    | H7—9H                          | 7,864 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2745            |               | 2403-2746            |               |         |    | H8—11H                         | 7,944 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1515             | 1640 | 1300                          | 1425 | 11,0 |
| 2403-2747            |               | 2403-2748            |               |         |    | H7—9H                          | 8,442 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2749            |               | 2403-2751            |               | 80×4    | 18 | H8—11H                         | 8,522 |                | 72             | 71,2                    | 79,2                             | 69             |                | 79,7           |                                  |                |                 |                 | 1365             | 1490 | 1150                          | 1275 | 9,5  |
| 2403-2752            |               | 2403-2753            |               |         |    | H7—9H                          | 8,442 | 63             |                |                         |                                  |                |                |                | M48×3                            | 43,6           | 50              |                 |                  |      |                               |      |      |
| 2403-2754            |               | 2403-2755            |               |         |    | H8—11H                         | 8,522 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1515             | 1640 | 1300                          | 1425 | 11,0 |
| 2403-2756            |               | 2403-2757            |               |         |    | H7—9H                          | 6,710 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2758            |               | 2403-2759            |               | 85×4    | 20 | H8—11H                         | 6,790 |                | 77             | 76,2                    | 84,2                             | 74             |                | 84,8           |                                  |                |                 |                 | 1390             | 1515 | 1150                          | 1275 | 9,5  |
| 2403-2761            |               | 2403-2762            |               |         |    | H7—9H                          | 6,710 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2763            |               | 2403-2764            |               |         |    | H8—11H                         | 6,790 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 | 1540             | 1665 | 1300                          | 1425 | 11,0 |
| 2403-2765            |               | 2403-2766            |               | 90×4    | 21 | H7—9H                          | 7,287 |                |                |                         |                                  |                |                |                |                                  |                |                 |                 |                  |      |                               |      |      |
| 2403-2767            |               | 2403-2768            |               |         |    | H8—11H                         | 7,367 |                | 82             | 81,2                    | 89,2                             | 79             |                | 89,6           |                                  |                |                 |                 | 1390             | 1515 | 1150                          | 1275 | 9,5  |

Размеры, мм

| Обозначение<br>протяжки | Применя-<br>емость | Обозначение<br>протяжки | Применя-<br>емость | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | Зубья черновые и пере-<br>ходные |               |    |                  | Зубья чис-<br>товые и ка-<br>либрующие<br>(число зубь-<br>ев — 10) |                       | t <sub>2</sub> | b<br>(пред<br>откл.<br>—0,04) | b <sub>1</sub> | Ф<br>(пред.<br>откл<br>±1°) | q | F,<br>не бо-<br>лее | С<br>для испол-<br>нения |       | n     | a | f |
|-------------------------|--------------------|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------------|---------------|----|------------------|--|-----------------------|----------------|-------------------------------|----------------|-----------------------------|---|---------------------|--------------------------|-------|-------|---|---|
|                         |                    |                         |                    |                |                |                |                |                |                |                |                |                | Число зубьев                     |               | t  | Номер<br>профиля | t <sub>1</sub>   | Номер<br>профи-<br>ля |                |                               |                |                             |   |                     | 1                        | 2     |       |   |   |
|                         |                    |                         |                    |                |                |                |                |                |                |                |                |                | фасоч-<br>ных                    | шлице-<br>вых |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| Исполнение 1            |                    | Исполнение 2            |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2707               |                    | 2403-2708               |                    |                |                | 602            |                |                | 83             | 22             | 13             |                |                                  | 43            |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2709               |                    | 2403-2711               |                    | 445            | 126            |                | 90             |                |                |                |                |                | 10                               | 43            |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       | 5     |   |   |
| 2403-2712               |                    | 2403-2713               |                    |                |                | 616            |                | 70             |                |                |                | 205            |                                  | 44            | 14 | 10               |  |                       |                |                               |                |                             |   |                     |                          |       |       | 4 |   |
| 2403-2714               |                    | 2403-2715               |                    |                |                |                |                |                |                |                |                | 12             |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2716               |                    | 2403-2717               |                    | 380            | 112            | 658            |                |                | 56             |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2718               |                    | 2403-2719               |                    |                |                |                |                |                |                |                |                |                | 9                                | 47            |    |                  |  |                       |                |                               |                |                             |   |                     |                          | 0,288 | 0,319 | 3 |   |
| 2403-2721               |                    | 2403-2722               |                    | 415            | 128            | 752            |                | 80             | 86             |                | 11             | 215            |                                  |               | 16 | 11               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2723               |                    | 2403-2724               |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2725               |                    | 2403-2726               |                    | 380            | 126            | 644            |                | 70             | 56             |                | 12             | 205            | 10                               |               | 14 | 10               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2727               |                    | 2403-2728               |                    |                |                |                |                |                |                |                |                |                |                                  | 46            |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2729               |                    | 2403-2731               |                    | 415            | 160            | 736            |                | 80             | 70             |                | 13             | 215            | 11                               |               | 16 | 11               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2732               |                    | 2403-2733               |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2734               |                    | 2403-2735               |                    | 380            |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2736               |                    | 2403-2737               |                    |                | 112            | 658            |                | 70             | 56             |                | 12             | 205            |                                  |               | 14 | 10               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2738               |                    | 2403-2739               |                    | 420            |                |                |                |                |                | 23             |                |                | 9                                | 47            |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2741               |                    | 2403-2742               |                    |                |                |                | 99             |                |                |                |                |                |                                  |               |    |                  | 11   | 8                     | 20             |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2743               |                    | 2403-2744               |                    | 430            | 128            | 752            |                | 80             | 86             |                | 11             | 215            |                                  |               | 16 | 11               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2745               |                    | 2403-2746               |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2747               |                    | 2403-2748               |                    | 420            | 126            | 644            |                | 70             | 56             |                | 12             | 205            |                                  |               | 14 | 10               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2749               |                    | 2403-2751               |                    |                |                |                |                |                |                |                |                |                | 10                               | 46            |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2752               |                    | 2403-2753               |                    | 430            | 144            | 736            |                | 80             | 86             |                | 11             | 215            |                                  |               | 16 | 11               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2754               |                    | 2403-2755               |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2756               |                    | 2403-2757               |                    | 445            | 112            | 658            |                | 70             | 56             |                | 12             | 205            |                                  |               | 14 | 10               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2758               |                    | 2403-2759               |                    |                |                |                |                |                |                |                |                |                | 9                                | 47            |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2761               |                    | 2403-2762               |                    | 455            | 128            | 752            |                | 80             | 86             |                | 11             | 215            |                                  |               | 16 | 11               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2763               |                    | 2403-2764               |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2765               |                    | 2403-2766               |                    | 445            | 126            | 644            |                | 70             | 56             |                | 12             | 205            | 10                               | 46            | 14 | 10               |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |
| 2403-2767               |                    | 2403-2768               |                    |                |                |                |                |                |                |                |                |                |                                  |               |    |                  |  |                       |                |                               |                |                             |   |                     |                          |       |       |   |   |



Размеры, мм

| Обозначение<br>протяжки | Применя-<br>емость | Обозначение<br>протяжки | Применя-<br>емость | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | l <sub>10</sub> | Зубья черновые и пере-<br>ходные |               |    |                  | Зубья чис-<br>товые и ка-<br>либрующие<br>(число зубь-<br>ев — 10) |                  | t <sub>2</sub> | b<br>(пред<br>откл<br>-0,04) | b <sub>1</sub> | φ<br>(пред<br>откл<br>±1°) | q | F,<br>не бо-<br>лее | C<br>для испол-<br>нения |       | n     | a   | f   |    |    |
|-------------------------|--------------------|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------------------------|---------------|----|------------------|--|------------------|----------------|------------------------------|----------------|----------------------------|---|---------------------|--------------------------|-------|-------|-----|-----|----|----|
|                         |                    |                         |                    |                |                |                |                |                |                |                |                |                |                 | Число зубьев                     |               | t  | Номер<br>профиля | t <sub>1</sub>   | Номер<br>профиля |                |                              |                |                            |   |                     | 1                        | 2     |       |     |     |    |    |
|                         |                    |                         |                    |                |                |                |                |                |                |                |                |                |                 | фасоч-<br>ных                    | шлипе-<br>вых |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| Исполнение 1            |                    | Исполнение 2            |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2769               |                    | 2403-2771               |                    | 455            | 144            | 736            |                |                | 80             | 86             |                |                | 11              | 215                              |               |    | 16               | 11   |                  |                | 61,91                        | 2,30           | 102°52'                    |   |                     |                          | 0,325 | 0,356 | 6   |     |    |    |
| 2403-2772               |                    | 2403-2773               |                    |                |                |                |                |                |                |                |                |                |                 |                                  | 10            | 46 |                  |  |                  |                |                              |                |                            | 6 |                     |                          |       |       |     |     |    |    |
| 2403-2774               |                    | 2403-2775               |                    |                | 126            | 644            |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                | 63,39                        | 2,53           | 98°10'                     |   |                     |                          |       |       |     |     |    |    |
| 2403-2776               |                    | 2403-2777               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2778               |                    | 2403-2779               |                    |                | 112            | 658            |                |                |                |                |                |                |                 |                                  | 9             | 47 |                  |  |                  |                | 70,88                        | 2,24           | 105°00'                    |   |                     |                          |       |       |     |     | 19 |    |
| 2403-2781               |                    | 2403-2782               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2783               |                    | 2403-2784               |                    |                |                |                | 99             |                |                | 56             |                |                |                 |                                  |               |    |                  | 11   | 8                |                | 72,38                        | 2,61           | 100°48'                    | 7 | 0,32                | 0,288                    | 0,319 | 3     | 2,5 |     |    |    |
| 2403-2785               |                    | 2403-2786               |                    | 445            |                |                |                |                |                |                |                |                | 12              |                                  |               |    |                  |  | 20               |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2787               |                    | 2403-2788               |                    |                | 126            |                |                |                |                |                |                |                |                 |                                  | 10            |    | 14               | 10   |                  |                | 73,88                        | 2,68           | 96°56'                     |   |                     |                          |       |       |     |     |    |    |
| 2403-2789               |                    | 2403-2791               |                    |                |                | 644            |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2792               |                    | 2403-2793               |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                | 85,36                        | 2,34           | 102°52'                    |   |                     |                          |       |       |     |     |    |    |
| 2403-2794               |                    | 2403-2795               |                    |                |                |                |                |                |                |                |                |                | 23              |                                  |               |    |                  |  |                  |                |                              |                |                            | 8 |                     |                          |       |       |     |     |    |    |
| 2403-2796               |                    | —                       |                    |                | 140            |                |                |                |                | 67             |                |                |                 |                                  | 11            |    |                  |  |                  |                | 85,95                        | 2,71           | 92°54'                     |   |                     | 0,294                    |       | 4     |     |     | 20 |    |
| 2403-2797               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2798               |                    | —                       |                    | 380            | 126            | 840            |                |                | 70             | 76             |                |                | 205             |                                  | 10            | 60 |                  |  |                  |                | 49,68                        | 2,53           | 120°00'                    |   |                     | 0,344                    |       | 5     |     | 35  |    |    |
| 2403-2799               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2801               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                | 50,87                        | 2,89           | 110°46'                    |   |                     |                          |       |       |     |     | 30 |    |
| 2403-2802               |                    | —                       |                    |                | 128            | 800            |                |                |                |                |                |                |                 |                                  | 9             | 50 |                  |  |                  |                |                              |                | 4                          |   |                     |                          |       |       |     |     |    |    |
| 2403-2803               |                    | —                       |                    | 420            |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                | 51,80                        | 3,18           | 102°52'                    |   |                     |                          |       |       |     |     |    |    |
| 2403-2804               |                    | —                       |                    |                |                |                |                |                |                | 63             |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     | 0,331                    |       |       |     |     |    |    |
| 2403-2805               |                    | —                       |                    |                | 126            | 784            |                | 108            |                |                |                |                | 11              |                                  | 10            | 49 |                  |  |                  |                | 52,54                        | 3,43           | 96°00'                     |   | 0,40                |                          |       |       |     | 3,0 |    |    |
| 2403-2806               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    | 16               | 11   |                  |                |                              |                |                            |   |                     |                          |       |       | 4   |     | 29 |    |
| 2403-2807               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                | 64,00                        | 2,80           | 112°30'                    |   |                     |                          |       |       |     |     |    |    |
| 2403-2808               |                    | —                       |                    |                |                | 800            |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2809               |                    | —                       |                    | 445            | 128            |                |                |                |                |                |                |                |                 |                                  | 9             | 50 |                  |  |                  |                | 62,23                        | 3,09           |                            | 5 |                     |                          |       |       |     |     | 27 |    |
| 2403-2811               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     |                          |       |       |     |     |    |    |
| 2403-2812               |                    | —                       |                    |                |                | 752            |                |                |                | 61             | 22             |                |                 |                                  |               |    |                  |  |                  |                |                              |                |                            |   |                     | 0,319                    |       |       |     |     |    |    |
| 2403-2813               |                    | —                       |                    |                |                |                |                |                |                |                |                |                |                 |                                  |               |    |                  |  |                  |                | 65,94                        | 3,28           | 100°00'                    |   |                     |                          |       |       |     |     |    | 28 |

Размеры, мм

Продолжение табл. 1

С 13 ГОСТ 28050—89

| Обозначение протяжки | Применяемость | Обозначение протяжки | Применяемость | D × m   | z  | Сочетание полей допусков D и e | S      | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> , не более | D <sub>4</sub> (пред. откл. —0,2) | D <sub>5</sub> | D <sub>6</sub> | D <sub>7</sub> | D <sub>8</sub> (поле допуска 8g) | D <sub>9</sub> | D <sub>10</sub> | D <sub>11</sub> | L для исполнения |              | L <sub>1</sub> для исполнения |      | l |   |   |
|----------------------|---------------|----------------------|---------------|---------|----|--------------------------------|--------|----------------|----------------|---------------------------|-----------------------------------|----------------|----------------|----------------|----------------------------------|----------------|-----------------|-----------------|------------------|--------------|-------------------------------|------|---|---|---|
|                      |               |                      |               |         |    |                                |        |                |                |                           |                                   |                |                |                |                                  |                |                 |                 | Исполнение 1     | Исполнение 2 | 1                             | 2    |   | 1 | 2 |
|                      |               |                      |               |         |    |                                |        |                |                |                           |                                   |                |                |                |                                  |                |                 |                 |                  |              |                               |      |   |   |   |
| 2403-2814            | —             | —                    | —             | 105 × 5 | 20 | N7—9H                          | 7,655  | 63             | 95             | 94,0                      | 104,0                             | 92             | 104,5          | M48 × 3        | 43,6                             | 50             | 70              | 1515            | —                | 1275         | —                             | 11,0 |   |   |   |
| 2403-2815            | —             | —                    | N8—11H        |         |    | 7,745                          |        |                |                |                           |                                   |                |                |                |                                  |                |                 |                 |                  |              |                               |      |   |   |   |
| 2403-2816            | —             | —                    | —             | 110 × 5 | 20 | N7—9H                          | 10,542 | 100            | 99,0           | 109,0                     | 97                                | 50             | 110,3          | M48 × 3        | 43,6                             | 50             | 70              | 1515            | —                | 1275         | —                             | 11,0 |   |   |   |
| 2403-2817            | —             | —                    | N8—11H        |         |    | 10,632                         |        |                |                |                           |                                   |                |                |                |                                  |                |                 |                 |                  |              |                               |      |   |   |   |
| 2403-2818            | —             | —                    | —             | 120 × 5 | 22 | N7—9H                          | 10,552 | 70             | 110            | 109,0                     | 119,0                             | 107            | 120,3          | M48 × 3        | 43,6                             | 50             | 70              | 1515            | —                | 1275         | —                             | 11,0 |   |   |   |
| 2403-2819            | —             | —                    | N8—11H        |         |    | 10,652                         |        |                |                |                           |                                   |                |                |                |                                  |                |                 |                 |                  |              |                               |      |   |   |   |

Размеры, мм

Продолжение табл. 1

| Обозначение протяжки | Применяемость | Обозначение протяжки | Применяемость | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | l <sub>6</sub> | l <sub>7</sub> | l <sub>8</sub> | l <sub>9</sub> | l <sub>10</sub> | Зубья черновые и переходные |          |    |               | Зубья чистовые и калибрующие (число зубьев — 10) |               | t <sub>2</sub> | b (пред. откл. —0,04) | b <sub>1</sub> | φ (пред. откл. ±1°) | q    | F, не более | C для исполнения |   | n   | a  | l      |  |
|----------------------|---------------|----------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------------------|----------|----|---------------|--|---------------|----------------|-----------------------|----------------|---------------------|------|-------------|------------------|---|-----|----|--------|--|
|                      |               |                      |               |                |                |                |                |                |                |                |                |                |                 | Число зубьев                |          | t  | Номер профиля | t <sub>1</sub>                                   | Номер профиля |                |                       |                |                     |      |             | 1                | 2 |     |    |        |  |
|                      |               |                      |               |                |                |                |                |                |                |                |                |                |                 | фасочных                    | шлицевых |    |               |  |               |                |                       |                |                     |      |             |                  |   |     |    |        |  |
|                      |               |                      |               |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                     |      |             | 1                |   |     |    |        |  |
| 2403-2814            | —             | —                    | —             | 445            | 128            | 752            | 108            | 70             | 61             | 22             | 11             | 205            | 9               | 47                          | 16       | 11 | 12            | 9  | 21            | 74,29          | 2,77                  | 108°00'        | 6                   | 0,40 | 0,319       | —                | 4 | 3,0 | 27 |        |  |
| 2403-2815            | —             | —                    | —             |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 78,24          | 2,73                  |                |                     |      |             |                  |   |     |    |        |  |
| 2403-2816            | —             | —                    | —             |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               | 80,107         | 3,29                  |                |                     |      |             |                  |   |     |    | 98°10' |  |
| 2403-2817            | —             | —                    | —             |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                     |      |             |                  |   |     |    |        |  |
| 2403-2818            | —             | —                    | —             |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                     |      |             |                  |   |     |    |        |  |
| 2403-2819            | —             | —                    | —             |                |                |                |                |                |                |                |                |                |                 |                             |          |    |               |  |               |                |                       |                |                     |      |             |                  |   |     |    |        |  |

Пример условного обозначения протяжки длиной L = 1390 мм для шлицевого эвольвентного отверстия диаметром 110 мм, модулем 4 мм с центрированием по наружному диаметру, полем допуска центрирующего диаметра H8 и ширины впадины 11H, группы заточки II исполнения 1:

Протяжка 2403-2789 II ГОСТ 28050—89

То же, протяжки с откорректированными исполнительными размерами:

Протяжка 2403-2789 K II ГОСТ 28050—89

Таблица 2

| Обозначение протяжки<br>исполнения |           | D×m        | Сочетание<br>полей<br>допусков<br>D и e | Поз. 1              |             | Поз. 2      |
|------------------------------------|-----------|------------|---|---------------------|-------------|-------------|
|                                    |           |            |   | Протяжка исполнения |             | Хвостовик   |
| 1                                  | 2         | Количество |   | Обозначение         |             |             |
| 1                                  | 2         | 1          | 2                                       | 1                   | 2           | 1           |
| 2403-2532                          | 2403-2533 | 55×3       | H7—9H                                   | 2403-2532/1         | 2403-2533/1 | 2403-2201/2 |
| 2403-2534                          | 2403-2535 |            | H8—11H                                  | 2403-2534/1         | 2403-2535/1 |             |
| 2403-2536                          | 2403-2537 |            | H7—9H                                   | 2403-2536/1         | 2403-2537/1 | 2403-2205/2 |
| 2403-2538                          | 2403-2539 |            | H8—11H                                  | 2403-2538/1         | 2403-2539/1 |             |
| 2403-2541                          | 2403-2542 | 60×3       | H7—9H                                   | 2403-2541/1         | 2403-2542/1 | 2403-2218/2 |
| 2403-2543                          | 2403-2544 |            | H8—11H                                  | 2403-2543/1         | 2403-2544/1 |             |
| 2403-2545                          | 2403-2546 |            | H7—9H                                   | 2403-2545/1         | 2403-2546/1 | 2403-2223/2 |
| 2403-2547                          | 2403-2548 |            | H8—11H                                  | 2403-2547/1         | 2403-2548/1 |             |
| 2403-2549                          | 2403-2551 | 65×3       | H7—9H                                   | 2403-2549/1         | 2403-2551/1 | 2403-2218/2 |
| 2403-2552                          | 2403-2553 |            | H8—11H                                  | 2403-2552/1         | 2403-2553/1 |             |
| 2403-2554                          | 2403-2555 |            | H7—9H                                   | 2403-2554/1         | 2403-2555/1 | 2403-2223/2 |
| 2403-2556                          | 2403-2557 |            | H8—11H                                  | 2403-2556/1         | 2403-2557/1 |             |
| 2403-2558                          | 2403-2559 | 70×3       | H7—9H                                   | 2403-2558/1         | 2403-2559/1 | 2403-2245/2 |
| 2403-2561                          | 2403-2562 |            | H8—11H                                  | 2403-2561/1         | 2403-2562/1 |             |
| 2403-2563                          | 2403-2564 |            | H7—9H                                   | 2403-2563/1         | 2403-2564/1 |             |
| 2403-2565                          | 2403-2566 |            | H8—11H                                  | 2403-2565/1         | 2403-2566/1 |             |
| 2403-2567                          | 2403-2568 | 75×3       | H7—9H                                   | 2403-2567/1         | 2403-2568/1 |             |
| 2403-2569                          | 2403-2571 |            | H8—11H                                  | 2403-2569/1         | 2403-2571/1 |             |
| 2403-2572                          | 2403-2573 |            | H7—9H                                   | 2403-2572/1         | 2403-2573/1 |             |
| 2403-2574                          | 2403-2575 |            | H8—11H                                  | 2403-2574/1         | 2403-2575/1 |             |
| 2403-2576                          | 2403-2577 | 80×3       | H7—9H                                   | 2403-2576/1         | 2403-2577/1 | 2403-2263/2 |
| 2403-2578                          | 2403-2579 |            | H8—11H                                  | 2403-2578/1         | 2403-2579/1 |             |
| 2403-2581                          | 2403-2582 |            | H7—9H                                   | 2403-2581/1         | 2403-2582/1 |             |
| 2403-2583                          | 2403-2584 |            | H8—11H                                  | 2403-2583/1         | 2403-2584/1 |             |
| 2403-2585                          | 2403-2586 | 85×3       | H7—9H                                   | 2403-2585/1         | 2403-2586/1 |             |
| 2403-2587                          | 2403-2588 |            | H8—11H                                  | 2403-2587/1         | 2403-2588/1 |             |
| 2403-2589                          | 2403-2591 |            | H7—9H                                   | 2403-2589/1         | 2403-2591/1 |             |
| 2403-2592                          | 2403-2593 |            | H8—11H                                  | 2403-2592/1         | 2403-2593/1 |             |
| 2403-2594                          | 2403-2595 | 90×3       | H7—9H                                   | 2403-2594/1         | 2403-2595/1 |             |
| 2403-2596                          | 2403-2597 |            | H8—11H                                  | 2403-2596/1         | 2403-2597/1 |             |
| 2403-2598                          | —         |            | H7—9H                                   | 2403-2598/1         | —           |             |
| 2403-2599                          | —         |            | H8—11H                                  | 2403-2599/1         | —           |             |
| 2403-2601                          | 2403-2602 | 95×3       | H7—9H                                   | 2403-2601/1         | 2403-2602/1 |             |
| 2403-2603                          | 2403-2604 |            | H8—11H                                  | 2403-2603/1         | 2403-2604/1 |             |
| 2403-2605                          | 2403-2606 | 100×3      | H7—9H                                   | 2403-2605/1         | 2403-2606/1 |             |
| 2403-2607                          | 2403-2608 |            | H8—11H                                  | 2403-2607/1         | 2403-2608/1 |             |

| Обозначение протяжки исполнения |           | D×m         | Сочетание полей допуска D и e | Поз. 1              |             | Поз. 2      |
|---------------------------------|-----------|-------------|-------------------------------|---------------------|-------------|-------------|
|                                 |           |             |                               | Протяжка исполнения |             | Хвостовик   |
|                                 |           |             |                               | 1                   | 2           |             |
|                                 |           |             |                               | Количество          |             | 1           |
| 1                               | 2         | Обозначение |                               |                     |             |             |
| 2403-2609                       | 2403-2611 | 105×3       | H7—9H                         | 2403-2609/1         | 2403-2611/1 | 2403-2263/2 |
| 2403-2612                       | 2403-2613 |             | H8—11H                        | 2403-2612/1         | 2403-2613/1 |             |
| 2403-2614                       | —         |             | H7—9H                         | 2403-2614/1         | —           |             |
| 2403-2615                       | —         | 110×3       | H8—11H                        | 2403-2615/1         | —           |             |
| 2403-2616                       | 2403-2617 |             | H7—9H                         | 2403-2616/1         | 2403-2617/1 |             |
| 2403-2618                       | 2403-2619 |             | H8—11H                        | 2403-2618/1         | 2403-2619/1 |             |
| 2403-2621                       | 2403-2622 | 120×3       | H7—9H                         | 2403-2621/1         | 2403-2622/1 | 2403-2476/2 |
| 2403-2623                       | 2403-2624 |             | H8—11H                        | 2403-2623/1         | 2403-2624/1 |             |
| 2403-2625                       | 2403-2626 | 130×3       | H7—9H                         | 2403-2625/1         | 2403-2626/1 |             |
| 2403-2627                       | 2403-2628 |             | H8—11H                        | 2403-2627/1         | 2403-2628/1 |             |
| 2403-2629                       | 2403-2631 | 55×3,5      | H7—9H                         | 2403-2629/1         | 2403-2631/1 | 2403-2201/2 |
| 2403-2632                       | 2403-2633 |             | H8—11H                        | 2403-2632/1         | 2403-2633/1 | 2403-2205/2 |
| 2403-2634                       | 2403-2635 |             | H7—9H                         | 2403-2634/1         | 2403-2635/1 |             |
| 2403-2636                       | 2403-2637 | 60×3,5      | H8—11H                        | 2403-2636/1         | 2403-2637/1 | 2403-2216/2 |
| 2403-2638                       | 2403-2639 |             | H7—9H                         | 2403-2638/1         | 2403-2639/1 |             |
| 2403-2641                       | 2403-2642 |             | H8—11H                        | 2403-2641/1         | 2403-2642/1 |             |
| 2403-2643                       | 2403-2644 | 65×3,5      | H7—9H                         | 2403-2643/1         | 2403-2644/1 | 2403-2223/2 |
| 2403-2645                       | 2403-2646 |             | H8—11H                        | 2403-2645/1         | 2403-2646/1 | 2403-2218/2 |
| 2403-2647                       | 2403-2648 | 70×3,5      | H7—9H                         | 2403-2647/1         | 2403-2648/1 |             |
| 2403-2649                       | 2403-2651 |             | H8—11H                        | 2403-2649/1         | 2403-2651/1 |             |
| 2403-2652                       | 2403-2653 |             | H7—9H                         | 2403-2652/1         | 2403-2653/1 | 2403-2223/2 |
| 2403-2654                       | 2403-2655 | H8—11H      | 2403-2654/1                   | 2403-2655/1         |             |             |
| 2403-2656                       | 2403-2657 | 75×3,5      | H7—9H                         | 2403-2656/1         | 2403-2657/1 | 2403-2245/2 |
| 2403-2658                       | 2403-2659 |             | H8—11H                        | 2403-2658/1         | 2403-2659/1 |             |
| 2403-2661                       | 2403-2662 | 80×3,5      | H7—9H                         | 2403-2661/1         | 2403-2662/1 | 2403-2263/2 |
| 2403-2663                       | 2403-2664 |             | H8—11H                        | 2403-2663/1         | 2403-2664/1 |             |
| 2403-2665                       | 2403-2666 |             | H7—9H                         | 2403-2665/1         | 2403-2666/1 |             |
| 2403-2667                       | 2403-2668 | 85×3,5      | H8—11H                        | 2403-2667/1         | 2403-2668/1 | 2403-2263/2 |
| 2403-2669                       | 2403-2671 |             | H7—9H                         | 2403-2669/1         | 2403-2671/1 |             |
| 2403-2672                       | 2403-2673 |             | H8—11H                        | 2403-2672/1         | 2403-2673/1 |             |
| 2403-2674                       | —         | 85×3,5      | H7—9H                         | 2403-2674/1         | —           | 2403-2263/2 |
| 2403-2675                       | —         |             | H8—11H                        | 2403-2675/1         | —           |             |
| 2403-2676                       | 2403-2677 |             | H7—9H                         | 2403-2676/1         | 2403-2677/1 |             |
| 2403-2678                       | 2403-2679 | 85×3,5      | H8—11H                        | 2403-2678/1         | 2403-2679/1 |             |
| 2403-2681                       | —         |             | H7—9H                         | 2403-2681/1         | —           |             |
| 2403-2682                       | —         |             | H8—11H                        | 2403-2682/1         | —           |             |

Продолжение табл. 2

| Обозначение протяжки исполнения |           | D×m     | Сочетание полей допусков D и e | Поз. 1              |             | Поз. 2      |
|---------------------------------|-----------|---------|--------------------------------|---------------------|-------------|-------------|
|                                 |           |         |                                | Протяжка исполнения |             | Хвостовик   |
|                                 |           |         |                                | 1                   | 2           |             |
|                                 |           |         |                                | Количество          |             |             |
|                                 |           |         |                                | 1                   |             | 1           |
|                                 |           |         |                                | Обозначение         |             |             |
| 2403-2683                       | 2403-2684 | 90×3,5  | H7—9H                          | 2403-2683/1         | 2403-2684/1 | 2403-2263/2 |
| 2403-2685                       | 2403-2686 |         | H8—11H                         | 2403-2685/1         | 2403-2686/1 |             |
| 2403-2687                       | —         |         | H7—9H                          | 2403-2687/1         | —           |             |
| 2403-2688                       | —         |         | H8—11H                         | 2403-2688/1         | —           |             |
| 2403-2689                       | 2403-2691 | 95×3,5  | H7—9H                          | 2403-2689/1         | 2403-2691/1 |             |
| 2403-2692                       | 2403-2693 |         | H8—11H                         | 2403-2692/1         | 2403-2693/1 |             |
| 2403-2694                       | 2403-2695 | 100×3,5 | H7—9H                          | 2403-2694/1         | 2403-2695/1 |             |
| 2403-2696                       | 2403-2697 |         | H8—11H                         | 2403-2696/1         | 2403-2697/1 |             |
| 2403-2698                       | 2403-2699 | 105×3,5 | H7—9H                          | 2403-2698/1         | 2403-2699/1 |             |
| 2403-2701                       | 2403-2702 |         | H8—11H                         | 2403-2701/1         | 2403-2702/1 |             |
| 2403-2703                       | 2403-2704 | 110×3,5 | H7—9H                          | 2403-2703/1         | 2403-2704/1 |             |
| 2403-2705                       | 2403-2706 |         | H8—11H                         | 2403-2705/1         | 2403-2706/1 |             |
| 2403-2707                       | 2403-2708 | 120×3,5 | H7—9H                          | 2403-2707/1         | 2403-2708/1 |             |
| 2403-2709                       | 2403-2711 |         | H8—11H                         | 2403-2709/1         | 2403-2711/1 |             |
| 2403-2712                       | 2403-2713 | 130×3,5 | H7—9H                          | 2403-2712/1         | 2403-2713/1 | 2403-2476/2 |
| 2403-2714                       | 2403-2715 |         | H8—11H                         | 2403-2714/1         | 2403-2715/1 |             |
| 2403-2716                       | 2403-2717 | 60×4    | H7—9H                          | 2403-2716/1         | 2403-2717/1 | 2403-2218/2 |
| 2403-2718                       | 2403-2719 |         | H8—11H                         | 2403-2718/1         | 2403-2719/1 |             |
| 2403-2721                       | 2403-2722 |         | H7—9H                          | 2403-2721/1         | 2403-2722/1 | 2403-2223/2 |
| 2403-2723                       | 2403-2724 |         | H8—11H                         | 2403-2723/1         | 2403-2724/1 |             |
| 2403-2725                       | 2403-2726 | 65×4    | H7—9H                          | 2403-2725/1         | 2403-2726/1 | 2403-2218/2 |
| 2403-2727                       | 2403-2728 |         | H8—11H                         | 2403-2727/1         | 2403-2728/1 |             |
| 2403-2729                       | 2403-2731 |         | H7—9H                          | 2403-2729/1         | 2403-2731/1 | 2403-2223/2 |
| 2403-2732                       | 2403-2733 |         | H8—11H                         | 2403-2732/1         | 2403-2733/1 |             |
| 2403-2734                       | 2403-2735 | 70×4    | H7—9H                          | 2403-2734/1         | 2403-2735/1 | 2403-2218/2 |
| 2403-2736                       | 2403-2737 |         | H8—11H                         | 2403-2736/1         | 2403-2737/1 |             |
| 2403-2738                       | 2403-2739 | 75×4    | H7—9H                          | 2403-2738/1         | 2403-2739/1 | 2403-2245/2 |
| 2403-2741                       | 2403-2742 |         | H8—11H                         | 2403-2741/1         | 2403-2742/1 |             |
| 2403-2743                       | 2403-2744 |         | H7—9H                          | 2403-2743/1         | 2403-2744/1 |             |
| 2403-2745                       | 2403-2746 |         | H8—11H                         | 2403-2745/1         | 2403-2746/1 |             |
| 2403-2747                       | 2403-2748 | 80×4    | H7—9H                          | 2403-2747/1         | 2403-2748/1 |             |
| 2403-2749                       | 2403-2751 |         | H8—11H                         | 2403-2749/1         | 2403-2751/1 |             |
| 2403-2752                       | 2403-2753 |         | H7—9H                          | 2403-2752/1         | 2403-2753/1 |             |
| 2403-2754                       | 2403-2755 |         | H8—11H                         | 2403-2754/1         | 2403-2755/1 |             |
| 2403-2756                       | 2403-2757 | 85×4    | H7—9H                          | 2403-2756/1         | 2403-2757/1 | 2403-2263/2 |
| 2403-2758                       | 2403-2759 |         | H8—11H                         | 2403-2758/1         | 2403-2759/1 |             |



| Обозначение протяжки исполнения |           | D×m   | Сочетание полей допусков D и e | Поз. 1              |             | Поз. 2      |
|---------------------------------|-----------|-------|--------------------------------|---------------------|-------------|-------------|
|                                 |           |       |                                | Протяжка исполнения |             | Хвостовик   |
|                                 |           |       |                                | 1                   | 2           |             |
|                                 |           |       |                                | Количество          |             |             |
|                                 |           |       |                                | 1                   | 1           |             |
|                                 |           |       |                                | Обозначение         |             |             |
| 2403-2761                       | 2403-2762 | 85×4  | H7—9H                          | 2403-2761/1         | 2403-2762/1 | 2403-2263/2 |
| 2403-2763                       | 2403-2764 |       | H8—11H                         | 2403-2763/1         | 2403-2764/1 |             |
| 2403-2765                       | 2403-2766 | 90×4  | H7—9H                          | 2403-2765/1         | 2403-2766/1 |             |
| 2403-2767                       | 2403-2768 |       | H8—11H                         | 2403-2767/1         | 2403-2768/1 |             |
| 2403-2769                       | 2403-2771 |       | H7—9H                          | 2403-2769/1         | 2403-2771/1 |             |
| 2403-2772                       | 2403-2773 |       | H8—11H                         | 2403-2772/1         | 2403-2773/1 |             |
| 2403-2774                       | 2403-2775 | 95×4  | H7—9H                          | 2403-2774/1         | 2403-2775/1 |             |
| 2403-2776                       | 2403-2777 |       | H8—11H                         | 2403-2776/1         | 2403-2777/1 |             |
| 2403-2778                       | 2403-2779 | 100×4 | H7—9H                          | 2403-2778/1         | 2403-2779/1 |             |
| 2403-2781                       | 2403-2782 |       | H8—11H                         | 2403-2781/1         | 2403-2782/1 |             |
| 2403-2783                       | 2403-2784 | 105×4 | H7—9H                          | 2403-2783/1         | 2403-2784/1 |             |
| 2403-2785                       | 2403-2786 |       | H8—11H                         | 2403-2785/1         | 2403-2786/1 |             |
| 2403-2787                       | 2403-2788 | 110×4 | H7—9H                          | 2403-2787/1         | 2403-2788/1 |             |
| 2403-2789                       | 2403-2791 |       | H8—11H                         | 2403-2789/1         | 2403-2791/1 |             |
| 2403-2792                       | 2403-2793 | 120×4 | H7—9H                          | 2403-2792/1         | 2403-2793/1 |             |
| 2403-2794                       | 2403-2795 |       | H8—11H                         | 2403-2794/1         | 2403-2795/1 |             |
| 2403-2796                       | —         | 130×4 | H7—9H                          | 2403-2796/1         | —           |             |
| 2403-2797                       | —         |       | H8—11H                         | 2403-2797/1         | —           |             |
| 2403-2798                       | —         | 70×5  | H7—9H                          | 2403-2798/1         | —           |             |
| 2403-2799                       | —         |       | H8—11H                         | 2403-2799/1         | —           |             |
| 2403-2801                       | —         | 75×5  | H7—9H                          | 2403-2801/1         | —           |             |
| 2403-2802                       | —         |       | H8—11H                         | 2403-2802/1         | —           |             |
| 2403-2803                       | —         | 80×5  | H7—9H                          | 2403-2803/1         | —           |             |
| 2403-2804                       | —         |       | H8—11H                         | 2403-2804/1         | —           |             |
| 2403-2805                       | —         | 85×5  | H7—9H                          | 2403-2805/1         | —           |             |
| 2403-2806                       | —         |       | H8—11H                         | 2403-2806/1         | —           |             |
| 2403-2807                       | —         | 90×5  | H7—9H                          | 2403-2807/1         | —           |             |
| 2403-2808                       | —         |       | H8—11H                         | 2403-2808/1         | —           |             |
| 2403-2809                       | —         | 95×5  | H7—9H                          | 2403-2809/1         | —           |             |
| 2403-2811                       | —         |       | H8—11H                         | 2403-2811/1         | —           |             |
| 2403-2812                       | —         | 100×5 | H7—9H                          | 2403-2812/1         | —           |             |
| 2403-2813                       | —         |       | H8—11H                         | 2403-2813/1         | —           |             |
| 2403-2814                       | —         | 105×5 | H7—9H                          | 2403-2814/1         | —           |             |
| 2403-2815                       | —         |       | H8—11H                         | 2403-2815/1         | —           |             |
| 2403-2816                       | —         | 110×5 | H7—9H                          | 2403-2816/1         | —           |             |
| 2403-2817                       | —         |       | H8—11H                         | 2403-2817/1         | —           |             |
| 2403-2818                       | —         | 120×5 | H7—9H                          | 2403-2818/1         | —           |             |
| 2403-2819                       | —         |       | H8—11H                         | 2403-2819/1         | —           |             |

## Размеры, мм

| Обозначение<br>протяжки | D×m    | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W      | M          |                    |                                     |
|-------------------------|--------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|--------|------------|--------------------|-------------------------------------|
|                         |        |   |                |                |                |                |                |                |                |                |        |                |        | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2532<br>2403-2533  | 55×3   | H7—9H                                   | 1,800          | 2,603          | 3,560          | 24,940         | 26,131         | 27,284         | 14,447         | 17,279         | 14,787 | 6,212          | 28     | 61,645     | 61,513             | 61,357                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —      | 63,737     | —                  | 63,449                              |
| 8,690                   |        |   |                |                |                |                |                |                |                |                |        | —              | 68,078 | —          | 67,790             |                                     |
| 6,212                   |        |   |                |                |                |                |                |                |                |                |        | 28             | 61,756 | 61,624     | 61,468             |                                     |
| 7,000                   |        |   |                |                |                |                |                |                |                |                |        | —              | 63,842 | —          | 63,553             |                                     |
| 8,690                   |        |   |                |                |                |                |                |                |                |                |        | —              | 68,172 | —          | 67,883             |                                     |
| 2403-2534<br>2403-2535  |        | H8—11H                                  | 1,759          | 2,562          | 3,519          | 24,935         | 26,179         | 27,321         | 14,406         | 17,228         | 15,047 | 6,212          | 32     | 61,678     | 61,502             | 61,310                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —      | 63,780     | —                  | 63,412                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 68,140     | —                  | 67,772                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 6,212          | 32     | 61,790     | 61,615             | 61,422                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —      | 63,886     | —                  | 63,518                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 68,235     | —                  | 67,867                              |
| 2403-2538<br>2403-2539  | H7—9H  | 1,921                                   | 2,825          | 3,799          | 27,513         | 28,697         | 29,771         | 16,258         | 17,500         | 17,488         | 6,212  | 26             | 66,492 | 66,380     | 66,209             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 68,544 | —          | 68,261             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 72,833 | —          | 72,550             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 6,212  | 26             | 66,601 | 66,489     | 66,318             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 68,648 | —          | 68,365             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 72,928 | —          | 72,645             |                                     |
| 2403-2543<br>2403-2544  | H8—11H | 1,879                                   | 2,783          | 3,756          | 27,513         | 28,713         | 29,802         | 16,216         | 17,458         | 17,721         | 6,212  | 26             | 66,511 | 66,367     | 66,147             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 68,573 | —          | 68,208             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 72,879 | —          | 72,514             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 6,212  | 26             | 66,621 | 66,477     | 66,257             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 68,678 | —          | 68,313             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 72,974 | —          | 72,610             |                                     |
| 2403-2545<br>2403-2546  | H7—9H  | 1,921                                   | 2,825          | 3,799          | 29,949         | 31,147         | 32,314         | 16,513         | 20,211         | 18,136         | 6,212  | 27             | 71,764 | 71,638     | 71,474             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,863 | —          | 73,573             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,236 | —          | 77,946             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 6,212  | 27             | 71,877 | 71,751     | 71,587             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,970 | —          | 73,680             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,334 | —          | 78,044             |                                     |
| 2403-2547<br>2403-2548  | H8—11H | 1,879                                   | 2,783          | 3,756          | 29,949         | 31,147         | 32,314         | 16,470         | 20,211         | 18,136         | 6,212  | 27             | 71,764 | 71,638     | 71,474             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,863 | —          | 73,573             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,236 | —          | 77,946             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 6,212  | 27             | 71,877 | 71,751     | 71,587             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,970 | —          | 73,680             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,334 | —          | 78,044             |                                     |
| 2403-2549<br>2403-2551  | H7—9H  | 1,827                                   | 2,660          | 3,620          | 29,949         | 31,147         | 32,314         | 17,127         | 20,211         | 18,136         | 6,212  | 27             | 71,764 | 71,638     | 71,474             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,863 | —          | 73,573             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,236 | —          | 77,946             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 6,212  | 27             | 71,877 | 71,751     | 71,587             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,970 | —          | 73,680             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,334 | —          | 78,044             |                                     |
| 2403-2552<br>2403-2553  | H8—11H | 1,786                                   | 2,618          | 3,579          | 29,949         | 31,147         | 32,314         | 17,086         | 20,211         | 18,136         | 6,212  | 27             | 71,764 | 71,638     | 71,474             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,863 | —          | 73,573             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,236 | —          | 77,946             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 6,212  | 27             | 71,877 | 71,751     | 71,587             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 7,000  | —              | 73,970 | —          | 73,680             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 78,334 | —          | 78,044             |                                     |

## Размеры, мм

| Обозначение<br>протяжки | D×m  | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |      |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2554<br>2403-2555  | 65×3 | H7—9H                                   | 1,824          | 2,656          | 3,616          | 29,944         | 31,159         | 32,342         | 17,394         | 20,174         | 18,381 | 6,212          | 28 | 71,792     | 71,630             | 71,418                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 73,900     | —                  | 73,526                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 78,291     | —                  | 77,918                              |
| 2403-2556<br>2403-2557  | 65×3 | H8—11H                                  | 1,783          | 2,614          | 3,576          | 29,944         | 31,159         | 32,342         | 17,352         | 20,174         | 18,381 | 6,212          | 28 | 71,906     | 71,744             | 71,532                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 74,008     | —                  | 73,634                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 78,390     | —                  | 78,016                              |
| 2403-2558<br>2403-2559  | 70×3 | H7—9H                                   | 1,827          | 2,603          | 3,496          | 32,489         | 33,689         | 34,864         | 18,091         | 22,834         | 18,914 | 5,455          | 27 | 74,876     | 74,757             | 74,572                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 79,132     | —                  | 78,828                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 82,532     | —                  | 82,228                              |
| 2403-2561<br>2403-2562  | 70×3 | H8—11H                                  | 1,786          | 2,562          | 3,455          | 32,489         | 33,689         | 34,864         | 18,050         | 22,834         | 18,914 | 5,455          | 27 | 75,000     | 74,881             | 74,696                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 79,243     | —                  | 78,939                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 82,635     | —                  | 82,331                              |
| 2403-2563<br>2403-2564  | 70×3 | H7—9H                                   | 1,851          | 2,638          | 3,484          | 32,527         | 33,749         | 34,870         | 18,362         | 22,761         | 19,189 | 5,455          | 26 | 74,904     | 74,760             | 74,540                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 79,174     | —                  | 78,810                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 82,585     | —                  | 82,220                              |
| 2403-2565<br>2403-2566  | 70×3 | H8—11H                                  | 1,810          | 2,597          | 3,443          | 32,527         | 33,749         | 34,870         | 18,322         | 22,761         | 19,189 | 5,455          | 26 | 75,029     | 74,885             | 74,665                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 79,286     | —                  | 78,922                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 82,688     | —                  | 82,324                              |
| 2403-2567<br>2403-2568  | 75×3 | H7—9H                                   | 1,821          | 2,551          | 3,392          | 34,993         | 36,200         | 37,385         | 18,901         | 25,491         | 19,545 | 5,455          | 27 | 80,000     | 79,881             | 79,696                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 82,170     | —                  | 81,866                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 84,349     | —                  | 84,045                              |
| 2403-2569<br>2403-2571  | 75×3 | H8—11H                                  | 1,781          | 2,511          | 3,352          | 34,993         | 36,200         | 37,385         | 18,861         | 25,491         | 19,545 | 5,455          | 27 | 80,128     | 80,009             | 79,824                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 82,280     | —                  | 81,976                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 84,464     | —                  | 84,513                              |
| 2403-2572<br>2403-2573  | 75×3 | H7—9H                                   | 1,821          | 2,551          | 3,392          | 34,993         | 36,217         | 37,419         | 19,254         | 25,429         | 19,884 | 5,455          | 27 | 80,024     | 79,871             | 79,632                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 82,194     | —                  | 81,803                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 84,397     | —                  | 84,006                              |
| 2403-2574<br>2403-2575  | 75×3 | H8—11H                                  | 1,781          | 2,511          | 3,352          | 34,993         | 36,217         | 37,419         | 19,214         | 25,429         | 19,884 | 5,455          | 27 | 80,154     | 80,001             | 79,762                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 82,317     | —                  | 81,926                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 84,160     | —                  | 84,122                              |

## Размеры, мм

| Обозначение<br>протяжки | D×m  | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |      |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2576<br>2403-2577  | 80×3 | H7—9H                                   | 1,850          | 2,651          | 3,554          | 37,494         | 38,699         | 39,880         | 20,782         | 25,774         | 22,267 | 6,212          | 30 | 86,713     | 86,573             | 86,409                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 88,851     | —                  | 88,547                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 92,250     | —                  | 91,947                              |
| 2403-2578<br>2403-2579  | 80×3 | H8—11H                                  | 1,809          | 2,609          | 3,513          | 37,494         | 38,699         | 39,880         | 20,741         | 25,774         | 22,267 | 6,212          | 30 | 86,830     | 86,690             | 86,526                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 88,963     | —                  | 88,659                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 92,355     | —                  | 92,052                              |
| 2403-2581<br>2403-2582  | 80×3 | H7—9H                                   | 1,875          | 2,686          | 3,542          | 37,533         | 38,763         | 39,895         | 21,177         | 25,677         | 22,653 | 6,212          | 28 | 86,735     | 86,565             | 86,350                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 88,884     | —                  | 88,498                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 92,299     | —                  | 91,913                              |
| 2403-2583<br>2403-2584  | 80×3 | H8—11H                                  | 1,834          | 2,645          | 3,501          | 37,533         | 38,763         | 39,895         | 21,136         | 25,677         | 22,653 | 6,212          | 28 | 86,854     | 86,683             | 86,469                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 88,997     | —                  | 88,612                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 92,405     | —                  | 92,019                              |
| 2403-2585<br>2403-2586  | 85×3 | H7—9H                                   | 1,831          | 2,591          | 3,447          | 39,998         | 41,208         | 42,399         | 21,637         | 28,412         | 22,946 | 5,455          | 27 | 89,773     | 89,654             | 89,470                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 94,088     | —                  | 93,784                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 97,545     | —                  | 97,241                              |
| 2403-2587<br>2403-2588  | 85×3 | H8—11H                                  | 1,791          | 2,550          | 3,406          | 39,998         | 41,208         | 42,399         | 21,597         | 28,412         | 22,946 | 5,455          | 27 | 89,900     | 89,781             | 89,596                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 94,203     | —                  | 93,899                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 97,655     | —                  | 97,351                              |
| 2403-2589<br>2403-2591  | 85×3 | H7—9H                                   | 1,855          | 2,625          | 3,436          | 40,037         | 41,272         | 42,413         | 22,048         | 28,318         | 23,348 | 5,455          | 26 | 89,788     | 89,637             | 89,403                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 94,125     | —                  | 93,740                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 97,598     | —                  | 97,213                              |
| 2403-2592<br>2403-2593  | 85×3 | H8—11H                                  | 1,814          | 2,584          | 3,395          | 40,037         | 41,272         | 42,413         | 22,008         | 28,318         | 23,348 | 5,455          | 26 | 89,917     | 89,765             | 89,531                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 94,242     | —                  | 93,856                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 97,707     | —                  | 97,322                              |
| 2403-2594<br>2403-2595  | 90×3 | H7—9H                                   | 1,878          | 2,698          | 3,609          | 42,499         | 43,706         | 44,894         | 23,468         | 28,718         | 25,613 | 6,212          | 29 | 96,757     | 96,624             | 96,453                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 98,894     | —                  | 98,590                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 102,301    | —                  | 101,997                             |
| 2403-2596<br>2403-2597  | 90×3 | H8—11H                                  | 1,836          | 2,656          | 3,567          | 42,499         | 43,706         | 44,894         | 23,427         | 28,718         | 25,613 | 6,212          | 29 | 96,874     | 96,741             | 96,570                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 99,007     | —                  | 98,703                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 102,407    | —                  | 102,103                             |

## Размеры, мм

Продолжение табл. 3

| Обозначение<br>протяжки | D×t   | Сочетание<br>полей<br>допусков<br>D и d | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|-------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |       |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2598               | 90×3  | H7-9H                                   | 1,894          | 2,723          | 3,585          | 42,523         | 43,756         | 44,894         | 23,883         | 28,631         | 26,100 | 6,212          | 29 | 96,780     | 96,609             | 96,394                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 98,927     | —                  | 98,541                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 102,349    | —                  | 101,963                             |
| 2403-2599               | 90×3  | H8-11H                                  | 1,852          | 2,682          | 3,543          | 42,523         | 43,756         | 44,894         | 23,842         | 28,631         | 26,100 | 6,212          | 29 | 96,899     | 96,728             | 96,513                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 99,041     | —                  | 98,655                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 102,457    | —                  | 102,071                             |
| 2403-2601<br>2403-2602  | 95×3  | H7-9H                                   | 1,850          | 2,632          | 3,500          | 54,002         | 46,215         | 47,410         | 24,332         | 31,358         | 26,299 | 5,455          | 27 | 99,823     | 99,704             | 99,519                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 104,120    | —                  | 103,815                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 107,578    | —                  | 107,274                             |
| 2403-2603<br>2403-2604  | 95×3  | H8-11H                                  | 1,809          | 2,591          | 3,459          | 54,002         | 46,215         | 47,410         | 24,291         | 31,358         | 26,299 | 5,455          | 27 | 99,949     | 99,830             | 99,645                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 104,236    | —                  | 103,932                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 107,687    | —                  | 107,382                             |
| 2403-2605<br>2403-2606  | 100×3 | H7-9H                                   | 1,834          | 2,582          | 3,413          | 47,505         | 48,721         | 49,922         | 25,145         | 34,006         | 26,937 | 5,455          | 27 | 104,946    | 104,827            | 104,642                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 107,107    | —                  | 106,803                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 109,314    | —                  | 109,010                             |
| 2403-2607<br>2403-2608  | 100×3 | H8-11H                                  | 1,793          | 2,542          | 3,372          | 47,505         | 48,721         | 49,922         | 25,104         | 34,006         | 26,937 | 5,455          | 27 | 105,075    | 104,956            | 104,771                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 107,231    | —                  | 106,927                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 109,432    | —                  | 109,128                             |
| 2403-2609<br>2403-2611  | 105×3 | H7-9H                                   | 1,825          | 2,542          | 3,338          | 50,007         | 51,226         | 52,433         | 25,955         | 36,633         | 27,588 | 5,455          | 28 | 110,052    | 109,926            | 109,749                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 112,250    | —                  | 111,946                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 114,491    | —                  | 114,187                             |
| 2403-2612<br>2403-2613  | 105×3 | H8-11H                                  | 1,779          | 2,497          | 3,293          | 50,007         | 51,226         | 52,433         | 25,910         | 36,633         | 27,588 | 5,455          | 28 | 110,201    | 110,075            | 109,897                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 112,393    | —                  | 112,089                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 114,628    | —                  | 114,324                             |
| 2403-2614               | 105×3 | H7-9H                                   | 1,864          | 2,593          | 3,349          | 50,075         | 51,320         | 52,475         | 26,493         | 36,500         | 28,122 | 5,455          | 27 | 110,067    | 109,915            | 109,691                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 112,277    | —                  | 111,900                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 114,530    | —                  | 114,153                             |
| 2403-2615               | 105×3 | H8-11H                                  | 1,819          | 2,548          | 3,304          | 50,075         | 51,320         | 52,475         | 26,447         | 36,500         | 28,122 | 5,455          | 27 | 110,217    | 110,056            | 109,841                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 112,421    | —                  | 112,045                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 114,668    | —                  | 114,292                             |

## Размеры, мм

| Обозначение<br>протяжки | D×m    | Сочетание<br>полей<br>допусков<br>D и d | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|--------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |        |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2616<br>2403-2617  | 110×3  | H7—9H                                   | 1,845          | 2,613          | 3,456          | 52,508         | 53,726         | 54,930         | 27,850         | 36,952         | 30,303 | 5,455          | 27 | 114,767    | 114,648            | 114,463                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 116,911    | —                  | 116,607                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 119,106    | —                  | 118,802                             |
| 2403-2618<br>2403-2619  | 110×3  | H8—11H                                  | 1,799          | 2,567          | 3,410          | 52,508         | 53,726         | 54,930         | 27,804         | 36,952         | 30,303 | 5,455          | 27 | 114,910    | 114,791            | 114,607                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 117,049    | —                  | 116,746                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 119,239    | —                  | 118,935                             |
| 2403-2621<br>2403-2622  | 120×3  | H7—9H                                   | 1,865          | 2,651          | 3,504          | 57,510         | 58,730         | 59,936         | 30,515         | 39,921         | 33,617 | 5,455          | 27 | 124,786    | 124,667            | 124,482                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 129,107    | —                  | 128,803                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 132,603    | —                  | 132,299                             |
| 2403-2623<br>2403-2624  | 120×3  | H8—11H                                  | 1,819          | 2,605          | 3,458          | 57,510         | 58,730         | 59,936         | 30,468         | 39,921         | 33,617 | 5,455          | 27 | 124,928    | 124,809            | 124,624                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 129,241    | —                  | 128,937                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 132,729    | —                  | 132,425                             |
| 2403-2625<br>2403-2626  | 130×3  | H7—9H                                   | 1,847          | 2,569          | 3,353          | 62,538         | 63,746         | 64,944         | 32,352         | 45,129         | 35,123 | 5,455          | 29 | 135,006    | 134,880            | 134,688                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 137,202    | —                  | 136,884                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 139,451    | —                  | 139,133                             |
| 2403-2627<br>2403-2628  | 130×3  | H8—11H                                  | 1,802          | 2,524          | 3,307          | 62,538         | 63,746         | 64,944         | 32,307         | 45,129         | 35,123 | 5,455          | 29 | 135,155    | 135,029            | 134,837                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 6,212          | —  | 137,346    | —                  | 137,028                             |
|                         |        |   |                |                |                |                |                |                |                |                |        | 7,000          | —  | 139,590    | —                  | 139,272                             |
| 2403-2629<br>2403-2631  | 55×3,5 | H7—9H                                   | 2,143          | 3,211          | 4,494          | 24,486         | 25,872         | 27,192         | 15,067         | 15,633         | 15,665 | 7,000          | 29 | 61,955     | 61,822             | 61,630                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 66,292     | —                  | 65,967                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 70,419     | —                  | 70,094                              |
| 2403-2632<br>2403-2633  | 55×3,5 | H8—11H                                  | 2,107          | 3,178          | 4,458          | 24,486         | 25,872         | 27,192         | 15,031         | 15,633         | 15,665 | 7,000          | 29 | 62,047     | 61,914             | 61,722                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 66,375     | —                  | 66,050                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 70,495     | —                  | 70,170                              |
| 2403-2634<br>2403-2635  | 55×3,5 | H7—9H                                   | 2,133          | 3,199          | 4,480          | 24,472         | 25,868         | 27,199         | 15,158         | 15,636         | 15,739 | 7,000          | 30 | 61,968     | 61,816             | 61,591                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 66,314     | —                  | 65,936                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 70,448     | —                  | 70,071                              |
| 2403-2636<br>2403-2637  | 55×3,5 | H8—11H                                  | 2,097          | 3,163          | 4,443          | 24,472         | 25,868         | 27,199         | 15,122         | 15,636         | 15,739 | 7,000          | 30 | 62,061     | 61,909             | 61,683                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 66,397     | —                  | 66,027                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 70,525     | —                  | 70,147                              |

## Размеры, мм

Продолжение табл. 3

| Обозначение<br>прокатки | D×m    | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W      | M          |                    |                                     |
|-------------------------|--------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|--------|------------|--------------------|-------------------------------------|
|                         |        |   |                |                |                |                |                |                |                |                |        |                |        | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2638<br>2403-2639  | 60×3,5 | H7—9H                                   | 2,047          | 3,013          | 4,136          | 26,927         | 28,415         | 29,779         | 15,636         | 19,164         | 15,651 | 7,000          | 31     | 67,441     | 67,287             | 67,109                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 71,944     | —                  | 71,612                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —      | 76,196     | —                  | 75,864                              |
| 2403-2641<br>2403-2642  |        | H8—11H                                  | 2,006          | 2,972          | 4,096          | 26,999         | 28,440         | 29,751         | 15,596         | 19,117         | 15,798 | 7,000          | 31     | 67,556     | 67,402             | 67,224                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 72,046     | —                  | 71,714                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —      | 76,288     | —                  | 75,956                              |
| 2403-2643<br>2403-2644  |        | H7—9H                                   | 2,090          | 3,027          | 4,098          | 29,505         | 30,934         | 32,327         | 15,781         | 22,647         | 15,511 | 7,000          | 29     | 67,450     | 67,279             | 67,072                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 71,961     | —                  | 71,583                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —      | 76,220     | —                  | 75,842                              |
| 2403-2645<br>2403-2645  |        | H8—11H                                  | 2,049          | 2,987          | 4,057          | 29,534         | 30,992         | 32,329         | 15,740         | 22,597         | 16,685 | 7,000          | 29     | 67,564     | 67,393             | 67,195                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 72,063     | —                  | 71,694                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —      | 76,313     | —                  | 75,944                              |
| 2403-2647<br>2403-2648  |        | H7—9H                                   | 2,112          | 2,913          | 3,905          | 32,006         | 33,394         | 34,737         | 16,024         | 20,479         | 20,356 | 6,518          | 31     | 71,359     | 71,212             | 71,034                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —      | 76,328     | —                  | 76,003                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —      | 77,434     | —                  | 77,109                              |
| 2403-2649<br>2403-2651  | H8—11H | 2,073                                   | 2,874          | 3,866          | 32,006         | 33,394         | 34,737         | 15,985         | 20,479         | 20,356         | 6,518  | 31             | 71,487 | 71,340     | 71,162             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,282  | —              | 76,438 | —          | 76,113             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 77,540 | —          | 77,215             |                                     |
| 2403-2652<br>2403-2653  | H7—9H  | 2,126                                   | 2,945          | 3,894          | 32,006         | 33,394         | 34,737         | 16,194         | 20,479         | 20,356         | 6,518  | 29             | 71,371 | 71,209     | 70,988             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,282  | —              | 76,351 | —          | 75,968             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 77,459 | —          | 77,076             |                                     |
| 2403-2654<br>2403-2655  | H8—11H | 2,087                                   | 2,906          | 3,854          | 32,006         | 33,394         | 34,737         | 16,154         | 20,479         | 20,356         | 6,518  | 29             | 71,500 | 71,338     | 71,117             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,282  | —              | 76,461 | —          | 76,079             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 77,566 | —          | 77,184             |                                     |
| 2403-2656<br>2403-2657  | H7—9H  | 2,181                                   | 3,225          | 4,431          | 32,006         | 33,394         | 34,737         | 18,960         | 20,479         | 20,356         | 7,000  | 32             | 76,917 | 76,777     | 76,564             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 81,314 | —          | 80,961             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 10,950 | —              | 86,996 | —          | 86,643             |                                     |
| 2403-2658<br>2403-2659  | H8—11H | 2,139                                   | 3,183          | 4,389          | 32,006         | 33,394         | 34,737         | 18,918         | 20,479         | 20,356         | 7,000  | 32             | 77,027 | 76,887     | 76,674             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 8,690  | —              | 81,415 | —          | 81,062             |                                     |
|                         |        |   |                |                |                |                |                |                |                |                | 10,950 | —              | 87,087 | —          | 86,734             |                                     |

## Размеры, мм

| Обозначение<br>прокатки | D×m    | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|--------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |        |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2661<br>2403-2662  | 75×3,5 | H7—9H                                   | 2,088          | 3,066          | 4,155          | 34,477         | 35,953         | 37,322         | 19,608         | 23,921         | 20,454 | 6,518          | 31 | 81,033     | 80,886             | 80,680                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 85,821     | —                  | 85,468                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 91,209     | —                  | 90,856                              |
| 2403-2663<br>2403-2664  | 75×3,5 | H8—11H                                  | 2,047          | 3,025          | 4,114          | 34,477         | 35,953         | 37,322         | 19,567         | 23,921         | 20,454 | 6,518          | 31 | 81,153     | 81,006             | 80,800                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 85,929     | —                  | 85,576                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 91,306     | —                  | 90,953                              |
| 2403-2665<br>2403-2666  | 75×3,5 | H7—9H                                   | 2,088          | 3,045          | 4,097          | 34,477         | 35,932         | 37,272         | 19,703         | 23,934         | 20,530 | 6,518          | 28 | 81,045     | 80,883             | 80,636                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 85,841     | —                  | 85,434                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 91,241     | —                  | 90,832                              |
| 2403-2667<br>2403-2668  | 75×3,5 | H8—11H                                  | 2,047          | 3,004          | 4,056          | 34,477         | 35,932         | 37,272         | 19,662         | 23,934         | 20,530 | 6,518          | 28 | 81,166     | 81,004             | 80,757                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 85,952     | —                  | 85,542                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 91,339     | —                  | 90,929                              |
| 2403-2669<br>2403-2671  | 80×3,5 | H7—9H                                   | 2,118          | 2,958          | 3,943          | 37,050         | 34,466         | 39,855         | 20,072         | 27,365         | 20,399 | 6,518          | 32 | 86,294     | 86,147             | 85,948                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 91,249     | —                  | 90,903                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 92,361     | —                  | 92,015                              |
| 2403-2672<br>2403-2673  | 80×3,5 | H8—11H                                  | 2,078          | 2,918          | 3,903          | 37,050         | 34,466         | 39,855         | 20,032         | 27,365         | 20,399 | 6,518          | 32 | 86,422     | 86,275             | 86,076                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 91,363     | —                  | 91,017                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 92,471     | —                  | 92,125                              |
| 2403-2674               | 80×3,5 | H7—9H                                   | 2,143          | 2,955          | 3,902          | 37,093         | 38,477         | 39,835         | 20,427         | 27,296         | 20,743 | 6,518          | 30 | 86,318     | 86,137             | 85,875                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 91,298     | —                  | 90,855                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 92,414     | —                  | 91,971                              |
| 2403-2675               | 80×3,5 | H8—11H                                  | 2,103          | 2,915          | 3,862          | 37,093         | 38,477         | 39,835         | 20,387         | 27,296         | 20,743 | 6,518          | 30 | 86,447     | 86,266             | 86,004                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 91,412     | —                  | 90,969                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 92,526     | —                  | 92,083                              |
| 2403-2676<br>2403-2677  | 85×3,5 | H7—9H                                   | 2,121          | 2,909          | 3,804          | 39,483         | 40,980         | 42,383         | 20,273         | 30,887         | 20,085 | 6,518          | 33 | 91,437     | 91,276             | 91,084                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 96,580     | —                  | 96,227                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 97,726     | —                  | 97,373                              |
| 2403-2678<br>2403-2679  | 85×3,5 | H8—11H                                  | 2,082          | 2,870          | 3,765          | 39,483         | 40,980         | 42,383         | 20,234         | 30,887         | 20,085 | 6,518          | 33 | 91,573     | 91,412             | 91,220                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 96,699     | —                  | 96,346                              |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 97,842     | —                  | 97,489                              |



## Размеры, мм

Продолжение табл. 3

| Обозначение<br>протяжки | D×t     | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|---------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |         |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2681               | 85×3,5  | H7—9H                                   | 2,140          | 2,906          | 3,766          | 39,522         | 40,992         | 42,363         | 20,627         | 30,828         | 20,429 | 6,518          | 32 | 91,468     | 91,259             | 91,016                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 96,638     | —                  | 96,185                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 97,790     | —                  | 97,337                              |
| 2403-2682               | 85×3,5  | H8—11H                                  | 2,101          | 2,867          | 3,727          | 39,522         | 40,992         | 42,363         | 20,588         | 30,828         | 20,429 | 6,518          | 32 | 91,606     | 91,397             | 91,153                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 96,758     | —                  | 96,305                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 97,906     | —                  | 97,454                              |
| 2403-2683<br>2403-2684  | 90×3,5  | H7—9H                                   | 2,113          | 3,109          | 4,188          | 41,987         | 43,472         | 44,858         | 23,485         | 28,720         | 25,155 | 6,518          | 31 | 95,948     | 95,800             | 95,594                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 100,750    | —                  | 100,397                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 106,185    | —                  | 105,831                             |
| 2403-2685<br>2403-2686  | 90×3,5  | H8—11H                                  | 2,071          | 3,068          | 4,147          | 41,987         | 43,472         | 44,858         | 23,444         | 28,720         | 25,155 | 6,518          | 31 | 96,069     | 95,922             | 95,716                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 100,860    | —                  | 100,507                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 106,286    | —                  | 105,933                             |
| 2403-2687               | 90×3,5  | H7—9H                                   | 2,157          | 3,128          | 4,168          | 42,055         | 43,513         | 44,867         | 23,901         | 28,629         | 25,555 | 6,518          | 30 | 95,963     | 95,762             | 95,520                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 100,788    | —                  | 100,345                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 106,246    | —                  | 105,803                             |
| 2403-2688               | 90×3,5  | H8—11H                                  | 2,115          | 3,086          | 4,127          | 42,055         | 43,513         | 44,867         | 23,859         | 28,629         | 25,555 | 6,518          | 30 | 96,085     | 95,904             | 95,642                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 100,900    | —                  | 100,457                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 106,348    | —                  | 105,905                             |
| 2403-2689<br>2403-2691  | 95×3,5  | H7—9H                                   | 2,124          | 2,996          | 3,989          | 44,559         | 45,982         | 47,382         | 24,003         | 32,134         | 25,160 | 6,518          | 31 | 101,219    | 101,079            | 100,873                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 106,162    | —                  | 105,816                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 107,277    | —                  | 106,931                             |
| 2403-2692<br>2403-2693  | 95×3,5  | H8—11H                                  | 2,084          | 2,956          | 3,949          | 44,559         | 45,982         | 47,382         | 23,962         | 32,134         | 25,160 | 6,518          | 31 | 101,346    | 101,206            | 101,000                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 106,277    | —                  | 105,931                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 107,389    | —                  | 107,043                             |
| 2403-2694<br>2403-2695  | 100×3,5 | H7—9H                                   | 2,097          | 2,933          | 3,849          | 46,993         | 48,495         | 49,905         | 24,279         | 35,631         | 24,922 | 6,518          | 33 | 106,397    | 106,236            | 106,044                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 111,496    | —                  | 111,143                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 112,640    | —                  | 112,287                             |
| 2403-2696<br>2403-2697  | 100×3,5 | H8—11H                                  | 2,058          | 2,893          | 3,809          | 46,993         | 48,495         | 49,905         | 24,239         | 35,631         | 24,922 | 6,518          | 33 | 106,531    | 106,370            | 106,178                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 111,615    | —                  | 111,262                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 112,757    | —                  | 112,404                             |

Размеры, мм

| Обозначение<br>протяжки | D×t     | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | Ψ  | M          |                    |                                     |
|-------------------------|---------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |         |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер Ψ | На последнем<br>калибрующем<br>зубе |
| 2403-2698<br>2403-2699  | 105×3,5 | H7-9H                                   | 2,081          | 2,970          | 3,928          | 49,496         | 50,997         | 52,406         | 26,108         | 36,284         | 27,420 | 6,518          | 31 | 111,155    | 110,008            | 110,803                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 116,158    | —                  | 115,806                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 117,286    | —                  | 116,934                             |
| 2403-2701<br>2403-2702  | 105×3,5 | H8-11H                                  | 2,036          | 2,924          | 3,883          | 49,496         | 50,997         | 52,406         | 26,063         | 36,284         | 27,420 | 6,518          | 31 | 111,301    | 111,154            | 110,948                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 116,291    | —                  | 115,938                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 117,416    | —                  | 117,064                             |
| 2403-2703<br>2403-2704  | 110×3,5 | H7-9H                                   | 2,133          | 3,027          | 4,024          | 52,066         | 53,494         | 54,902         | 27,894         | 36,931         | 29,878 | 6,518          | 31 | 116,158    | 116,018            | 115,812                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 121,093    | —                  | 120,747                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 122,209    | —                  | 121,863                             |
| 2403-2705<br>2403-2706  | 110×3,5 | H8-11H                                  | 2,087          | 2,981          | 3,979          | 52,066         | 53,494         | 54,902         | 27,848         | 36,931         | 29,878 | 6,518          | 31 | 116,301    | 116,161            | 115,955                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 121,224    | —                  | 120,878                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 122,336    | —                  | 121,992                             |
| 2403-2707<br>2403-2708  | 120×3,5 | H7-9H                                   | 2,147          | 2,919          | 3,789          | 57,070         | 58,507         | 59,930         | 28,550         | 43,814         | 29,544 | 6,518          | 33 | 126,451    | 126,297            | 126,105                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 131,661    | —                  | 131,315                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 132,832    | —                  | 132,486                             |
| 2403-2709<br>2403-2711  | 120×3,5 | H8-11H                                  | 2,103          | 2,875          | 3,745          | 57,070         | 58,507         | 59,930         | 28,506         | 43,814         | 29,544 | 6,518          | 33 | 126,606    | 126,452            | 126,260                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 131,802    | —                  | 131,456                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 132,970    | —                  | 132,624                             |
| 2403-2712<br>2403-2713  | 130×3,5 | H7-9H                                   | 2,101          | 2,953          | 3,892          | 62,029         | 63,466         | 64,888         | 32,146         | 45,195         | 34,439 | 6,518          | 32 | 136,294    | 136,147            | 135,941                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 141,338    | —                  | 140,985                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 142,479    | —                  | 142,126                             |
| 2403-2714<br>2403-2715  | 130×3,5 | H8-11H                                  | 2,056          | 2,908          | 3,847          | 62,029         | 63,466         | 64,888         | 32,100         | 45,195         | 34,439 | 6,518          | 32 | 136,441    | 136,294            | 136,088                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,282          | —  | 141,474    | —                  | 141,121                             |
|                         |         |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 142,613    | —                  | 142,260                             |
| 2403-2716<br>2403-2717  | 60×4    | H7-9H                                   | 2,458          | 2,780          | 5,367          | 26,466         | 28,053         | 29,548         | 16,679         | 15,959         | 17,681 | 8,282          | 32 | 67,907     | 67,754             | 67,531                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 73,071     | —                  | 72,695                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 79,763     | —                  | 79,387                              |
| 2403-2718<br>2403-2719  | 60×4    | H8-11H                                  | 2,415          | 3,737          | 5,323          | 26,466         | 28,053         | 29,548         | 16,636         | 15,959         | 17,681 | 8,282          | 32 | 68,008     | 67,855             | 67,632                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 73,162     | —                  | 72,786                              |
|                         |         |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 79,843     | —                  | 79,468                              |

## Размеры, мм

Продолжение табл. 3

| Обозначение<br>протяжки | D×t  | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |      |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2721<br>2403-2722  | 60×4 | H7—9H                                   | 2,458          | 3,780          | 5,367          | 26,466         | 28,064         | 29,570         | 16,798         | 15,943         | 17,787 | 8,282          | 32 | 67,919     | 67,744             | 67,496                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 73,092     | —                  | 72,669                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 79,795     | —                  | 79,372                              |
| 2403-2723<br>2403-2724  | 60×4 | H8—11H                                  | 2,415          | 3,737          | 5,323          | 26,466         | 28,064         | 29,570         | 16,755         | 15,943         | 17,787 | 8,282          | 32 | 68,021     | 67,846             | 67,598                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 73,184     | —                  | 72,762                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 13,353         | —  | 79,876     | —                  | 79,454                              |
| 2403-2725<br>2403-2726  | 65×4 | H7—9H                                   | 3,390          | 3,495          | 4,779          | 29,057         | 30,683         | 32,176         | 17,203         | 20,184         | 17,267 | 8,282          | 35 | 73,773     | 73,606             | 73,404                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 79,170     | —                  | 78,801                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 84,351     | —                  | 83,981                              |
| 2403-2727<br>2403-2728  | 65×4 | H8—11H                                  | 2,349          | 3,454          | 4,739          | 29,057         | 30,683         | 32,176         | 17,162         | 20,184         | 17,267 | 8,282          | 35 | 73,882     | 73,715             | 73,513                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 79,267     | —                  | 78,897                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 84,438     | —                  | 84,069                              |
| 2403-2729<br>2403-2731  | 65×4 | H7—9H                                   | 2,405          | 3,513          | 4,801          | 29,081         | 30,717         | 32,219         | 17,377         | 20,133         | 17,442 | 8,282          | 36 | 73,789     | 73,599             | 73,374                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 79,197     | —                  | 78,782                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 84,388     | —                  | 83,973                              |
| 2403-2732<br>2403-2733  | 65×4 | H8—11H                                  | 2,364          | 3,473          | 4,761          | 29,081         | 30,717         | 32,219         | 17,336         | 20,133         | 17,442 | 8,282          | 36 | 73,899     | 73,708             | 73,484                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 79,295     | —                  | 78,879                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 84,476     | —                  | 84,060                              |
| 2403-2734<br>2403-2735  | 70×4 | H7—9H                                   | 2,368          | 3,512          | 4,883          | 31,491         | 33,121         | 34,691         | 18,616         | 21,311         | 19,174 | 8,282          | 33 | 78,976     | 78,815             | 78,597                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 84,367     | —                  | 83,988                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 89,561     | —                  | 89,182                              |
| 2403-2736<br>2403-2737  | 70×4 | H8—11H                                  | 2,327          | 3,470          | 4,841          | 31,491         | 33,121         | 34,691         | 18,575         | 21,311         | 19,174 | 8,282          | 33 | 79,086     | 78,924             | 78,706                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 84,465     | —                  | 84,086                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 89,650     | —                  | 89,271                              |
| 2403-2738<br>2403-2739  | 75×4 | H7—9H                                   | 2,401          | 3,587          | 4,985          | 33,995         | 35,626         | 37,200         | 20,087         | 22,382         | 21,158 | 8,282          | 32 | 83,484     | 83,330             | 83,107                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 88,840     | —                  | 88,463                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 94,018     | —                  | 93,641                              |
| 2403-2741<br>2403-2742  | 75×4 | H8—11H                                  | 2,359          | 3,546          | 4,943          | 33,995         | 35,626         | 37,200         | 20,045         | 22,382         | 21,158 | 8,282          | 32 | 83,592     | 83,439             | 83,215                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 88,938     | —                  | 88,561                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 94,107     | —                  | 93,730                              |

## Размеры, мм

| Обозначение<br>протяжки | D×m  | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |      |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2743<br>2403-2744  | 75×4 | H7—9H                                   | 2,401          | 3,587          | 4,985          | 33,995         | 35,637         | 37,222         | 20,244         | 22,356         | 21,304 | 8,282          | 32 | 83,501     | 83,325             | 83,077                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 88,868     | —                  | 88,444                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 94,055     | —                  | 93,631                              |
| 2403-2745<br>2403-2746  | 75×4 | H8—11H                                  | 2,359          | 3,546          | 4,943          | 33,995         | 35,637         | 37,222         | 20,203         | 22,356         | 21,304 | 8,282          | 32 | 83,610     | 83,434             | 83,186                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 88,966     | —                  | 88,543                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 94,145     | —                  | 93,722                              |
| 2403-2747<br>2403-2748  | 80×4 | H7—9H                                   | 2,493          | 3,725          | 5,086          | 36,570         | 38,200         | 39,705         | 21,604         | 23,403         | 23,208 | 8,282          | 33 | 88,628     | 88,474             | 88,256                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 93,980     | —                  | 93,608                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 99,167     | —                  | 98,796                              |
| 2403-2749<br>2403-2751  | 80×4 | H8—11H                                  | 2,451          | 3,683          | 5,043          | 36,570         | 38,200         | 39,705         | 21,562         | 23,403         | 23,208 | 8,282          | 33 | 88,737     | 88,583             | 88,365                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 94,079     | —                  | 93,707                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 99,259     | —                  | 98,887                              |
| 2403-2752<br>2403-2753  | 80×4 | H7—9H                                   | 2,493          | 3,725          | 5,086          | 36,570         | 38,211         | 39,726         | 21,773         | 23,376         | 23,363 | 8,282          | 33 | 88,642     | 88,466             | 88,225                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 94,005     | —                  | 93,588                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 99,203     | —                  | 98,785                              |
| 2403-2754<br>2403-2755  | 80×4 | H8—11H                                  | 2,451          | 3,683          | 5,043          | 36,570         | 38,211         | 39,726         | 21,731         | 23,376         | 23,363 | 8,282          | 33 | 88,752     | 88,576             | 88,334                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 94,105     | —                  | 93,688                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 12,423         | —  | 99,295     | —                  | 98,877                              |
| 2403-2756<br>2403-2757  | 85×4 | H7—9H                                   | 2,359          | 3,418          | 4,665          | 39,009         | 40,663         | 4,665          | 21,847         | 27,703         | 22,530 | 8,282          | 36 | 94,285     | 94,103             | 93,906                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 99,838     | —                  | 99,460                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 101,398    | —                  | 101,019                             |
| 2403-2758<br>2403-2759  | 85×4 | H8—11H                                  | 2,319          | 3,378          | 4,625          | 39,009         | 40,663         | 4,665          | 21,807         | 27,703         | 22,530 | 8,282          | 36 | 94,400     | 94,288             | 94,022                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 99,942     | —                  | 99,564                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 101,499    | —                  | 101,120                             |
| 2403-2761<br>2403-2762  | 85×4 | H7—9H                                   | 2,359          | 3,418          | 4,665          | 39,009         | 40,674         | 4,665          | 22,030         | 27,673         | 22,703 | 8,282          | 36 | 94,306     | 94,098             | 93,881                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 99,872     | —                  | 99,447                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 101,435    | —                  | 101,010                             |
| 2403-2763<br>2403-2764  | 85×4 | H8—11H                                  | 2,319          | 3,378          | 4,625          | 39,009         | 40,674         | 4,665          | 21,989         | 27,673         | 22,703 | 8,282          | 36 | 94,423     | 94,215             | 93,997                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 99,977     | —                  | 99,551                              |
|                         |      |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 101,537    | —                  | 101,111                             |

## Размеры, мм

Продолжение табл. 3

| Обозначение<br>протяжки | D×m    | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W       | M          |                    |                                     |         |
|-------------------------|--------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|---------|------------|--------------------|-------------------------------------|---------|
|                         |        |   |                |                |                |                |                |                |                |                |        |                |         | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |         |
| 2403-2765<br>2403-2766  | 90×4   | H7—9H                                   | 2,422          | 3,529          | 4,750          | 41,585         | 43,238         | 44,778         | 23,439         | 28,707         | 24,649 | 8,282          | 35      | 98,877     | 98,709             | 98,506                              |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —       | 104,390    | —                  | 104,020                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,950         | —       | 105,943    | —                  | 105,572                             |         |
| 2403-2767<br>2403-2768  |        | H8—11H                                  | 2,380          | 3,488          | 4,709          | 41,585         | 43,238         | 44,778         | 23,398         | 28,707         | 24,649 | 8,282          | 35      | 98,991     | 98,824             | 98,621                              |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —       | 104,494    | —                  | 104,124                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,950         | —       | 106,044    | —                  | 105,673                             |         |
| 2403-2769<br>2403-2771  |        | H7—9H                                   | 2,422          | 3,529          | 4,750          | 41,585         | 43,249         | 44,800         | 23,634         | 28,674         | 24,832 | 8,282          | 35      | 98,896     | 98,704             | 98,479                              |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,353         | —       | 104,422    | —                  | 104,006                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,950         | —       | 105,977    | —                  | 105,561                             |         |
| 2403-2772<br>2403-2773  | H8—11H | 2,380                                   | 3,488          | 4,709          | 41,585         | 43,249         | 44,800         | 23,593         | 28,674         | 24,832         | 8,282  | 35             | 99,011  | 97,819     | 98,595             |                                     |         |
|                         |        |   |                |                |                |                |                |                |                |                | 10,353 | —              | 104,526 | —          | 104,110            |                                     |         |
|                         |        |   |                |                |                |                |                |                |                |                | 10,590 | —              | 106,079 | —          | 105,663            |                                     |         |
| 2403-2774<br>2403-2775  | 95×4   | H7—9H                                   | 2,449          | 3,591          | 4,836          | 44,087         | 45,741         | 47,283         | 24,922         | 29,789         | 26,636 | 8,282          | 33      | 103,979    | 103,825            | 103,607                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,583         | —       | 109,476    | —                  | 109,104                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,590         | —       | 111,026    | —                  | 110,655                             |         |
| 2403-2776<br>2403-2777  |        | H8—11H                                  | 2,407          | 3,549          | 4,794          | 44,087         | 45,741         | 47,283         | 24,881         | 29,789         | 26,636 | 8,282          | 33      | 104,093    | 103,939            | 103,721                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,583         | —       | 109,580    | —                  | 109,209                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,590         | —       | 111,128    | —                  | 110,757                             |         |
| 2403-2778<br>2403-2779  |        | 100×4                                   | H7—9H          | 2,363          | 3,364          | 4,527          | 46,520         | 48,190         | 49,828         | 24,969         | 34,098 | 25,794         | 7,000   | 32         | 105,835            | 105,681                             | 105,497 |
|                         |        |   |                |                |                |                |                |                |                |                |        |                | 8,690   | —          | 110,645            | —                                   | 110,266 |
|                         |        |   |                |                |                |                |                |                |                |                |        |                | 10,590  | —          | 116,792            | —                                   | 116,413 |
| 2403-2781<br>2403-2782  | H8—11H |   | 2,323          | 3,324          | 4,486          | 46,520         | 48,190         | 49,828         | 24,928         | 34,098         | 25,794 | 7,000          | 32      | 105,966    | 105,812            | 105,587                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —       | 110,763    | —                  | 110,385                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,590         | —       | 116,898    | —                  | 116,520                             |         |
| 2403-2783<br>2403-2784  | 105×4  |   | H7—9H          | 2,411          | 3,456          | 4,595          | 49,096         | 50,764         | 52,328         | 26,602         | 35,102 | 27,947         | 7,000   | 33         | 110,541            | 110,387                             | 110,170 |
|                         |        |   |                |                |                |                |                |                |                |                |        |                | 8,690   | —          | 115,296            | —                                   | 114,925 |
|                         |        |   |                |                |                |                |                |                |                |                |        |                | 10,590  | —          | 121,402            | —                                   | 121,031 |
| 2403-2785<br>2403-2786  |        | H8—11H                                  | 2,370          | 3,415          | 4,355          | 49,096         | 50,764         | 52,328         | 26,561         | 35,102         | 27,947 | 7,000          | 33      | 110,669    | 110,515            | 110,298                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 8,690          | —       | 115,413    | —                  | 115,042                             |         |
|                         |        |   |                |                |                |                |                |                |                |                |        | 10,590         | —       | 121,508    | —                  | 121,137                             |         |

## Размеры, мм

| Обозначение<br>протяжки | D×m   | Сочетание<br>полей<br>допусков<br>D и e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | W  | M          |                    |                                     |
|-------------------------|-------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |       |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер W | На последнем<br>калибрующем<br>зубе |
| 2403-2787<br>2403-2788  | 110×4 | H7—9H                                   | 2,420          | 3,498          | 4,662          | 51,598         | 53,267         | 54,832         | 28,139         | 36,169         | 29,992 | 8,282          | 36 | 119,259    | 119,084            | 118,887                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 124,881    | —                  | 124,510                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 126,466    | —                  | 126,094                             |
| 2403-2789<br>2403-2791  | 110×4 | H8—11H                                  | 2,374          | 3,452          | 4,616          | 51,598         | 53,267         | 54,832         | 28,093         | 36,169         | 29,992 | 8,282          | 36 | 119,393    | 119,218            | 119,021                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 125,004    | —                  | 124,632                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 126,586    | —                  | 126,214                             |
| 2403-2792<br>2403-2793  | 120×4 | H7—9H                                   | 2,470          | 3,604          | 4,810          | 56,601         | 58,270         | 59,837         | 31,144         | 38,330         | 34,001 | 8,282          | 34 | 128,981    | 128,820            | 128,609                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 134,549    | —                  | 134,177                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 136,123    | —                  | 135,752                             |
| 2403-2794<br>2403-2795  | 120×4 | H8—11H                                  | 2,423          | 3,558          | 4,763          | 56,601         | 58,270         | 59,837         | 31,097         | 38,330         | 34,001 | 8,282          | 34 | 129,113    | 128,952            | 128,741                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,353         | —  | 134,671    | —                  | 134,300                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 136,243    | —                  | 135,872                             |
| 2403-2796               | 130×4 | H7—9H                                   | 2,438          | 3,498          | 4,623          | 61,632         | 63,310         | 64,891         | 32,866         | 43,592         | 35,373 | 7,000          | 34 | 135,539    | 128,550            | 135,168                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 140,309    | —                  | 139,938                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 146,475    | —                  | 146,104                             |
| 2403-2797               | 130×4 | H8—11H                                  | 2,392          | 3,452          | 4,577          | 61,632         | 63,310         | 64,891         | 32,820         | 43,592         | 35,373 | 7,000          | 34 | 135,684    | 135,530            | 135,313                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 8,690          | —  | 140,444    | —                  | 140,073                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 146,559    | —                  | 146,228                             |
| 2403-2798               | 70×5  | H7—9H                                   | 3,033          | 4,744          | 6,822          | 30,505         | 32,508         | 34,377         | 19,576         | 18,107         | 20,673 | 10,950         | 39 | 81,834     | 81,638             | 81,360                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 87,229     | —                  | 86,755                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 97,322     | —                  | 96,848                              |
| 2403-2799               | 70×5  | H8—11H                                  | 2,984          | 4,695          | 6,773          | 30,505         | 32,508         | 34,377         | 19,527         | 18,107         | 20,673 | 10,950         | 39 | 81,943     | 81,747             | 81,469                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 87,330     | —                  | 86,856                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 97,409     | —                  | 96,935                              |
| 2403-2801               | 75×5  | H7—9H                                   | 3,060          | 4,715          | 6,704          | 33,059         | 35,045         | 36,917         | 20,779         | 19,976         | 22,025 | 10,950         | 33 | 86,376     | 86,194             | 85,926                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 91,788     | —                  | 91,337                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 101,909    | —                  | 101,458                             |
| 2403-2802               | 75×5  | H8—11H                                  | 3,012          | 4,667          | 6,655          | 33,059         | 35,045         | 36,917         | 20,730         | 19,976         | 22,025 | 10,950         | 33 | 86,487     | 86,304             | 86,036                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 91,889     | —                  | 91,438                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 101,997    | —                  | 101,546                             |

## Размеры, мм

Продолжение табл. 3

| Обозначение<br>протяжки | D×m   | Сочетание<br>полей<br>допусков<br>D к e | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | Y <sub>1</sub> | Y <sub>2</sub> | Y <sub>3</sub> | X <sub>0</sub> | Y <sub>0</sub> | R      | d <sub>p</sub> | Ψ  | M          |                    |                                     |
|-------------------------|-------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------|----------------|----|------------|--------------------|-------------------------------------|
|                         |       |   |                |                |                |                |                |                |                |                |        |                |    | На буртике | На зубе<br>номер Ψ | На последнем<br>калибрующем<br>зубе |
| 2403-2803               | 80×5  | H7—9H                                   | 3,055          | 4,679          | 6,615          | 35,539         | 37,571         | 39,471         | 22,000         | 21,859         | 23,386 | 10,950         | 33 | 92,027     | 91,843             | 91,573                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 97,502     | —                  | 97,048                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 107,739    | —                  | 107,285                             |
| 2403-2804               | 80×5  | H8—11H                                  | 3,007          | 4,631          | 6,567          | 35,539         | 37,571         | 39,471         | 21,952         | 21,859         | 23,386 | 10,950         | 33 | 92,140     | 91,856             | 91,686                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 97,606     | —                  | 97,152                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 107,829    | —                  | 107,375                             |
| 2403-2805               | 85×5  | H7—9H                                   | 3,114          | 4,724          | 6,537          | 38,163         | 40,175         | 42,012         | 23,293         | 23,661         | 24,850 | 10,950         | 34 | 96,635     | 96,452             | 96,191                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 102,128    | —                  | 101,684                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 112,400    | —                  | 111,956                             |
| 2403-2806               | 85×5  | H8—11H                                  | 3,066          | 4,676          | 6,489          | 38,163         | 40,175         | 42,012         | 23,245         | 23,661         | 24,850 | 10,950         | 34 | 96,749     | 96,566             | 96,306                              |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 102,233    | —                  | 101,789                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 112,492    | —                  | 112,048                             |
| 2403-2807               | 90×5  | H7—9H                                   | 3,047          | 4,620          | 4,469          | 40,586         | 42,612         | 44,555         | 24,426         | 25,614         | 26,100 | 10,950         | 33 | 102,196    | 102,012            | 101,742                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 107,742    | —                  | 107,288                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 118,112    | —                  | 117,658                             |
| 2403-2808               | 90×5  | H8—11H                                  | 2,999          | 4,572          | 6,421          | 40,586         | 42,612         | 44,555         | 24,378         | 25,614         | 26,100 | 10,950         | 33 | 102,312    | 102,128            | 101,858                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 107,849    | —                  | 107,395                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 118,206    | —                  | 117,752                             |
| 2403-2809               | 95×5  | H7—9H                                   | 2,953          | 4,244          | 5,732          | 43,139         | 45,219         | 47,149         | 24,079         | 31,465         | 24,137 | 8,690          | 32 | 102,046    | 101,870            | 101,616                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 108,352    | —                  | 107,922                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 114,164    | —                  | 113,734                             |
| 2403-2811               | 95×5  | H8—11H                                  | 2,908          | 4,199          | 5,686          | 43,139         | 45,219         | 47,149         | 24,034         | 31,465         | 24,137 | 8,690          | 32 | 102,189    | 102,013            | 101,759                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 10,950         | —  | 108,478    | —                  | 108,048                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 114,278    | —                  | 113,848                             |
| 2403-2812               | 100×5 | H7—9H                                   | 3,068          | 4,621          | 6,340          | 45,637         | 47,694         | 49,592         | 26,799         | 29,335         | 28,791 | 10,950         | 32 | 112,327    | 112,151            | 111,897                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 117,932    | —                  | 117,502                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 128,414    | —                  | 127,984                             |
| 2403-2813               | 100×5 | H8—11H                                  | 3,020          | 4,573          | 6,292          | 45,637         | 47,694         | 49,592         | 26,752         | 29,335         | 28,791 | 10,950         | 32 | 112,446    | 112,270            | 112,016                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 13,133         | —  | 118,042    | —                  | 117,612                             |
|                         |       |   |                |                |                |                |                |                |                |                |        | 17,362         | —  | 128,511    | —                  | 128,081                             |

## Размеры, мм

| Обозначение<br>протяжки | $D \times t$ | Сочетание<br>полей<br>допусков<br>$D$ и $e$ | $X_1$ | $X_2$ | $X_3$ | $Y_1$  | $Y_2$  | $Y_3$  | $X_0$  | $Y_0$  | $R$    | $d_p$  | $W$ | $M$        |                      |                                     |
|-------------------------|--------------|---|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-----|------------|----------------------|-------------------------------------|
|                         |              |   |       |       |       |        |        |        |        |        |        |        |     | На буртике | На зубе<br>номер $W$ | На последнем<br>калибрующем<br>зубе |
| 2403-2814               | 105×5        | H7—9H                                       | 2,958 | 4,242 | 5,697 | 48,149 | 50,239 | 52,186 | 26,406 | 35,189 | 26,791 | 8,690  | 32  | 112,063    | 111,887              | 111,633                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 10,950 | —   | 118,413    | —                    | 117,983                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 13,133 | —   | 124,276    | —                    | 123,846                             |
| 2403-2815               | 105×5        | H8—11H                                      | 2,913 | 4,197 | 5,652 | 48,149 | 50,239 | 52,186 | 26,361 | 35,189 | 26,791 | 8,690  | 32  | 112,207    | 112,031              | 111,777                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 10,950 | —   | 118,541    | —                    | 118,111                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 13,133 | —   | 124,392    | —                    | 123,962                             |
| 2403-2816               | 110×5        | H7—9H                                       | 3,062 | 4,582 | 6,247 | 50,648 | 52,719 | 54,640 | 29,169 | 33,088 | 31,463 | 10,353 | 32  | 120,873    | 120,697              | 120,443                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 13,133 | —   | 128,110    | —                    | 127,680                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 16,565 | —   | 136,735    | —                    | 136,305                             |
| 2403-2817               | 110×5        | H8—11H                                      | 3,015 | 4,535 | 6,200 | 50,648 | 52,719 | 54,640 | 29,122 | 33,088 | 31,463 | 10,353 | 32  | 120,997    | 120,821              | 120,537                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 13,133 | —   | 128,223    | —                    | 127,793                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 16,565 | —   | 136,838    | —                    | 136,408                             |
| 2403-2818               | 120×5        | H7—9H                                       | 3,053 | 4,545 | 6,165 | 55,656 | 57,739 | 59,678 | 31,537 | 36,829 | 34,144 | 10,353 | 32  | 130,981    | 130,805              | 130,551                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 13,133 | —   | 138,280    | —                    | 137,850                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 16,000 | —   | 145,571    | —                    | 145,141                             |
| 2403-2819               | 120×5        | H8—11H                                      | 3,000 | 4,492 | 6,113 | 55,656 | 57,739 | 59,678 | 31,485 | 36,829 | 34,144 | 10,353 | 32  | 131,121    | 130,945              | 130,691                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 13,133 | —   | 138,408    | —                    | 137,978                             |
|                         |              |   |       |       |       |        |        |        |        |        |        | 16,000 | —   | 145,689    | —                    | 145,259                             |

## Примечания:

1.  $S$  (см. табл. 1) — величина подъема заднего центра на длине  $L_1$  при шлифовании фасонным кругом боковых поверхностей фасочных и шлицевых зубьев.
2. Полный размер фаски  $F$  — на калибрующих зубьях.
3. Размер  $b$  относится к последнему фасочному зубу.
4. Размеры профиля (глубина и радиусы) зубьев с шагом  $t_2$  одинаковы с размерами профиля зубьев с шагом  $t$ .
5. Номер последнего зуба со стружкоделительной канавкой —  $j$ . Канавки выполнять на фасочных и шлицевых зубьях, располагая их в шахматном порядке.
6. Диаметры роликов  $d_p$  (см. табл. 3 и 5) для контроля профиля соответствуют ГОСТ 2475.
7. После контроля профиля зубьев протяжки контрольный буртик сошлифовать до диаметра первого шлицевого зуба. При этом допускается увеличение ширины задней поверхности этого зуба.
8. Допускается изготовление протяжек без стружкоделительных канавок на фасочных зубьях.
9. Размеры  $M$  (см. табл. 3) относятся к протяжкам с профилем зубьев, выполненным по заменяющей дуге окружности.



Размеры, мм

Таблица 4

| Обозначение<br>протяжки   | 2403-2532<br>2403-2533 | 2403-2534<br>2403-2535 | 2403-2536<br>2403-2537 | 2403-2538<br>2403-2539 | 2403-2541<br>2403-2542<br>2403-2545<br>2403-2546 | 2403-2543<br>2403-2544<br>2403-2547<br>2403-2548 | 2403-2549<br>2403-2551 | 2403-2552<br>2403-2553 | 2403-2554<br>2403-2555 | 2403-2556<br>2403-2557 | 2403-2558<br>2403-2559 | 2403-2561<br>2403-2562 |        |
|---|------------------------|------------------------|------------------------|------------------------|--|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|
|   | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н  | Н8—11Н   | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 |        |
| $D \times t$  | 55×3                   |                        |                        |                        | 60×3   |  | 65×3                   |                        |                        |                        | 70×3                   |                        |        |
| Номера и диаметры $D_t$ зубьев<br>шлицевых<br>черновых и переходных<br>фасочных | 1                      | 49,000                 | 49,000                 | 49,000                 | 49,000   | 54,000   | 54,000                 | 59,000                 | 59,000                 | 59,000                 | 59,000                 | 64,000                 | 64,000 |
|   | 2                      | 49,150                 | 49,150                 | 49,130                 | 49,130   | 54,150   | 54,150                 | 59,150                 | 59,150                 | 59,130                 | 59,130                 | 64,140                 | 64,140 |
|   | 3                      | 49,300                 | 49,300                 | 49,260                 | 49,260   | 54,300   | 54,300                 | 59,300                 | 59,300                 | 59,260                 | 59,260                 | 64,280                 | 64,280 |
|   | 4                      | 49,450                 | 49,450                 | 49,390                 | 49,390   | 54,450   | 54,450                 | 59,450                 | 59,450                 | 59,390                 | 59,390                 | 64,420                 | 64,420 |
|   | 5                      | 49,600                 | 49,600                 | 49,520                 | 49,520   | 54,600   | 54,600                 | 59,600                 | 59,600                 | 59,520                 | 59,520                 | 64,560                 | 64,560 |
|   | 6                      | 49,750                 | 49,750                 | 49,650                 | 49,650   | 54,750   | 54,750                 | 59,750                 | 59,750                 | 59,650                 | 59,650                 | 64,700                 | 64,700 |
|   | 7                      | 49,900                 | 49,900                 | 49,780                 | 49,780   | 54,900   | 54,900                 | 59,900                 | 59,900                 | 59,780                 | 59,780                 | 64,840                 | 64,840 |
|   | 8                      | 50,050                 | 50,050                 | 49,910                 | 49,910   | 55,050   | 55,050                 | 60,050                 | 60,050                 | 59,910                 | 59,910                 | 64,980                 | 64,980 |
|   | 9                      | 50,010                 | 50,010                 | 50,040                 | 50,040   | 55,200   | 55,200                 | 60,010                 | 60,010                 | 60,040                 | 60,040                 | 65,120                 | 65,120 |
|   | 10                     | 50,160                 | 50,160                 | 50,000                 | 50,000   | 55,160   | 55,160                 | 60,160                 | 60,160                 | 60,000                 | 60,000                 | 65,080                 | 65,080 |
|   | 11                     | 50,310                 | 50,310                 | 50,130                 | 50,130   | 55,310   | 55,310                 | 60,310                 | 60,310                 | 60,150                 | 60,150                 | 65,220                 | 65,220 |
|   | 12                     | 50,460                 | 50,460                 | 50,260                 | 50,260   | 55,460   | 55,460                 | 60,460                 | 60,460                 | 60,300                 | 60,300                 | 65,360                 | 65,360 |
|   | 13                     | 50,610                 | 50,610                 | 50,390                 | 50,390   | 55,610   | 55,610                 | 60,610                 | 60,610                 | 60,450                 | 60,450                 | 65,500                 | 65,500 |
|   | 14                     | 50,760                 | 50,760                 | 50,520                 | 50,520   | 55,760   | 55,760                 | 60,760                 | 60,760                 | 60,600                 | 60,600                 | 65,640                 | 65,640 |
|   | 15                     | 50,910                 | 50,910                 | 50,650                 | 50,650   | 55,910   | 55,910                 | 60,910                 | 60,910                 | 60,750                 | 60,750                 | 65,780                 | 65,780 |
|   | 16                     | 51,060                 | 51,060                 | 50,780                 | 50,780   | 56,060   | 56,060                 | 61,060                 | 61,060                 | 60,900                 | 60,900                 | 65,920                 | 65,920 |
|   | 17                     | 51,210                 | 51,210                 | 50,910                 | 50,910   | 56,210   | 56,210                 | 61,210                 | 61,210                 | 61,050                 | 61,050                 | 66,060                 | 66,060 |
|   | 18                     | 51,360                 | 51,360                 | 51,040                 | 51,040   | 56,360   | 56,360                 | 61,360                 | 61,360                 | 61,200                 | 61,200                 | 66,200                 | 66,200 |
|   | 19                     | 51,510                 | 51,510                 | 51,170                 | 51,170   | 56,510   | 56,510                 | 61,510                 | 61,510                 | 61,350                 | 61,350                 | 66,340                 | 66,340 |
|   | 20                     | 51,660                 | 51,660                 | 51,300                 | 51,300   | 56,660   | 56,660                 | 61,660                 | 61,660                 | 61,500                 | 61,500                 | 66,480                 | 66,480 |
|   | 21                     | 51,810                 | 51,810                 | 51,430                 | 51,430   | 56,810   | 56,810                 | 61,810                 | 61,810                 | 61,650                 | 61,650                 | 66,620                 | 66,620 |
|   | 22                     | 51,960                 | 51,960                 | 51,560                 | 51,560   | 56,960   | 56,960                 | 61,960                 | 61,960                 | 61,800                 | 61,800                 | 66,760                 | 66,760 |
|   | 23                     | 52,110                 | 52,110                 | 51,690                 | 51,690   | 57,110   | 57,110                 | 62,110                 | 62,110                 | 61,950                 | 61,950                 | 66,900                 | 66,900 |
|   | 24                     | 52,260                 | 52,260                 | 51,820                 | 51,820   | 57,260   | 57,260                 | 62,260                 | 62,260                 | 62,100                 | 62,100                 | 67,040                 | 67,040 |
|   | 25                     | 52,410                 | 52,410                 | 51,950                 | 51,950   | 57,410   | 57,410                 | 62,410                 | 62,410                 | 62,250                 | 62,250                 | 67,180                 | 67,180 |
|   | 26                     | 52,560                 | 52,560                 | 52,080                 | 52,080   | 57,560   | 57,560                 | 62,560                 | 62,560                 | 62,400                 | 62,400                 | 67,320                 | 67,320 |
|   | 27                     | 52,710                 | 52,710                 | 52,210                 | 52,210   | 57,710   | 57,710                 | 62,710                 | 62,710                 | 62,550                 | 62,550                 | 67,460                 | 67,460 |

## Размеры, мм

| Обозначение<br>протяжки | 2403-2532<br>2403-2533 | 2403-2534<br>2403-2535 | 2403-2536<br>2403-2537 | 2403-2538<br>2403-2539 | 2403-2541<br>2403-2542<br>2403-2545<br>2403-2546 | 2403-2543<br>2403-2544<br>2403-2547<br>2403-2548 | 2403-2549<br>2403-2551 | 2403-2552<br>2403-2553 | 2403-2554<br>2403-2555 | 2403-2556<br>2403-2557 | 2403-2558<br>2403-2559 | 2403-2561<br>2403-2562 |        |
|-------------------------|------------------------|------------------------|------------------------|------------------------|--|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|
|                         | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н  | Н8—11Н   | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 |        |
| $D \times m$            | 55×3                   |                        |                        |                        | 60×3   |  | 65×3                   |                        |                        |                        | 70×3                   |                        |        |
| черновых и переходных   | 28                     | 52,860                 | 52,860                 | 52,340                 | 52,340   | 57,860   | 57,860                 | 62,860                 | 62,860                 | 62,700                 | 62,700                 | 67,600                 | 67,600 |
|                         | 29                     | 53,010                 | 53,010                 | 52,470                 | 52,470   | 58,010   | 58,010                 | 63,010                 | 63,010                 | 62,850                 | 62,850                 | 67,740                 | 67,740 |
|                         | 30                     | 53,160                 | 53,160                 | 52,600                 | 52,600   | 58,160   | 58,160                 | 63,160                 | 63,160                 | 63,000                 | 63,000                 | 67,880                 | 67,880 |
|                         | 31                     | 53,310                 | 53,310                 | 52,730                 | 52,730   | 58,310   | 58,310                 | 63,310                 | 63,310                 | 63,150                 | 63,150                 | 68,020                 | 68,020 |
|                         | 32                     | 53,460                 | 53,460                 | 52,860                 | 52,860   | 58,460   | 58,460                 | 63,460                 | 63,460                 | 63,300                 | 63,300                 | 68,160                 | 68,160 |
|                         | 33                     | 53,610                 | 53,610                 | 52,990                 | 52,990   | 58,610   | 58,610                 | 63,610                 | 63,610                 | 63,450                 | 63,450                 | 68,300                 | 68,300 |
|                         | 34                     | 53,760                 | 53,760                 | 53,120                 | 53,120   | 58,760   | 58,760                 | 63,760                 | 63,760                 | 63,600                 | 63,600                 | 68,440                 | 68,440 |
|                         | 35                     | 53,910                 | 53,910                 | 53,250                 | 53,250   | 58,910   | 58,910                 | 63,910                 | 63,910                 | 63,750                 | 63,750                 | 68,580                 | 68,580 |
|                         | 36                     | 54,060                 | 54,060                 | 53,380                 | 53,380   | 59,060   | 59,060                 | 64,060                 | 64,060                 | 63,900                 | 63,900                 | 68,720                 | 68,720 |
|                         | 37                     | 54,210                 | 54,210                 | 53,510                 | 53,510   | 59,210   | 59,210                 | 64,210                 | 64,210                 | 64,050                 | 64,050                 | 68,860                 | 68,860 |
|                         | 38                     | 54,360                 | 54,360                 | 53,640                 | 53,640   | 59,360   | 59,360                 | 64,360                 | 64,360                 | 64,200                 | 64,200                 | 69,000                 | 69,000 |
|                         | 39                     | 54,510                 | 54,510                 | 53,770                 | 53,770   | 59,510   | 59,510                 | 64,510                 | 64,510                 | 64,350                 | 64,350                 | 69,140                 | 69,140 |
|                         | 40                     | 54,660                 | 54,660                 | 53,900                 | 53,900   | 59,660   | 59,660                 | 64,660                 | 64,660                 | 64,500                 | 64,500                 | 69,280                 | 69,280 |
|                         | 41                     | 54,810                 | 54,810                 | 54,030                 | 54,030   | 59,810   | 59,810                 | 64,810                 | 64,810                 | 64,650                 | 64,650                 | 69,420                 | 69,420 |
|                         | 42                     | 54,890                 | 54,890                 | 54,160                 | 54,160   | 59,890   | 59,890                 | 64,890                 | 64,890                 | 64,800                 | 64,800                 | 69,560                 | 69,560 |
| 43                      | 54,940                 | 54,940                 | 54,290                 | 54,290                 | 59,940   | 59,940   | 64,940                 | 64,940                 | 64,890                 | 64,890                 | 69,700                 | 69,700                 |        |
| листовых                | 44                     | 54,970                 | 54,970                 | 54,420                 | 54,420   | 59,970   | 59,970                 | 64,970                 | 64,970                 | 64,940                 | 64,940                 | 69,840                 | 69,840 |
|                         | 45                     | 54,990                 | 55,000                 | 54,550                 | 54,550   | 59,990   | 60,000                 | 64,990                 | 65,000                 | 64,970                 | 64,970                 | 69,910                 | 69,900 |
|                         | 46                     | 55,010                 | 55,025                 | 54,680                 | 54,680   | 60,010   | 60,025                 | 65,010                 | 65,025                 | 64,990                 | 65,000                 | 69,950                 | 69,940 |
|                         | 47                     | 55,030                 | 55,046                 | 54,810                 | 54,810   | 60,030   | 60,046                 | 65,030                 | 65,046                 | 65,010                 | 65,025                 | 69,970                 | 69,970 |
| калибрующих             | 48                     | 55,030                 | 55,046                 | 54,890                 | 54,890   | 60,030   | 60,046                 | 65,030                 | 65,046                 | 65,030                 | 65,046                 | 69,990                 | 70,000 |
|                         | 49                     |                        |                        | 54,940                 | 54,940   |  |                        |                        |                        | 70,010                 | 70,025                 |                        |        |
|                         | 50                     |                        |                        | 54,970                 | 54,970   |  |                        |                        |                        | 70,030                 | 70,046                 |                        |        |
|                         | 51                     |                        |                        | 54,990                 | 55,000   |  |                        |                        |                        | 70,030                 | 70,046                 |                        |        |
|                         | 52                     |                        |                        | 55,010                 | 55,025   |  |                        |                        |                        |                        |                        |                        |        |
|                         | 53                     |                        |                        | 55,030                 | 55,046   |  |                        |                        |                        |                        |                        |                        |        |
| 54                      | —                      | —                      | 55,030                 | 55,046                 | —  | —  | —                      | —                      | —                      | —                      | 70,030                 | 70,046                 |        |
| 55                      |                        |                        |                        |                        |  |  |                        |                        |                        |                        |                        |                        |        |
| 56                      |                        |                        |                        |                        |  |  |                        |                        |                        |                        |                        |                        |        |
| 57                      |                        |                        |                        |                        |  |  |                        |                        |                        |                        |                        |                        |        |
| 58                      |                        |                        |                        |                        |  |  |                        |                        |                        |                        |                        |                        |        |
| 59                      |                        |                        |                        |                        |  |  |                        |                        |                        |                        |                        |                        |        |

Номера и диаметры  $D_1$  зубьев  
шлицевых

## Размеры, мм

| Обозначение<br>протяжки  | 2403-2563<br>2403-2564 | 2403-2565<br>2403-2566 | 2403-2567<br>2403-2568<br>2403-2572<br>2403-2573 | 2403-2569<br>2403-2571<br>2403-2574<br>2403-2575 | 2403-2576<br>2403-2577 | 2403-2578<br>2403-2579 | 2403-2581<br>2403-2582 | 2403-2583<br>2403-2584 | 2403-2585<br>2403-2586 | 2403-2587<br>2403-2588 | 2403-2589<br>2403-2591 | 2403-2592<br>2403-2593 |        |
|--|------------------------|------------------------|--|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|
|  | Н7—9Н                  | Н8—11Н                 | Н7—9Н  | Н8—11Н   | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 |        |
| D×t  | 70×3                   |                        | 75×3   |  | 80×3                   |                        |                        |                        | 85×3                   |                        |                        |                        |        |
| Номера и диаметры D <sub>i</sub> зубьев<br>шлицевых<br>черновых и переходных<br>фасочных | 1                      | 64,000                 | 64,000   | 69,000   | 69,000                 | 74,000                 | 74,000                 | 74,000                 | 74,000                 | 79,000                 | 79,000                 | 79,000                 | 79,000 |
|  | 2                      | 64,150                 | 64,150   | 69,140   | 69,140                 | 74,140                 | 74,140                 | 74,150                 | 74,150                 | 79,140                 | 79,140                 | 79,150                 | 79,150 |
|  | 3                      | 64,300                 | 64,300   | 69,280   | 69,280                 | 74,280                 | 74,280                 | 74,300                 | 74,300                 | 79,280                 | 79,280                 | 79,300                 | 79,300 |
|  | 4                      | 64,450                 | 64,450   | 69,420   | 69,420                 | 74,420                 | 74,420                 | 74,450                 | 74,450                 | 79,420                 | 79,420                 | 79,450                 | 79,450 |
|  | 5                      | 64,600                 | 64,600   | 69,560   | 69,560                 | 74,560                 | 74,560                 | 74,600                 | 74,600                 | 79,560                 | 79,560                 | 79,600                 | 79,600 |
|  | 6                      | 64,750                 | 64,750   | 69,700   | 69,700                 | 74,700                 | 74,700                 | 74,750                 | 74,750                 | 79,700                 | 79,700                 | 79,750                 | 79,750 |
|  | 7                      | 64,900                 | 64,900   | 69,840   | 69,840                 | 74,840                 | 74,840                 | 74,900                 | 74,900                 | 79,840                 | 79,840                 | 79,900                 | 79,900 |
|  | 8                      | 65,050                 | 65,050   | 69,980   | 69,980                 | 74,980                 | 74,980                 | 75,050                 | 75,050                 | 79,980                 | 79,980                 | 80,050                 | 80,050 |
|  | 9                      | 65,200                 | 65,200   | 70,120   | 70,120                 | 75,120                 | 75,120                 | 75,200                 | 75,200                 | 80,120                 | 80,120                 | 80,200                 | 80,200 |
|  | 10                     | 65,160                 | 65,160   | 70,080   | 70,080                 | 75,080                 | 75,080                 | 75,160                 | 75,160                 | 80,080                 | 80,080                 | 80,160                 | 80,160 |
|  | 11                     | 65,310                 | 65,310   | 70,220   | 70,220                 | 75,220                 | 75,220                 | 75,310                 | 75,310                 | 80,220                 | 80,220                 | 80,310                 | 80,310 |
|  | 12                     | 65,460                 | 65,460   | 70,360   | 70,360                 | 75,360                 | 75,360                 | 75,460                 | 75,460                 | 80,360                 | 80,360                 | 80,460                 | 80,460 |
|  | 13                     | 65,610                 | 65,610   | 70,500   | 70,500                 | 75,500                 | 75,500                 | 75,610                 | 75,610                 | 80,500                 | 80,500                 | 80,610                 | 80,610 |
|  | 14                     | 65,760                 | 65,760   | 70,640   | 70,640                 | 75,640                 | 75,640                 | 75,760                 | 75,760                 | 80,640                 | 80,640                 | 80,760                 | 80,760 |
|  | 15                     | 65,910                 | 65,910   | 70,780   | 70,780                 | 75,780                 | 75,780                 | 75,910                 | 75,910                 | 80,780                 | 80,780                 | 80,910                 | 80,910 |
|  | 16                     | 66,060                 | 66,060   | 70,920   | 70,920                 | 75,920                 | 75,920                 | 76,060                 | 76,060                 | 80,920                 | 80,920                 | 81,060                 | 81,060 |
|  | 17                     | 66,210                 | 66,210   | 71,060   | 71,060                 | 76,060                 | 76,060                 | 76,210                 | 76,210                 | 81,060                 | 81,060                 | 81,210                 | 81,210 |
|  | 18                     | 66,360                 | 66,360   | 71,200   | 71,200                 | 76,200                 | 76,200                 | 76,360                 | 76,360                 | 81,200                 | 81,200                 | 81,360                 | 81,360 |
|  | 19                     | 66,510                 | 66,510   | 71,340   | 71,340                 | 76,340                 | 76,340                 | 76,510                 | 76,510                 | 81,340                 | 81,340                 | 81,510                 | 81,510 |
|  | 20                     | 66,660                 | 66,660   | 71,480   | 71,480                 | 76,480                 | 76,480                 | 76,660                 | 76,660                 | 81,480                 | 81,480                 | 81,660                 | 81,660 |
|  | 21                     | 66,810                 | 66,810   | 71,620   | 71,620                 | 76,620                 | 76,620                 | 76,810                 | 76,810                 | 81,620                 | 81,620                 | 81,810                 | 81,810 |
|  | 22                     | 66,960                 | 66,960   | 71,760   | 71,760                 | 76,760                 | 76,760                 | 76,960                 | 76,960                 | 81,760                 | 81,760                 | 81,960                 | 81,960 |
|  | 23                     | 67,110                 | 67,110   | 71,900   | 71,900                 | 76,900                 | 76,900                 | 77,110                 | 77,110                 | 81,900                 | 81,900                 | 82,110                 | 82,110 |
|  | 24                     | 67,260                 | 67,260   | 72,040   | 72,040                 | 77,040                 | 77,040                 | 77,260                 | 77,260                 | 82,040                 | 82,040                 | 82,260                 | 82,260 |
|  | 25                     | 67,410                 | 67,410   | 72,180   | 72,180                 | 77,180                 | 77,180                 | 77,410                 | 77,410                 | 82,180                 | 82,180                 | 82,410                 | 82,410 |
|  | 26                     | 67,560                 | 67,560   | 72,320   | 72,320                 | 77,320                 | 77,320                 | 77,560                 | 77,560                 | 82,320                 | 82,320                 | 82,560                 | 82,560 |
|  | 27                     | 67,710                 | 67,710   | 72,460   | 72,460                 | 77,460                 | 77,460                 | 77,710                 | 77,710                 | 82,460                 | 82,460                 | 82,710                 | 82,710 |

## Размеры, мм

| Обозначение<br>протяжки                         | 2403-2563             | 2403-2565 | 2403-2567 | 2403-2569 | 2403-2576 | 2403-2578 | 2403-2581 | 2403-2583 | 2403-2585 | 2403-2587 | 2403-2589 | 2403-2592 |           |           |
|---|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|   | 2403-2564             | 2403-2566 | 2403-2568 | 2403-2571 |           |           |           |           |           |           |           |           | 2403-2572 | 2403-2574 |
| Сочетание полей<br>допусков <i>D</i> и <i>e</i> | H7—9H                 | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    |           |           |
| <i>D</i> × <i>m</i>                             | 70 × 3                |           | 75 × 3    |           | 80 × 3    |           |           |           | 85 × 3    |           |           |           |           |           |
| Номера и диаметры <i>D</i> , зубьев<br>шлицевых | черновых и переходных | 28        | 67,860    | 67,860    | 72,600    | 72,600    | 77,600    | 77,600    | 77,860    | 77,860    | 82,600    | 82,600    | 82,860    | 82,860    |
|   |                       | 29        | 68,010    | 68,010    | 72,740    | 72,740    | 77,740    | 77,740    | 78,010    | 78,010    | 82,740    | 82,740    | 83,010    | 83,010    |
|   |                       | 30        | 68,160    | 68,160    | 72,880    | 72,880    | 77,880    | 77,880    | 78,160    | 78,160    | 82,880    | 82,880    | 83,160    | 83,160    |
|   |                       | 31        | 68,310    | 68,310    | 73,020    | 73,020    | 78,020    | 78,020    | 78,310    | 78,310    | 83,020    | 83,020    | 83,310    | 83,310    |
|   |                       | 32        | 68,460    | 68,460    | 73,160    | 73,160    | 78,160    | 78,160    | 78,460    | 78,460    | 83,160    | 83,160    | 83,460    | 83,460    |
|   |                       | 33        | 68,610    | 68,610    | 73,300    | 73,300    | 78,300    | 78,300    | 78,610    | 78,610    | 83,300    | 83,300    | 83,610    | 83,610    |
|   |                       | 34        | 68,760    | 68,760    | 73,440    | 73,440    | 78,440    | 78,440    | 78,760    | 78,760    | 83,440    | 83,440    | 83,760    | 83,760    |
|   |                       | 35        | 68,910    | 68,910    | 73,580    | 73,580    | 78,580    | 78,580    | 78,910    | 78,910    | 83,580    | 83,580    | 83,910    | 83,910    |
|   |                       | 36        | 69,060    | 69,060    | 73,720    | 73,720    | 78,720    | 78,720    | 79,060    | 79,060    | 83,720    | 83,720    | 84,060    | 84,060    |
|   |                       | 37        | 69,210    | 69,210    | 73,860    | 73,860    | 78,860    | 78,860    | 79,210    | 79,210    | 83,860    | 83,860    | 84,210    | 84,210    |
|   |                       | 38        | 69,360    | 69,360    | 74,000    | 74,000    | 79,000    | 79,000    | 79,360    | 79,360    | 84,000    | 84,000    | 84,360    | 84,360    |
|   |                       | 39        | 69,510    | 69,510    | 74,140    | 74,140    | 79,140    | 79,140    | 79,510    | 79,510    | 84,140    | 84,140    | 84,510    | 84,510    |
|   |                       | 40        | 69,660    | 69,660    | 74,280    | 74,280    | 79,280    | 79,280    | 79,660    | 79,660    | 84,280    | 84,280    | 84,660    | 84,660    |
|   |                       | 41        | 69,810    | 69,810    | 74,420    | 74,420    | 79,420    | 79,420    | 79,810    | 79,810    | 84,420    | 84,420    | 84,810    | 84,810    |
|   | 42                    | 69,890    | 69,890    | 74,560    | 74,560    | 79,560    | 79,560    | 79,890    | 79,890    | 84,560    | 84,560    | 84,900    | 84,900    |           |
|   | 43                    | 69,940    | 69,940    | 74,700    | 74,700    | 79,700    | 79,700    | 79,940    | 79,940    | 84,700    | 84,700    | 84,950    | 84,950    |           |
|   | чистовых              | 44        | 69,970    | 69,970    | 74,840    | 74,840    | 79,840    | 79,840    | 79,970    | 79,970    | 84,840    | 84,840    | 84,980    | 84,980    |
|   |                       | 45        | 69,990    | 70,000    | 74,910    | 74,900    | 79,910    | 79,900    | 79,990    | 80,000    | 84,920    | 84,910    | 85,000    | 85,010    |
|   |                       | 46        | 70,010    | 70,025    | 74,950    | 74,940    | 79,950    | 79,940    | 80,010    | 80,025    | 84,960    | 84,950    | 85,020    | 85,035    |
|   |                       | 47        | 70,030    | 70,046    | 74,970    | 74,970    | 79,970    | 79,970    | 80,030    | 80,046    | 84,980    | 84,980    | 85,035    | 85,054    |
|   | калибрующих           | 48        | 70,030    | 70,046    | 74,990    | 75,000    | 79,990    | 80,000    | 80,030    | 80,046    | 85,000    | 85,010    | 85,035    | 85,054    |
|   |                       | 49        |           |           | 75,010    | 75,025    | 80,010    | 80,025    |           |           | 85,020    | 85,035    |           |           |
|   |                       | 50        |           |           | 75,030    | 75,046    | 80,030    | 80,046    |           |           | 85,035    | 85,054    |           |           |
|   |                       | 51        |           |           |           |           |           |           |           |           |           |           |           |           |
|   |                       | 52        |           |           |           |           |           |           |           |           |           |           |           |           |
|   | 53                    |           |           |           |           |           |           |           |           |           |           |           |           |           |
|   | 54                    |           |           | 75,030    | 75,046    | 80,030    | 80,046    |           |           | 85,035    | 85,054    |           |           |           |
|   | 55                    | —         | —         |           |           |           |           | —         | —         |           |           | —         | —         |           |
| 56  |                       |           |           |           |           |           |           |           |           |           |           |           |           |           |

## Размеры, мм

| Обозначение<br>протяжки                                | 2403-2594<br>2403-2595 | 2403-2596<br>2403-2597 | 2403-2598 | 2403-2599 | 2403-2601<br>2403-2602 | 2403-2603<br>2403-2604 | 2403-2605<br>2403-2606 | 2403-2607<br>2403-2608 | 2403-2609<br>2403-2611 | 2403-2612<br>2403-2613 | 2403-2614 | 2403-2615 |         |
|--|------------------------|------------------------|-----------|-----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------|-----------|---------|
|  | Н7—9Н                  | Н8—11Н                 | Н7—9Н     | Н8—11Н    | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н     | Н8—11Н    |         |
| Сочетание полей<br>допусков $D$ и $e$                  |                        |                        |           |           |                        |                        |                        |                        |                        |                        |           |           |         |
| $D \times m$   | 90×3                   |                        |           |           | 95×3                   |                        | 100×3                  |                        | 105×3                  |                        |           |           |         |
| флясочных<br><br>черновых и переходных<br><br>шлицевых | №1                     | 84,000                 | 84,000    | 84,000    | 84,000                 | 89,000                 | 89,000                 | 94,000                 | 94,000                 | 99,000                 | 99,000    | 99,000    | 99,000  |
|  | 2                      | 84,140                 | 84,140    | 84,130    | 84,130                 | 89,140                 | 89,140                 | 94,140                 | 94,140                 | 99,140                 | 99,140    | 99,140    | 99,140  |
|  | 3                      | 84,280                 | 84,280    | 84,260    | 84,260                 | 89,280                 | 89,280                 | 94,280                 | 94,280                 | 99,280                 | 99,280    | 99,280    | 99,280  |
|  | 4                      | 84,420                 | 84,420    | 84,390    | 84,390                 | 89,420                 | 89,420                 | 94,420                 | 94,420                 | 99,420                 | 99,420    | 99,420    | 99,420  |
|  | 5                      | 84,560                 | 84,560    | 84,520    | 84,520                 | 89,560                 | 89,560                 | 94,560                 | 94,560                 | 99,560                 | 99,560    | 99,560    | 99,560  |
|  | 6                      | 84,700                 | 84,700    | 84,650    | 84,650                 | 89,700                 | 89,700                 | 94,700                 | 94,700                 | 99,700                 | 99,700    | 99,700    | 99,700  |
|  | 7                      | 84,840                 | 84,840    | 84,780    | 84,780                 | 89,840                 | 89,840                 | 94,840                 | 94,840                 | 99,840                 | 99,840    | 99,840    | 99,840  |
|  | 8                      | 84,980                 | 84,980    | 84,910    | 84,910                 | 89,980                 | 89,980                 | 94,980                 | 94,980                 | 99,980                 | 99,980    | 99,980    | 99,980  |
|  | 9                      | 85,120                 | 85,120    | 85,040    | 85,040                 | 90,120                 | 90,120                 | 95,120                 | 95,120                 | 100,120                | 100,120   | 100,120   | 100,120 |
|  | 10                     | 85,080                 | 85,080    | 85,170    | 85,170                 | 90,080                 | 90,080                 | 95,080                 | 95,080                 | 100,080                | 100,080   | 100,260   | 100,260 |
|  | 11                     | 85,220                 | 85,220    | 85,130    | 85,130                 | 90,220                 | 90,220                 | 95,220                 | 95,220                 | 100,220                | 100,220   | 100,220   | 100,220 |
|  | 12                     | 85,360                 | 85,360    | 85,280    | 85,280                 | 90,360                 | 90,360                 | 95,360                 | 95,360                 | 100,360                | 100,360   | 100,370   | 100,370 |
|  | 13                     | 85,500                 | 85,500    | 85,430    | 85,430                 | 90,500                 | 90,500                 | 95,500                 | 95,500                 | 100,500                | 100,500   | 100,520   | 100,520 |
|  | 14                     | 85,640                 | 85,640    | 85,580    | 85,580                 | 90,640                 | 90,640                 | 95,640                 | 95,640                 | 100,640                | 100,640   | 100,670   | 100,670 |
|  | 15                     | 85,780                 | 85,780    | 85,730    | 85,730                 | 90,780                 | 90,780                 | 95,780                 | 95,780                 | 100,780                | 100,780   | 100,820   | 100,820 |
|  | 16                     | 85,920                 | 85,920    | 85,880    | 85,880                 | 90,920                 | 90,920                 | 95,920                 | 95,920                 | 100,920                | 100,920   | 100,970   | 100,970 |
|  | 17                     | 86,060                 | 86,060    | 86,030    | 86,030                 | 91,060                 | 91,060                 | 96,060                 | 96,060                 | 101,060                | 101,060   | 101,120   | 101,120 |
|  | 18                     | 86,200                 | 86,200    | 86,180    | 86,180                 | 91,200                 | 91,200                 | 96,200                 | 96,200                 | 101,200                | 101,200   | 101,270   | 101,270 |
|  | 19                     | 86,340                 | 86,340    | 86,330    | 86,330                 | 91,340                 | 91,340                 | 96,340                 | 96,340                 | 101,340                | 101,340   | 101,420   | 101,420 |
|  | 20                     | 86,480                 | 86,480    | 86,480    | 86,480                 | 91,480                 | 91,480                 | 96,480                 | 96,480                 | 101,480                | 101,480   | 101,570   | 101,570 |
|  | 21                     | 86,620                 | 86,620    | 86,630    | 86,630                 | 91,620                 | 91,620                 | 96,620                 | 96,620                 | 101,620                | 101,620   | 101,720   | 101,720 |
|  | 22                     | 86,760                 | 86,760    | 86,780    | 86,780                 | 91,760                 | 91,760                 | 96,760                 | 96,760                 | 101,760                | 101,760   | 101,870   | 101,870 |
|  | 23                     | 86,900                 | 86,900    | 86,930    | 86,930                 | 91,900                 | 91,900                 | 96,900                 | 96,900                 | 101,900                | 101,900   | 102,020   | 102,020 |
|  | 24                     | 87,040                 | 87,040    | 87,080    | 87,080                 | 92,040                 | 92,040                 | 97,040                 | 97,040                 | 102,040                | 102,040   | 102,170   | 102,170 |
|  | 25                     | 87,180                 | 87,180    | 87,230    | 87,230                 | 92,180                 | 92,180                 | 97,190                 | 97,180                 | 102,180                | 102,180   | 102,320   | 102,320 |
|  | 26                     | 87,320                 | 87,320    | 87,380    | 87,380                 | 92,320                 | 92,320                 | 97,320                 | 97,320                 | 102,320                | 102,320   | 102,470   | 102,470 |
|  | 27                     | 87,460                 | 87,460    | 87,530    | 87,530                 | 92,460                 | 92,460                 | 97,460                 | 97,460                 | 102,460                | 102,460   | 102,620   | 102,620 |

## Размеры, мм

| Обозначение<br>протяжки  | 2403-2594<br>2403-2595 | 2403-2596<br>2403-2597 | 2403-2598 | 2403-2599 | 2403-2601<br>2403-2602 | 2403-2603<br>2403-2604 | 2403-2605<br>2403-2606 | 2403-2607<br>2403-2608 | 2403-2609<br>2403-2611 | 2403-2612<br>2403-2613 | 2403-2614 | 2403-2615 |         |         |
|--|------------------------|------------------------|-----------|-----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------|-----------|---------|---------|
|  | Н7—9Н                  | Н8—11Н                 | Н7—9Н     | Н8—11Н    | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н     | Н8—11Н    |         |         |
| D×t  | 90×3                   |                        |           |           | 95×3                   |                        | 100×3                  |                        | 105×3                  |                        |           |           |         |         |
| Номера и диаметры D <sub>4</sub> зубьев<br>шлифовых<br>черновых и переходных | 28                     | 87,600                 | 87,600    | 87,680    | 87,680                 | 92,600                 | 92,600                 | 97,600                 | 97,000                 | 102,600                | 102,600   | 102,770   | 102,770 |         |
|  | 29                     | 87,740                 | 87,740    | 87,830    | 87,830                 | 92,740                 | 92,740                 | 97,740                 | 97,740                 | 102,740                | 102,740   | 102,920   | 102,920 |         |
|  | 30                     | 87,880                 | 87,880    | 87,980    | 87,980                 | 92,880                 | 92,880                 | 97,880                 | 97,880                 | 102,880                | 102,880   | 103,070   | 103,070 |         |
|  | 31                     | 88,020                 | 88,020    | 88,130    | 88,130                 | 93,020                 | 93,020                 | 98,020                 | 98,020                 | 103,020                | 103,020   | 103,220   | 103,220 |         |
|  | 32                     | 88,160                 | 88,160    | 88,280    | 88,280                 | 93,160                 | 93,160                 | 98,160                 | 98,160                 | 103,160                | 103,160   | 103,370   | 103,370 |         |
|  | 33                     | 88,300                 | 88,300    | 88,430    | 88,430                 | 93,300                 | 93,300                 | 98,300                 | 98,300                 | 103,300                | 103,300   | 103,520   | 103,520 |         |
|  | 34                     | 88,440                 | 88,440    | 88,580    | 88,580                 | 93,440                 | 93,440                 | 98,440                 | 98,440                 | 103,440                | 103,440   | 103,670   | 103,670 |         |
|  | 35                     | 88,580                 | 88,580    | 88,730    | 88,730                 | 93,580                 | 93,580                 | 98,580                 | 98,580                 | 103,580                | 103,580   | 103,820   | 103,820 |         |
|  | 36                     | 88,720                 | 88,720    | 88,880    | 88,880                 | 93,720                 | 93,720                 | 98,720                 | 98,720                 | 103,720                | 103,720   | 103,970   | 103,970 |         |
|  | 37                     | 88,860                 | 88,860    | 89,030    | 89,030                 | 93,860                 | 93,860                 | 98,860                 | 98,860                 | 103,860                | 103,860   | 104,120   | 104,120 |         |
|  | 38                     | 89,000                 | 89,000    | 89,180    | 89,180                 | 94,000                 | 94,000                 | 99,000                 | 99,000                 | 104,000                | 104,000   | 104,270   | 104,270 |         |
|  | 39                     | 89,140                 | 89,140    | 89,330    | 89,330                 | 94,140                 | 94,140                 | 99,140                 | 99,140                 | 104,140                | 104,140   | 104,420   | 104,420 |         |
|  | 40                     | 89,280                 | 89,280    | 89,480    | 89,480                 | 94,280                 | 94,280                 | 99,280                 | 99,280                 | 104,280                | 104,280   | 104,570   | 104,570 |         |
|  | 41                     | 89,420                 | 89,420    | 89,630    | 89,630                 | 94,420                 | 94,420                 | 99,420                 | 99,420                 | 104,420                | 104,420   | 104,720   | 104,720 |         |
|  | 42                     | 89,560                 | 89,560    | 89,780    | 89,780                 | 94,560                 | 94,560                 | 99,560                 | 99,560                 | 104,560                | 104,560   | 104,870   | 104,870 |         |
|  | 43                     | 89,700                 | 89,700    | 89,890    | 89,890                 | 94,700                 | 94,700                 | 99,700                 | 99,700                 | 104,700                | 104,700   | 104,940   | 104,940 |         |
|  | 44                     | 89,840                 | 89,840    | 89,950    | 89,950                 | 94,840                 | 94,840                 | 99,840                 | 99,840                 | 104,840                | 104,840   | 104,980   | 104,980 |         |
|  | 45                     | 89,920                 | 89,910    | 89,980    | 89,980                 | 94,920                 | 94,910                 | 99,920                 | 99,910                 | 104,920                | 104,910   | 105,000   | 105,010 |         |
|  | 46                     | 89,960                 | 89,950    | 90,000    | 90,010                 | 94,960                 | 94,950                 | 99,960                 | 99,950                 | 104,960                | 104,950   | 105,020   | 105,035 |         |
|  | чистовых               | 47                     | 98,980    | 98,980    | 90,020                 | 90,035                 | 94,980                 | 94,980                 | 99,980                 | 99,980                 | 104,980   | 104,980   | 105,035 | 105,054 |
|  |                        | 48                     | 90,000    | 90,010    | 90,035                 | 90,054                 | 95,000                 | 95,010                 | 100,000                | 100,010                | 105,000   | 105,010   |         |         |
|  |                        | 49                     | 90,020    | 90,035    |                        |                        | 95,020                 | 95,035                 | 100,020                | 100,035                | 105,020   | 105,035   |         |         |
|  |                        | 50                     | 90,035    | 90,054    |                        |                        | 95,035                 | 95,054                 | 100,035                | 100,054                | 105,035   | 105,054   |         |         |
|  | калибрующих            | 51                     |           |           | 90,035                 | 90,054                 |                        |                        |                        |                        |           |           | 105,035 | 105,054 |
|  |                        | 52                     |           |           |                        |                        |                        |                        |                        |                        |           |           |         |         |
|  |                        | 53                     |           |           |                        |                        |                        |                        |                        |                        |           |           |         |         |
|  |                        | 54                     | 90,035    | 90,054    |                        |                        | 95,035                 | 95,054                 | 100,035                | 100,054                | 105,035   | 105,054   |         |         |
|  |                        | 55                     |           |           |                        |                        |                        |                        |                        |                        |           |           |         |         |
| 56   |                        |                        |           |           |                        |                        |                        |                        |                        |                        |           |           |         |         |

## Размеры, мм

| Обозначение<br>протяжки  | 2403-2616<br>2403-2617            | 2403-2618<br>2403-2619 | 2403-2621<br>2403-2622 | 2403-2623<br>2403-2624 | 2403-2625<br>2403-2626 | 2403-2627<br>2403-2628 | 2403-2629<br>2403-2631 | 2403-2632<br>2403-2633 | 2403-2634<br>2403-2635 | 2403-2636<br>2403-2637 | 2403-2638<br>2403-2639 | 2403-2641<br>2403-2642 |        |
|--|-----------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|
|  | Сочетание полей<br>допусков D и e |                        | H7—9H                  | H8—11H                 | H7—9H                  | H8—11H                 | H7—9H                  | H8—11H                 | H7—9H                  | H8—11H                 | H7—9H                  | H8—11H                 |        |
| D×m  | 110×3                             |                        |                        | 120×3                  |                        | 130×3                  |                        | 55×3,5                 |                        |                        | 60×3,5                 |                        |        |
| Номера и диаметры D, зубьев<br>шлицевых<br>черновых и переходных<br>фасочных | 1                                 | 104,000                | 104,000                | 114,000                | 114,000                | 124,000                | 124,000                | 48,000                 | 48,000                 | 48,000                 | 48,000                 | 53,000                 | 53,000 |
|  | 2                                 | 104,140                | 104,140                | 114,140                | 114,140                | 124,130                | 124,130                | 48,150                 | 48,150                 | 48,130                 | 48,130                 | 53,150                 | 53,150 |
|  | 3                                 | 104,280                | 104,280                | 114,280                | 114,280                | 124,260                | 124,260                | 48,300                 | 48,300                 | 48,260                 | 48,260                 | 53,300                 | 53,300 |
|  | 4                                 | 104,420                | 104,420                | 114,420                | 114,420                | 124,390                | 124,390                | 48,450                 | 48,450                 | 48,390                 | 48,390                 | 53,450                 | 53,450 |
|  | 5                                 | 104,560                | 104,560                | 114,560                | 114,560                | 124,520                | 124,520                | 48,600                 | 48,600                 | 48,520                 | 48,520                 | 53,600                 | 53,600 |
|  | 6                                 | 104,700                | 104,700                | 114,700                | 114,700                | 124,650                | 124,650                | 48,750                 | 48,750                 | 48,650                 | 48,650                 | 53,750                 | 53,750 |
|  | 7                                 | 104,840                | 104,840                | 114,840                | 114,840                | 124,780                | 124,780                | 48,900                 | 48,900                 | 48,780                 | 48,780                 | 53,900                 | 53,900 |
|  | 8                                 | 104,980                | 104,980                | 114,980                | 114,980                | 124,910                | 124,910                | 49,050                 | 49,050                 | 48,910                 | 48,910                 | 54,050                 | 54,050 |
|  | 9                                 | 105,120                | 105,120                | 115,120                | 115,120                | 125,040                | 125,040                | 49,200                 | 49,200                 | 49,040                 | 49,040                 | 54,010                 | 54,010 |
|  | 10                                | 105,080                | 105,080                | 115,080                | 115,080                | 125,170                | 125,170                | 49,160                 | 49,160                 | 49,170                 | 49,170                 | 54,160                 | 54,160 |
|  | 11                                | 105,220                | 105,220                | 115,220                | 115,220                | 125,130                | 125,130                | 49,310                 | 49,310                 | 49,130                 | 49,130                 | 54,310                 | 54,310 |
|  | 12                                | 105,360                | 105,360                | 115,360                | 115,360                | 125,260                | 125,260                | 49,460                 | 49,460                 | 49,280                 | 49,280                 | 54,460                 | 54,460 |
|  | 13                                | 105,500                | 105,500                | 115,500                | 115,500                | 125,390                | 125,390                | 49,610                 | 49,610                 | 49,430                 | 49,430                 | 54,610                 | 54,610 |
|  | 14                                | 105,640                | 105,640                | 115,640                | 115,640                | 125,520                | 125,520                | 49,760                 | 49,760                 | 49,580                 | 49,580                 | 54,760                 | 54,760 |
|  | 15                                | 105,780                | 105,780                | 115,780                | 115,780                | 125,650                | 125,650                | 49,910                 | 49,910                 | 49,730                 | 49,730                 | 54,910                 | 54,910 |
|  | 16                                | 105,920                | 105,920                | 115,920                | 115,920                | 125,780                | 125,780                | 50,060                 | 50,060                 | 49,880                 | 49,880                 | 55,060                 | 55,060 |
|  | 17                                | 106,060                | 106,060                | 116,060                | 116,060                | 125,910                | 125,910                | 50,210                 | 50,210                 | 50,030                 | 50,030                 | 55,210                 | 55,210 |
|  | 18                                | 106,200                | 106,200                | 116,200                | 116,200                | 126,040                | 126,040                | 50,360                 | 50,360                 | 50,180                 | 50,180                 | 55,360                 | 55,360 |
|  | 19                                | 106,340                | 106,340                | 116,340                | 116,340                | 126,170                | 126,170                | 50,510                 | 50,510                 | 50,330                 | 50,330                 | 55,510                 | 55,510 |
|  | 20                                | 106,480                | 106,480                | 116,480                | 116,480                | 126,300                | 126,300                | 50,660                 | 50,660                 | 50,480                 | 50,480                 | 55,660                 | 55,660 |
|  | 21                                | 106,620                | 106,620                | 116,620                | 116,620                | 126,430                | 126,430                | 50,810                 | 50,810                 | 50,630                 | 50,630                 | 55,810                 | 55,810 |
|  | 22                                | 106,760                | 106,760                | 116,760                | 116,760                | 126,560                | 126,560                | 50,960                 | 50,960                 | 50,780                 | 50,780                 | 55,960                 | 55,960 |
|  | 23                                | 106,900                | 106,900                | 116,900                | 116,900                | 126,690                | 126,690                | 51,110                 | 51,110                 | 50,930                 | 50,930                 | 56,110                 | 56,110 |
|  | 24                                | 107,040                | 107,040                | 117,040                | 117,040                | 126,820                | 126,820                | 51,260                 | 51,260                 | 51,080                 | 51,080                 | 56,260                 | 56,260 |
|  | 25                                | 107,180                | 107,180                | 117,180                | 117,180                | 126,950                | 126,950                | 51,410                 | 51,410                 | 51,230                 | 51,230                 | 56,410                 | 56,410 |
|  | 26                                | 107,320                | 107,320                | 117,320                | 117,320                | 127,080                | 126,080                | 51,560                 | 51,560                 | 51,380                 | 51,380                 | 56,560                 | 56,560 |
|  | 27                                | 107,460                | 107,460                | 117,460                | 117,460                | 127,210                | 127,210                | 51,710                 | 51,710                 | 51,530                 | 51,530                 | 56,710                 | 56,710 |
|  | 28                                | 107,600                | 107,600                | 117,600                | 117,600                | 127,340                | 127,340                | 51,860                 | 51,860                 | 51,680                 | 51,680                 | 56,860                 | 56,860 |
|  | 29                                | 107,740                | 107,740                | 117,740                | 117,740                | 127,470                | 127,470                | 52,010                 | 52,010                 | 51,830                 | 51,830                 | 57,010                 | 57,010 |
|  | 30                                | 107,880                | 107,880                | 117,880                | 117,880                | 127,600                | 127,600                | 52,160                 | 52,160                 | 51,980                 | 51,980                 | 57,160                 | 57,160 |
|  | 31                                | 108,020                | 108,020                | 118,020                | 118,020                | 127,730                | 127,730                | 52,310                 | 52,310                 | 52,130                 | 52,130                 | 57,310                 | 57,310 |

## Размеры, мм

| Обозначение<br>протяжки             | 2403-2616<br>2403-2617 | 2403-2618<br>2403-2619 | 2403-2621<br>2403-2622 | 2403-2623<br>2403-2624 | 2403-2625<br>2403-2626 | 2403-2627<br>2403-2628 | 2403-2629<br>2403-2631 | 2403-2632<br>2403-2633 | 2403-2634<br>2463-2635 | 2403-2636<br>2403-2637 | 2403-2638<br>2403-2639 | 2403-2641<br>2403-2642 |        |
|-------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|
|                                     | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 |        |
| D×m                                 | 110×3                  |                        | 120×3                  |                        | 130×3                  |                        | 55×3,5                 |                        |                        |                        | 60×3,5                 |                        |        |
| Шлицевых<br>чистовых<br>калибрующих | 32                     | 108,160                | 108,160                | 118,160                | 118,160                | 127,860                | 127,860                | 52,460                 | 52,460                 | 52,280                 | 52,280                 | 57,460                 | 57,460 |
|                                     | 33                     | 108,300                | 108,300                | 118,300                | 118,300                | 127,990                | 127,990                | 52,610                 | 52,610                 | 52,430                 | 52,430                 | 57,610                 | 57,610 |
|                                     | 34                     | 108,440                | 108,440                | 118,440                | 118,440                | 128,120                | 128,120                | 52,760                 | 52,760                 | 52,580                 | 52,580                 | 57,760                 | 57,760 |
|                                     | 35                     | 108,580                | 108,580                | 118,580                | 118,580                | 128,250                | 128,250                | 52,910                 | 52,910                 | 52,730                 | 52,730                 | 57,910                 | 57,910 |
|                                     | 36                     | 108,720                | 108,720                | 118,720                | 118,720                | 128,380                | 128,380                | 53,060                 | 53,060                 | 52,880                 | 52,880                 | 58,060                 | 58,060 |
|                                     | 37                     | 108,860                | 108,860                | 118,860                | 118,860                | 128,510                | 128,510                | 53,210                 | 53,210                 | 53,030                 | 53,030                 | 58,210                 | 58,210 |
|                                     | 38                     | 109,000                | 109,000                | 119,000                | 119,000                | 128,640                | 128,640                | 53,360                 | 53,360                 | 53,180                 | 53,180                 | 58,360                 | 58,360 |
|                                     | 39                     | 109,140                | 109,140                | 119,140                | 119,140                | 128,770                | 128,770                | 53,510                 | 53,510                 | 53,330                 | 53,330                 | 58,510                 | 58,510 |
|                                     | 40                     | 109,280                | 109,280                | 119,280                | 119,280                | 128,900                | 128,900                | 53,660                 | 53,660                 | 53,480                 | 53,480                 | 58,660                 | 58,660 |
|                                     | 41                     | 109,420                | 109,420                | 119,420                | 119,420                | 129,030                | 129,030                | 53,810                 | 53,810                 | 53,630                 | 53,630                 | 58,810                 | 58,810 |
|                                     | 42                     | 109,560                | 109,560                | 119,560                | 119,560                | 129,160                | 129,160                | 53,960                 | 53,960                 | 53,780                 | 53,780                 | 58,960                 | 58,960 |
|                                     | 43                     | 109,700                | 109,700                | 119,700                | 119,700                | 129,290                | 129,290                | 54,110                 | 54,110                 | 53,930                 | 53,930                 | 59,110                 | 59,110 |
|                                     | 44                     | 109,840                | 109,840                | 119,840                | 119,840                | 129,420                | 129,420                | 54,260                 | 54,260                 | 54,080                 | 54,080                 | 59,260                 | 59,260 |
|                                     | 45                     | 109,920                | 109,910                | 119,920                | 119,910                | 129,550                | 129,550                | 54,410                 | 54,410                 | 54,230                 | 54,230                 | 59,410                 | 59,410 |
|                                     | 46                     | 109,960                | 109,950                | 119,960                | 119,950                | 129,680                | 129,680                | 54,560                 | 54,560                 | 54,380                 | 54,380                 | 59,560                 | 59,560 |
|                                     | 47                     | 109,980                | 109,980                | 119,980                | 119,980                | 129,810                | 129,810                | 54,710                 | 54,710                 | 54,530                 | 54,530                 | 59,710                 | 59,710 |
|                                     | 48                     | 110,000                | 110,010                | 120,000                | 120,010                | 129,900                | 129,900                | 54,860                 | 54,860                 | 54,680                 | 54,680                 | 59,860                 | 59,860 |
|                                     | 49                     | 110,020                | 110,035                | 120,020                | 120,035                | 129,950                | 129,950                | 54,930                 | 54,930                 | 54,830                 | 54,830                 | 59,930                 | 59,930 |
|                                     | 50                     | 110,035                | 110,054                | 120,035                | 120,054                | 129,980                | 129,990                | 54,970                 | 54,970                 | 54,910                 | 54,900                 | 59,970                 | 59,970 |
|                                     | 51                     | 110,035                | 110,054                | 120,035                | 120,054                | 130,000                | 130,020                | 54,990                 | 55,000                 | 54,950                 | 54,940                 | 59,990                 | 60,000 |
|                                     | 52                     |                        |                        |                        |                        | 130,020                | 130,045                | 55,010                 | 55,025                 | 54,970                 | 54,970                 | 60,010                 | 60,025 |
|                                     | 53                     |                        |                        |                        |                        | 130,040                | 130,063                | 55,030                 | 55,046                 | 54,990                 | 55,000                 | 60,030                 | 60,046 |
|                                     | 54                     |                        |                        |                        |                        | 130,040                | 130,063                | 55,030                 | 55,046                 | 55,010                 | 55,025                 | 60,030                 | 60,046 |
|                                     | 55                     |                        |                        |                        |                        |                        |                        |                        |                        | 55,030                 | 55,046                 |                        |        |
|                                     | 56                     |                        |                        |                        |                        |                        |                        |                        |                        | 55,030                 | 55,046                 |                        |        |
|                                     | 57                     | -                      | -                      | -                      | -                      | 130,040                | 130,063                | 55,030                 | 55,046                 | 55,030                 | 55,046                 | -                      | -      |
|                                     | 58                     |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |
|                                     | 59                     |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |
|                                     | 60                     |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |
|                                     | 61                     |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |



## Размеры, мм

| Обозначение<br>протяжки  | 2403-2643<br>2403-2644 | 2403-2645<br>2403-2646 | 2403-2647<br>2403-2648 | 2403-2649<br>2403-2651 | 2403-2652<br>2403-2653 | 2403-2654<br>2403-2655 | 2403-2656<br>2403-2657 | 2403-2658<br>2403-2659 | 2403-2661<br>2403-2662 | 2403-2663<br>2403-2664 | 2403-2665<br>2403-2666 | 2403-2667<br>2403-2668 |        |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|
|  | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        |        |
| Сочетание полей<br>допусков D и e  | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        |        |
| D×m  | 60×3,5                 |                        |                        | 65×3,5                 |                        |                        | 70×3,5                 |                        |                        | 75×3,5                 |                        |                        |        |
| Номера и диаметры D <sub>i</sub> зубьев<br>шлицевых<br>черновых и переходных<br>фасочных | 1                      | 53,000                 | 53,000                 | 58,000                 | 58,000                 | 58,000                 | 58,000                 | 63,000                 | 63,000                 | 68,000                 | 68,000                 | 68,000                 | 68,000 |
|  | 2                      | 53,150                 | 53,150                 | 58,150                 | 58,150                 | 58,140                 | 58,140                 | 63,120                 | 63,120                 | 68,140                 | 68,140                 | 68,140                 | 68,140 |
|  | 3                      | 53,300                 | 53,300                 | 58,300                 | 58,300                 | 58,280                 | 58,280                 | 63,240                 | 63,240                 | 68,280                 | 68,280                 | 68,280                 | 68,280 |
|  | 4                      | 53,450                 | 53,450                 | 58,450                 | 58,450                 | 58,420                 | 58,420                 | 63,360                 | 63,360                 | 68,420                 | 68,420                 | 68,420                 | 68,420 |
|  | 5                      | 53,600                 | 53,600                 | 58,600                 | 58,600                 | 58,560                 | 58,560                 | 63,480                 | 63,480                 | 68,560                 | 68,560                 | 68,560                 | 68,560 |
|  | 6                      | 53,750                 | 53,750                 | 58,750                 | 58,750                 | 58,700                 | 58,700                 | 63,600                 | 63,600                 | 68,700                 | 68,700                 | 68,700                 | 68,700 |
|  | 7                      | 53,900                 | 53,900                 | 58,900                 | 58,900                 | 58,840                 | 58,840                 | 63,720                 | 63,720                 | 68,840                 | 68,840                 | 68,840                 | 68,840 |
|  | 8                      | 54,050                 | 54,050                 | 59,050                 | 59,050                 | 58,980                 | 58,980                 | 63,840                 | 63,840                 | 69,980                 | 68,980                 | 68,980                 | 68,980 |
|  | 9                      | 54,200                 | 54,200                 | 59,200                 | 59,200                 | 59,120                 | 59,120                 | 63,960                 | 63,960                 | 69,120                 | 69,120                 | 69,120                 | 69,120 |
|  | 10                     | 54,160                 | 54,160                 | 59,160                 | 59,160                 | 59,260                 | 59,260                 | 64,080                 | 64,080                 | 69,080                 | 69,080                 | 69,080                 | 69,080 |
|  | 11                     | 54,330                 | 54,330                 | 59,310                 | 59,310                 | 59,220                 | 59,220                 | 64,200                 | 64,200                 | 69,220                 | 69,220                 | 69,240                 | 69,240 |
|  | 12                     | 54,500                 | 54,500                 | 59,460                 | 59,460                 | 59,390                 | 59,390                 | 64,160                 | 64,160                 | 69,360                 | 69,360                 | 69,400                 | 69,400 |
|  | 13                     | 54,670                 | 54,670                 | 59,610                 | 59,610                 | 59,560                 | 59,560                 | 64,300                 | 64,300                 | 69,500                 | 69,500                 | 69,560                 | 69,560 |
|  | 14                     | 54,840                 | 54,840                 | 59,760                 | 59,760                 | 59,730                 | 59,730                 | 64,440                 | 64,440                 | 69,640                 | 69,640                 | 69,720                 | 69,720 |
|  | 15                     | 55,010                 | 55,010                 | 59,910                 | 59,910                 | 59,900                 | 59,900                 | 64,580                 | 64,580                 | 69,780                 | 69,780                 | 69,880                 | 69,880 |
|  | 16                     | 55,180                 | 55,180                 | 60,060                 | 60,060                 | 60,070                 | 60,070                 | 64,720                 | 64,720                 | 69,920                 | 69,920                 | 70,040                 | 70,040 |
|  | 17                     | 55,350                 | 55,350                 | 60,210                 | 60,210                 | 60,240                 | 60,240                 | 64,860                 | 64,860                 | 70,060                 | 70,060                 | 70,200                 | 70,200 |
|  | 18                     | 55,520                 | 55,520                 | 60,360                 | 60,360                 | 60,410                 | 60,410                 | 65,000                 | 65,000                 | 70,200                 | 70,200                 | 70,360                 | 70,360 |
|  | 19                     | 55,690                 | 55,690                 | 60,510                 | 60,510                 | 60,580                 | 60,580                 | 65,140                 | 65,140                 | 70,340                 | 70,340                 | 70,520                 | 70,520 |
|  | 20                     | 55,860                 | 55,860                 | 60,660                 | 60,660                 | 60,750                 | 60,750                 | 65,280                 | 65,280                 | 70,480                 | 70,480                 | 70,680                 | 70,680 |
|  | 21                     | 56,030                 | 56,030                 | 60,810                 | 60,810                 | 60,920                 | 60,920                 | 65,420                 | 65,420                 | 70,620                 | 70,620                 | 70,840                 | 70,840 |
|  | 22                     | 56,200                 | 56,200                 | 60,960                 | 60,960                 | 61,090                 | 61,090                 | 65,560                 | 65,560                 | 70,760                 | 70,760                 | 71,000                 | 71,000 |
|  | 23                     | 56,370                 | 56,370                 | 61,110                 | 61,110                 | 61,260                 | 61,260                 | 65,700                 | 65,700                 | 70,900                 | 70,900                 | 71,160                 | 71,160 |
|  | 24                     | 56,540                 | 56,540                 | 61,260                 | 61,260                 | 61,430                 | 61,430                 | 65,840                 | 65,840                 | 71,040                 | 71,040                 | 71,320                 | 71,320 |
|  | 25                     | 56,710                 | 56,710                 | 61,410                 | 61,410                 | 61,600                 | 61,600                 | 65,980                 | 65,980                 | 71,180                 | 71,180                 | 71,480                 | 71,480 |
|  | 26                     | 56,880                 | 56,880                 | 61,560                 | 61,560                 | 61,770                 | 61,770                 | 66,120                 | 66,120                 | 71,320                 | 71,320                 | 71,640                 | 71,640 |
|  | 27                     | 57,050                 | 57,050                 | 61,710                 | 61,710                 | 61,940                 | 61,940                 | 66,260                 | 66,260                 | 71,460                 | 71,460                 | 71,800                 | 71,800 |
|  | 28                     | 57,220                 | 57,220                 | 61,860                 | 61,860                 | 62,110                 | 62,110                 | 66,400                 | 66,400                 | 71,600                 | 71,600                 | 71,960                 | 71,960 |
|  | 29                     | 57,390                 | 57,390                 | 62,010                 | 62,010                 | 62,280                 | 62,280                 | 66,540                 | 66,540                 | 71,740                 | 71,740                 | 72,120                 | 72,120 |
|  | 30                     | 57,560                 | 57,560                 | 62,160                 | 62,160                 | 62,450                 | 62,450                 | 66,680                 | 66,680                 | 71,880                 | 71,880                 | 72,280                 | 72,280 |
|  | 31                     | 57,730                 | 57,730                 | 62,310                 | 62,310                 | 62,620                 | 62,620                 | 66,820                 | 66,820                 | 72,020                 | 72,020                 | 72,440                 | 72,440 |

## Размеры, мм

| Обозначение<br>протяжки                         | 2403-2643<br>2403-2644 | 2403-2645<br>2403-2646 | 2403-2647<br>2403-2648 | 2403-2649<br>2403-2651 | 2403-2652<br>2403-2653 | 2403-2654<br>2403-2655 | 2403-2656<br>2403-2657 | 2403-2658<br>2403-2659 | 2403-2661<br>2403-2662 | 2403-2663<br>2403-2664 | 2403-2665<br>2403-2666 | 2403-2667<br>2403-2668 |        |        |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------|--------|
|   | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 | Н7—9Н                  | Н8—11Н                 |        |        |
| <i>D</i> × <i>t</i>                             | 60×3,5                 |                        | 65×3,5                 |                        |                        |                        | 70×3,5                 |                        | 75×3,5                 |                        |                        |                        |        |        |
| Номера и диаметры <i>D</i> , зубьев<br>шлицевых | черновых и переходных  | 32                     | 57,900                 | 57,900                 | 62,460                 | 62,460                 | 62,790                 | 62,790                 | 66,960                 | 66,960                 | 72,160                 | 72,160                 | 72,600 | 72,600 |
|   |                        | 33                     | 58,070                 | 58,070                 | 62,610                 | 62,610                 | 62,960                 | 62,960                 | 67,100                 | 67,100                 | 72,300                 | 72,300                 | 72,760 | 72,760 |
|   |                        | 34                     | 58,240                 | 58,240                 | 62,760                 | 62,760                 | 63,130                 | 63,130                 | 67,240                 | 67,240                 | 72,440                 | 72,440                 | 72,920 | 72,920 |
|   |                        | 35                     | 58,410                 | 58,410                 | 62,910                 | 62,910                 | 63,300                 | 63,300                 | 67,380                 | 67,380                 | 72,580                 | 72,580                 | 73,080 | 73,080 |
|   |                        | 36                     | 58,580                 | 58,580                 | 63,060                 | 63,060                 | 63,470                 | 63,470                 | 67,520                 | 67,520                 | 72,720                 | 72,720                 | 73,240 | 73,240 |
|   |                        | 37                     | 58,750                 | 58,750                 | 63,210                 | 63,210                 | 63,640                 | 63,640                 | 67,660                 | 67,660                 | 72,860                 | 72,860                 | 73,400 | 73,400 |
|   |                        | 38                     | 58,920                 | 58,920                 | 63,360                 | 63,360                 | 63,810                 | 63,810                 | 67,800                 | 67,800                 | 73,000                 | 73,000                 | 73,560 | 73,560 |
|   |                        | 39                     | 59,090                 | 59,090                 | 63,510                 | 63,510                 | 63,980                 | 63,980                 | 67,940                 | 67,940                 | 73,140                 | 73,140                 | 73,720 | 73,720 |
|   |                        | 40                     | 59,260                 | 59,260                 | 63,660                 | 63,660                 | 64,150                 | 64,150                 | 68,080                 | 68,080                 | 73,280                 | 73,280                 | 73,880 | 73,880 |
|   |                        | 41                     | 59,430                 | 59,430                 | 63,810                 | 63,810                 | 64,320                 | 64,320                 | 68,220                 | 68,220                 | 73,420                 | 73,420                 | 74,040 | 74,040 |
|   |                        | 42                     | 59,600                 | 59,600                 | 63,960                 | 63,960                 | 64,490                 | 64,490                 | 68,360                 | 68,360                 | 73,560                 | 73,560                 | 74,200 | 74,200 |
|   |                        | 43                     | 59,770                 | 59,770                 | 64,110                 | 64,110                 | 64,660                 | 64,660                 | 68,500                 | 68,500                 | 73,700                 | 73,700                 | 74,360 | 74,360 |
|   |                        | 44                     | 59,880                 | 59,880                 | 64,260                 | 64,260                 | 64,830                 | 64,830                 | 68,640                 | 68,640                 | 73,840                 | 73,840                 | 74,520 | 74,520 |
|   |                        | 45                     | 59,940                 | 59,940                 | 64,410                 | 64,410                 | 64,910                 | 64,900                 | 68,780                 | 68,780                 | 73,980                 | 73,980                 | 74,680 | 74,680 |
|   |                        | чистовых               | 46                     | 59,970                 | 59,970                 | 64,560                 | 64,560                 | 64,950                 | 64,940                 | 68,920                 | 68,920                 | 74,120                 | 74,120 | 74,820 |
|   | 47                     |                        | 59,990                 | 60,000                 | 64,710                 | 64,710                 | 64,970                 | 64,970                 | 69,060                 | 69,060                 | 74,260                 | 74,260                 | 74,890 | 74,890 |
|   | 48                     |                        | 60,010                 | 60,025                 | 64,860                 | 64,860                 | 64,990                 | 65,000                 | 69,200                 | 69,200                 | 74,400                 | 74,400                 | 74,940 | 74,940 |
|   | 49                     |                        | 60,030                 | 60,046                 | 64,930                 | 64,930                 | 65,010                 | 65,025                 | 69,340                 | 69,340                 | 74,540                 | 74,540                 | 74,970 | 74,970 |
|   | 50                     |                        |                        |                        | 64,970                 | 64,970                 | 65,030                 | 65,046                 | 69,480                 | 69,480                 | 74,680                 | 74,680                 | 74,990 | 75,000 |
|   | калибрующих            | 51                     | 60,030                 | 60,046                 | 64,990                 | 65,000                 | 65,030                 | 65,046                 | 69,620                 | 69,620                 | 74,820                 | 74,820                 | 75,010 | 75,025 |
|   |                        | 52                     |                        |                        | 65,010                 | 65,025                 |                        |                        | 69,760                 | 69,760                 | 74,900                 | 74,900                 | 75,030 | 75,046 |
|   |                        | 53                     |                        |                        | 65,030                 | 65,046                 |                        |                        | 69,860                 | 69,850                 | 74,940                 | 74,940                 | 75,030 | 75,046 |
|   |                        | 54                     |                        |                        |                        |                        |                        |                        | 69,920                 | 69,900                 | 74,970                 | 74,970                 |        |        |
|   |                        | 55                     |                        |                        |                        |                        |                        |                        | 69,950                 | 69,940                 | 74,990                 | 75,000                 |        |        |
|   | 56                     |                        |                        | 65,030                 | 65,046                 |                        |                        | 69,970                 | 69,970                 | 75,010                 | 75,025                 | 75,030                 | 75,046 |        |
| 57  |                        |                        | 69,990                 |                        |                        | 70,000                 | 75,030                 | 75,046                 |                        |                        |                        |                        |        |        |
| 58  |                        |                        | 70,010                 |                        |                        | 70,025                 |                        |                        |                        |                        |                        |                        |        |        |
| 59  |                        |                        | 70,030                 |                        |                        | 70,046                 |                        |                        |                        |                        |                        |                        |        |        |
| 60  |                        |                        |                        |                        |                        |                        |                        | 75,030                 | 75,046                 |                        |                        |                        |        |        |
| 61  |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |        |
| 62  |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |        |
| 63  |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |        |
| 64  |                        |                        |                        |                        |                        |                        |                        | 70,030                 | 70,046                 |                        |                        |                        |        |        |
| 65  |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |        |        |

## Размеры, мм

Продолжение табл. 4

| Обозначение протяжки   | 2403-2669<br>2403-2671 | 2403-2672<br>2403-2673 | 2403-2674 | 2403-2675 | 2403-2676<br>2403-2677 | 2403-2678<br>2403-2679 | 2403-2681 | 2403-2682 | 2403-2683<br>2403-2684 | 2403-2685<br>2403-2686 | 2403-2687 | 2403-2688 |        |
|--|------------------------|------------------------|-----------|-----------|------------------------|------------------------|-----------|-----------|------------------------|------------------------|-----------|-----------|--------|
|  | Н7-9Н                  | Н8-11Н                 | Н7-9Н     | Н8-11Н    | Н7-9Н                  | Н8-11Н                 | Н7-9Н     | Н8-11Н    | Н7-9Н                  | Н8-11Н                 | Н7-9Н     | Н8-11Н    |        |
| Сочетание полей допусков D и e   |                        |                        |           |           |                        |                        |           |           |                        |                        |           |           |        |
| D × m  | 80 × 3,5               |                        |           |           | 85 × 3,5               |                        |           |           | 90 × 3,5               |                        |           |           |        |
| Номера и диаметры D <sub>i</sub> зубьев<br>шлицевых<br>черновых и переходных<br>фасочных | 1                      | 73,000                 | 73,000    | 73,000    | 73,000                 | 78,000                 | 78,000    | 78,000    | 78,000                 | 83,000                 | 83,000    | 83,000    | 83,000 |
|  | 2                      | 73,140                 | 73,140    | 73,150    | 73,150                 | 78,140                 | 78,140    | 78,150    | 78,150                 | 83,140                 | 83,140    | 83,140    | 83,140 |
|  | 3                      | 73,280                 | 73,280    | 73,300    | 73,300                 | 78,280                 | 78,280    | 78,300    | 78,300                 | 83,280                 | 83,280    | 83,280    | 83,280 |
|  | 4                      | 73,420                 | 73,420    | 73,450    | 73,450                 | 78,420                 | 78,420    | 78,450    | 78,450                 | 83,420                 | 83,420    | 83,420    | 83,420 |
|  | 5                      | 73,560                 | 73,560    | 73,600    | 73,600                 | 78,560                 | 78,560    | 78,600    | 78,600                 | 83,560                 | 83,560    | 83,560    | 83,560 |
|  | 6                      | 73,700                 | 73,700    | 73,750    | 73,750                 | 78,700                 | 78,700    | 78,750    | 78,750                 | 83,700                 | 83,700    | 83,700    | 83,700 |
|  | 7                      | 73,840                 | 73,840    | 73,900    | 73,900                 | 78,840                 | 78,840    | 78,900    | 78,900                 | 83,840                 | 83,840    | 83,840    | 83,840 |
|  | 8                      | 73,980                 | 73,980    | 74,050    | 74,050                 | 78,980                 | 78,980    | 79,050    | 79,050                 | 83,980                 | 83,980    | 83,980    | 83,980 |
|  | 9                      | 74,120                 | 74,120    | 74,200    | 74,200                 | 79,120                 | 79,120    | 79,200    | 79,200                 | 84,120                 | 84,120    | 84,120    | 84,120 |
|  | 10                     | 74,260                 | 74,260    | 74,350    | 74,350                 | 79,080                 | 79,080    | 79,160    | 79,160                 | 84,080                 | 84,080    | 84,260    | 84,260 |
|  | 11                     | 74,220                 | 74,220    | 74,310    | 74,310                 | 79,220                 | 79,220    | 79,310    | 79,310                 | 84,220                 | 84,220    | 84,220    | 84,220 |
|  | 12                     | 74,360                 | 74,360    | 74,460    | 74,460                 | 79,360                 | 79,360    | 79,460    | 79,460                 | 84,360                 | 84,360    | 84,370    | 84,370 |
|  | 13                     | 74,500                 | 74,500    | 74,610    | 74,610                 | 79,500                 | 79,500    | 79,610    | 79,610                 | 84,500                 | 84,500    | 84,520    | 84,520 |
|  | 14                     | 74,640                 | 74,640    | 74,760    | 74,760                 | 79,640                 | 79,640    | 79,760    | 79,760                 | 84,640                 | 84,640    | 84,670    | 84,670 |
|  | 15                     | 74,780                 | 74,780    | 74,910    | 74,910                 | 79,780                 | 79,780    | 79,910    | 79,910                 | 84,780                 | 84,780    | 84,820    | 84,820 |
|  | 16                     | 74,920                 | 74,920    | 75,060    | 75,060                 | 79,920                 | 79,920    | 80,060    | 80,060                 | 84,920                 | 84,920    | 84,970    | 84,970 |
|  | 17                     | 75,060                 | 75,060    | 75,210    | 75,210                 | 80,060                 | 80,060    | 80,210    | 80,210                 | 85,060                 | 84,060    | 85,120    | 85,120 |
|  | 18                     | 75,200                 | 75,200    | 75,360    | 75,360                 | 80,200                 | 80,200    | 80,360    | 80,360                 | 85,200                 | 85,200    | 85,270    | 85,270 |
|  | 19                     | 75,340                 | 75,340    | 75,510    | 75,510                 | 80,340                 | 80,340    | 80,510    | 80,510                 | 85,340                 | 85,340    | 85,420    | 85,420 |
|  | 20                     | 75,480                 | 75,480    | 75,660    | 75,660                 | 80,480                 | 80,480    | 80,660    | 80,660                 | 85,480                 | 85,480    | 85,570    | 85,570 |
|  | 21                     | 75,620                 | 75,620    | 75,810    | 75,810                 | 80,620                 | 80,620    | 80,810    | 80,810                 | 85,620                 | 85,620    | 85,720    | 85,720 |
|  | 22                     | 75,760                 | 75,760    | 75,960    | 75,960                 | 80,760                 | 80,760    | 80,960    | 80,960                 | 85,760                 | 85,760    | 85,870    | 85,870 |
|  | 23                     | 75,900                 | 75,900    | 76,110    | 76,110                 | 80,900                 | 80,900    | 81,110    | 81,110                 | 85,900                 | 85,900    | 86,020    | 86,020 |
|  | 24                     | 76,040                 | 76,040    | 76,260    | 76,260                 | 81,040                 | 81,040    | 81,260    | 81,260                 | 86,040                 | 86,040    | 86,170    | 86,170 |
|  | 25                     | 76,180                 | 76,180    | 76,410    | 76,410                 | 81,180                 | 81,180    | 81,410    | 81,410                 | 86,180                 | 86,180    | 86,320    | 86,320 |
|  | 26                     | 76,320                 | 76,320    | 76,560    | 76,560                 | 81,320                 | 81,320    | 81,560    | 81,560                 | 86,320                 | 86,320    | 86,470    | 86,470 |
|  | 27                     | 76,460                 | 76,460    | 76,710    | 76,710                 | 81,460                 | 81,460    | 81,710    | 81,710                 | 86,460                 | 86,460    | 86,620    | 86,620 |
|  | 28                     | 76,600                 | 76,600    | 76,860    | 76,860                 | 81,600                 | 81,600    | 81,860    | 81,860                 | 86,600                 | 86,600    | 86,770    | 86,770 |
|  | 29                     | 76,740                 | 76,740    | 77,010    | 77,010                 | 81,740                 | 81,740    | 82,010    | 82,010                 | 86,740                 | 86,740    | 87,920    | 87,920 |
|  | 30                     | 76,880                 | 76,880    | 77,160    | 77,160                 | 81,880                 | 81,880    | 82,160    | 82,160                 | 86,880                 | 86,880    | 87,070    | 87,070 |
|  | 31                     | 77,020                 | 77,020    | 77,310    | 77,310                 | 82,020                 | 82,020    | 82,310    | 82,310                 | 87,020                 | 87,020    | 87,220    | 87,220 |

Размеры, мм

| Обозначение<br>протяжки           | 2403-2669<br>2403-2671 | 2403-2672<br>2403-2673 | 2403-2674 | 2403-2675 | 2403-2676<br>2403-2677 | 2403-2678<br>2403-2679 | 2403-2681 | 2403-2682 | 2403-2683<br>2403-2684 | 2403-2685<br>2403-2686 | 2403-2687 | 2403-2688 |        |
|-----------------------------------|------------------------|------------------------|-----------|-----------|------------------------|------------------------|-----------|-----------|------------------------|------------------------|-----------|-----------|--------|
|                                   | Н7-9Н                  | Н8-11Н                 | Н7-9Н     | Н8-11Н    | Н7-9Н                  | Н8-11Н                 | Н7-9Н     | Н8-11Н    | Н7-9Н                  | Н8-11Н                 | Н7-9Н     | Н3-11Н    |        |
| D×t                               | 80×3,5                 |                        |           |           | 85×3,5                 |                        |           |           | 90×3,5                 |                        |           |           |        |
| черновых и переходных<br>шлицевых | 32                     | 77,160                 | 77,160    | 77,460    | 77,460                 | 82,160                 | 82,160    | 82,460    | 82,460                 | 87,160                 | 87,160    | 87,370    | 87,370 |
|                                   | 33                     | 77,300                 | 77,300    | 77,610    | 77,610                 | 82,300                 | 82,300    | 82,610    | 82,610                 | 87,300                 | 87,300    | 87,520    | 87,520 |
|                                   | 34                     | 77,440                 | 77,440    | 77,760    | 77,760                 | 82,440                 | 82,440    | 82,760    | 82,760                 | 87,440                 | 87,440    | 87,670    | 87,670 |
|                                   | 35                     | 77,580                 | 77,580    | 77,910    | 77,910                 | 82,580                 | 82,580    | 82,910    | 82,910                 | 87,580                 | 87,580    | 87,820    | 87,820 |
|                                   | 36                     | 77,720                 | 77,720    | 78,060    | 78,060                 | 82,720                 | 82,720    | 83,060    | 83,060                 | 87,720                 | 87,720    | 87,970    | 87,970 |
|                                   | 37                     | 77,860                 | 77,860    | 78,210    | 78,210                 | 82,860                 | 82,860    | 83,210    | 83,210                 | 87,860                 | 87,860    | 88,120    | 88,120 |
|                                   | 38                     | 78,000                 | 78,000    | 78,360    | 78,360                 | 83,000                 | 83,000    | 83,360    | 83,360                 | 88,000                 | 88,000    | 88,270    | 88,270 |
|                                   | 39                     | 78,140                 | 78,140    | 78,510    | 78,510                 | 83,140                 | 83,140    | 83,510    | 83,510                 | 88,140                 | 88,140    | 88,420    | 88,420 |
|                                   | 40                     | 78,280                 | 78,280    | 78,660    | 78,660                 | 83,280                 | 83,280    | 83,660    | 83,660                 | 88,280                 | 88,280    | 88,570    | 88,570 |
|                                   | 41                     | 78,420                 | 78,420    | 78,810    | 78,810                 | 83,420                 | 83,420    | 83,810    | 83,810                 | 88,420                 | 88,420    | 88,720    | 88,720 |
|                                   | 42                     | 78,560                 | 78,560    | 78,960    | 78,960                 | 83,560                 | 83,560    | 83,960    | 83,960                 | 88,560                 | 88,560    | 88,870    | 88,870 |
|                                   | 43                     | 78,700                 | 78,700    | 79,110    | 79,110                 | 83,700                 | 83,700    | 84,110    | 84,110                 | 88,700                 | 88,700    | 89,020    | 89,020 |
|                                   | 44                     | 78,840                 | 78,840    | 79,260    | 79,260                 | 83,840                 | 83,840    | 84,260    | 84,260                 | 88,840                 | 88,840    | 89,170    | 89,170 |
|                                   | 45                     | 78,980                 | 78,980    | 79,410    | 79,410                 | 83,980                 | 83,980    | 84,410    | 84,410                 | 88,980                 | 88,980    | 89,320    | 89,320 |
|                                   | 46                     | 79,120                 | 79,120    | 79,560    | 79,560                 | 84,120                 | 84,120    | 84,560    | 84,560                 | 89,120                 | 89,120    | 89,470    | 89,470 |
|                                   | 47                     | 79,260                 | 79,260    | 79,710    | 79,710                 | 84,260                 | 84,260    | 84,710    | 84,710                 | 89,260                 | 89,260    | 89,620    | 89,620 |
|                                   | 48                     | 79,400                 | 79,400    | 79,830    | 79,830                 | 84,400                 | 84,400    | 84,830    | 84,830                 | 89,400                 | 89,400    | 89,770    | 89,770 |
|                                   | 49                     | 79,540                 | 79,540    | 79,910    | 79,900                 | 84,540                 | 84,540    | 84,910    | 84,910                 | 89,540                 | 89,540    | 89,890    | 89,890 |
|                                   | 50                     | 79,680                 | 79,680    | 79,950    | 79,940                 | 84,680                 | 84,680    | 84,950    | 84,950                 | 89,680                 | 89,680    | 89,950    | 89,950 |
|                                   | 51                     | 79,820                 | 79,820    | 79,970    | 79,970                 | 84,820                 | 84,820    | 84,980    | 84,980                 | 89,820                 | 89,820    | 89,980    | 89,980 |
| 52                                | 79,900                 | 79,900                 | 79,990    | 80,000    | 84,900                 | 84,900                 | 85,000    | 85,010    | 89,900                 | 89,900                 | 90,000    | 90,010    |        |
| 53                                | 79,940                 | 79,940                 | 80,010    | 80,025    | 84,950                 | 84,950                 | 85,020    | 85,035    | 89,950                 | 89,950                 | 90,020    | 90,035    |        |
| чистовых                          | 54                     | 79,970                 | 79,970    | 80,030    | 80,046                 | 84,980                 | 84,980    | 85,035    | 85,054                 | 89,980                 | 89,980    | 90,035    | 90,054 |
|                                   | 55                     | 79,990                 | 80,000    | 80,030    | 80,046                 | 85,000                 | 85,010    | 85,035    | 85,054                 | 90,000                 | 90,010    | 90,035    | 90,054 |
|                                   | 56                     | 80,010                 | 80,025    |           |                        | 85,020                 | 85,035    |           |                        | 90,020                 | 90,035    |           |        |
|                                   | 57                     | 80,030                 | 80,046    |           |                        | 85,035                 | 85,054    |           |                        | 90,035                 | 90,054    |           |        |
| 58                                | 80,030                 | 80,046                 | 80,030    |           |                        | 80,046                 | 85,035    |           |                        | 85,054                 | 85,035    |           |        |
| 59                                |                        |                        |           |           |                        |                        |           |           |                        |                        |           |           |        |
| 60                                |                        |                        |           |           |                        |                        |           |           |                        |                        |           |           |        |
| 61                                |                        |                        |           |           |                        |                        |           |           |                        |                        |           |           |        |
| 62                                |                        |                        |           |           |                        |                        |           |           |                        |                        |           |           |        |
| 63                                |                        |                        |           |           |                        |                        |           |           |                        |                        |           |           |        |

Номера и диаметры D<sub>t</sub> зубьев  
шлицевых

## Размеры, мм

Продолжение табл. 4

| Обозначение<br>протяжки  | 2403-2689<br>2403-2691 | 2403-2692<br>2403-2693 | 2403-2694<br>2403-2695 | 2403-2696<br>2403-2697 | 2403-2698<br>2403-2699 | 2403-2701<br>2403-2702 | 2403-2703<br>2403-2704 | 2403-2705<br>2403-2706 | 2403-2707<br>2403-2708 | 2403-2709<br>2403-2711 |         |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---------|
|  | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        |         |
| Сочетание полей допусков<br>D и e  | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        | Н7—9Н                  |                        |         |
| D×m  | 95×3,5                 |                        | 100×3,5                |                        | 105×3,5                |                        | 110×3,5                |                        | 120×3,5                |                        |         |
| Номера и диаметры D, зубьев<br><br>шлицевых<br><br>черновых и переходных<br><br>фасочных | 1                      | 88,000                 | 88,000                 | 93,000                 | 93,000                 | 98,000                 | 98,000                 | 103,000                | 103,000                | 113,000                | 113,000 |
|  | 2                      | 88,140                 | 88,140                 | 93,140                 | 93,140                 | 98,140                 | 98,140                 | 103,140                | 103,140                | 113,140                | 113,140 |
|  | 3                      | 88,280                 | 88,280                 | 93,280                 | 93,280                 | 98,280                 | 98,280                 | 103,280                | 103,280                | 113,280                | 113,280 |
|  | 4                      | 88,420                 | 88,420                 | 93,420                 | 93,420                 | 98,420                 | 98,420                 | 103,420                | 103,420                | 113,420                | 113,420 |
|  | 5                      | 88,560                 | 88,560                 | 93,560                 | 93,560                 | 98,560                 | 98,560                 | 103,560                | 103,560                | 113,560                | 113,560 |
|  | 6                      | 88,700                 | 88,700                 | 93,700                 | 93,700                 | 98,700                 | 98,700                 | 103,700                | 103,700                | 113,700                | 113,700 |
|  | 7                      | 88,840                 | 88,840                 | 93,840                 | 93,840                 | 98,840                 | 98,840                 | 103,840                | 103,840                | 113,840                | 113,840 |
|  | 8                      | 88,980                 | 88,980                 | 93,980                 | 93,980                 | 98,980                 | 98,980                 | 103,980                | 103,980                | 113,980                | 113,980 |
|  | 9                      | 89,120                 | 89,120                 | 94,120                 | 94,120                 | 99,120                 | 99,120                 | 104,120                | 104,120                | 114,120                | 114,120 |
|  | 10                     | 89,260                 | 89,260                 | 94,080                 | 94,080                 | 99,080                 | 99,080                 | 104,260                | 104,260                | 114,260                | 114,260 |
|  | 11                     | 89,220                 | 89,220                 | 94,220                 | 94,220                 | 99,220                 | 99,220                 | 104,220                | 104,220                | 114,220                | 114,220 |
|  | 12                     | 89,360                 | 89,360                 | 94,360                 | 94,360                 | 99,360                 | 99,360                 | 104,360                | 104,360                | 114,360                | 114,360 |
|  | 13                     | 89,500                 | 89,500                 | 94,500                 | 94,500                 | 99,500                 | 99,500                 | 104,500                | 104,500                | 114,500                | 114,500 |
|  | 14                     | 89,640                 | 89,640                 | 94,640                 | 94,640                 | 99,640                 | 99,640                 | 104,640                | 104,640                | 114,640                | 114,640 |
|  | 15                     | 89,780                 | 89,780                 | 94,780                 | 94,780                 | 99,780                 | 99,780                 | 104,780                | 104,780                | 114,780                | 114,780 |
|  | 16                     | 89,920                 | 89,920                 | 94,920                 | 94,920                 | 99,920                 | 99,920                 | 104,920                | 104,920                | 114,920                | 114,920 |
|  | 17                     | 90,060                 | 90,060                 | 95,060                 | 95,060                 | 100,060                | 100,060                | 105,060                | 105,060                | 115,060                | 115,060 |
|  | 18                     | 90,200                 | 90,200                 | 95,200                 | 95,200                 | 100,200                | 100,200                | 105,200                | 105,200                | 115,200                | 115,200 |
|  | 19                     | 90,340                 | 90,340                 | 95,340                 | 95,340                 | 100,340                | 100,340                | 105,340                | 105,340                | 115,340                | 115,340 |
|  | 20                     | 90,480                 | 90,480                 | 95,480                 | 95,480                 | 100,480                | 100,480                | 105,480                | 105,480                | 115,480                | 115,480 |
|  | 21                     | 90,620                 | 90,620                 | 95,620                 | 95,620                 | 100,620                | 100,620                | 105,620                | 105,620                | 115,620                | 115,620 |
|  | 22                     | 90,760                 | 90,760                 | 95,760                 | 95,760                 | 100,760                | 100,760                | 105,760                | 105,760                | 115,760                | 115,760 |
|  | 23                     | 90,900                 | 90,900                 | 95,900                 | 95,900                 | 100,900                | 100,900                | 105,900                | 105,900                | 115,900                | 115,900 |
|  | 24                     | 91,040                 | 91,040                 | 96,040                 | 96,040                 | 101,040                | 101,040                | 106,040                | 106,040                | 116,040                | 116,040 |
|  | 25                     | 91,180                 | 91,180                 | 96,180                 | 96,180                 | 101,180                | 101,180                | 106,180                | 106,180                | 116,180                | 116,180 |
|  | 26                     | 91,320                 | 91,320                 | 96,320                 | 96,320                 | 101,320                | 101,320                | 106,320                | 106,320                | 116,320                | 116,320 |
|  | 27                     | 91,460                 | 91,460                 | 96,460                 | 96,460                 | 101,460                | 101,460                | 106,460                | 106,460                | 116,460                | 116,460 |
|  | 28                     | 91,600                 | 91,600                 | 96,600                 | 96,600                 | 101,600                | 101,600                | 106,600                | 106,600                | 116,600                | 116,600 |
|  | 29                     | 91,740                 | 91,740                 | 96,740                 | 96,740                 | 101,740                | 101,740                | 106,740                | 106,740                | 116,740                | 116,740 |
|  | 30                     | 91,880                 | 91,880                 | 96,880                 | 96,880                 | 101,880                | 101,880                | 106,880                | 106,880                | 116,880                | 116,880 |
|  | 31                     | 92,020                 | 92,020                 | 97,020                 | 97,020                 | 102,020                | 102,020                | 107,020                | 107,020                | 117,020                | 117,020 |

## Размеры, мм

| Обозначение<br>протяжки                 |          | 2403-2689<br>2403-2691 | 2403-2692<br>2403-2693 | 2403-2694<br>2403-2695 | 2403-2696<br>2403-2697 | 2403-2698<br>2403-2699 | 2403-2701<br>2403-2702 | 2403-2703<br>2403-2704 | 2403-2705<br>2403-2706 | 2403-2707<br>2403-2708 | 2403-2709<br>2403-2711 |         |         |
|---|----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---------|---------|
| Сочетание полей допусков<br>D и e       |          | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 |         |         |
| D × m                                   |          | 95 × 3,5               |                        | 100 × 3,5              |                        | 105 × 3,5              |                        | 110 × 3,5              |                        | 120 × 3,5              |                        |         |         |
| Номера и диаметры D <sub>1</sub> зубьев | шлицевых | черновых и переходных  | 32                     | 92,160                 | 92,160                 | 97,160                 | 97,160                 | 102,160                | 102,160                | 107,160                | 107,160                | 117,160 | 117,160 |
|   |          |                        | 33                     | 92,300                 | 92,300                 | 97,300                 | 97,300                 | 102,300                | 102,300                | 107,300                | 107,300                | 117,300 | 117,300 |
|   |          |                        | 34                     | 92,440                 | 92,440                 | 97,440                 | 97,440                 | 102,440                | 102,440                | 107,440                | 107,440                | 117,440 | 117,440 |
|   |          |                        | 35                     | 92,580                 | 92,580                 | 97,580                 | 97,580                 | 102,580                | 102,580                | 107,580                | 107,580                | 117,580 | 117,580 |
|   |          |                        | 36                     | 92,720                 | 92,720                 | 97,720                 | 97,720                 | 102,720                | 102,720                | 107,720                | 107,720                | 117,720 | 117,720 |
|   |          |                        | 37                     | 92,860                 | 92,860                 | 97,860                 | 97,860                 | 102,860                | 102,860                | 107,860                | 107,860                | 117,860 | 117,860 |
|   |          |                        | 38                     | 93,000                 | 93,000                 | 98,000                 | 98,000                 | 103,000                | 103,000                | 108,000                | 108,000                | 118,000 | 118,000 |
|   |          |                        | 39                     | 93,140                 | 93,140                 | 98,140                 | 98,140                 | 103,140                | 103,140                | 108,140                | 108,140                | 118,140 | 118,140 |
|   |          |                        | 40                     | 93,280                 | 93,280                 | 98,280                 | 98,280                 | 103,280                | 103,280                | 108,280                | 108,280                | 118,280 | 118,280 |
|   |          |                        | 41                     | 93,420                 | 93,420                 | 98,420                 | 98,420                 | 103,420                | 103,420                | 108,420                | 108,420                | 118,420 | 118,420 |
|   |          |                        | 42                     | 93,560                 | 93,560                 | 98,560                 | 98,560                 | 103,560                | 103,560                | 108,560                | 108,560                | 118,560 | 118,560 |
|   |          |                        | 43                     | 93,700                 | 93,700                 | 98,700                 | 98,700                 | 103,700                | 103,700                | 108,700                | 108,700                | 118,700 | 118,700 |
|   |          |                        | 44                     | 93,840                 | 93,840                 | 98,840                 | 98,840                 | 103,840                | 103,840                | 108,840                | 108,840                | 118,840 | 118,840 |
|   |          |                        | 45                     | 93,980                 | 93,980                 | 98,980                 | 98,980                 | 103,980                | 103,980                | 108,980                | 108,980                | 118,980 | 118,980 |
|   |          |                        | 46                     | 94,120                 | 94,120                 | 99,120                 | 99,120                 | 104,120                | 104,120                | 109,120                | 109,120                | 119,120 | 119,120 |
|   |          |                        | 47                     | 94,260                 | 94,260                 | 99,260                 | 99,260                 | 104,260                | 104,260                | 109,260                | 109,260                | 119,260 | 119,260 |
|   |          |                        | 48                     | 94,400                 | 94,400                 | 99,400                 | 99,400                 | 104,400                | 104,400                | 109,400                | 109,400                | 119,400 | 119,400 |
|   |          |                        | 49                     | 94,540                 | 94,540                 | 99,540                 | 99,540                 | 104,540                | 104,540                | 109,540                | 109,540                | 119,540 | 119,540 |
|   |          |                        | 50                     | 94,680                 | 94,680                 | 99,680                 | 99,680                 | 104,680                | 104,680                | 109,680                | 109,680                | 119,680 | 119,680 |
|   |          |                        | 51                     | 94,820                 | 94,820                 | 99,820                 | 99,820                 | 104,820                | 104,820                | 109,820                | 109,820                | 119,820 | 119,820 |
|   | 52       | 94,900                 | 94,900                 | 99,900                 | 99,900                 | 104,900                | 104,900                | 109,900                | 109,900                | 119,900                | 119,900                |         |         |
|   | 53       | 94,950                 | 94,950                 | 99,950                 | 99,950                 | 104,950                | 104,950                | 109,950                | 109,950                | 119,950                | 119,950                |         |         |
|   | шлицевых | чистовых               | 54                     | 94,980                 | 94,980                 | 99,980                 | 99,980                 | 104,980                | 104,980                | 109,980                | 109,980                | 119,980 | 119,980 |
|   |          |                        | 55                     | 95,000                 | 95,010                 | 100,000                | 100,010                | 105,000                | 105,010                | 110,000                | 110,010                | 120,000 | 120,010 |
|   |          |                        | 56                     | 95,020                 | 95,035                 | 100,020                | 100,035                | 105,020                | 105,035                | 110,020                | 110,035                | 120,020 | 120,035 |
|   |          |                        | 57                     | 95,035                 | 95,054                 | 100,035                | 100,054                | 105,035                | 105,054                | 110,035                | 110,054                | 120,035 | 120,054 |
|   | шлицевых | калибрующих            | 58                     |                        |                        |                        |                        |                        |                        |                        |                        |         |         |
|   |          |                        | 59                     |                        |                        |                        |                        |                        |                        |                        |                        |         |         |
|   |          |                        | 60                     |                        |                        |                        |                        |                        |                        |                        |                        |         |         |
|   |          |                        | 61                     | 95,035                 | 95,054                 | 100,035                | 100,054                | 105,035                | 105,054                | 110,035                | 110,054                | 120,035 | 120,054 |
|   |          |                        | 62                     |                        |                        |                        |                        |                        |                        |                        |                        |         |         |
|   | 63       |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |         |         |

## Размеры, мм

Продолжение табл. 4

С. 47 ГОСТ 28050—89

| Обозначение<br>протяжки                           | 2403-2712<br>2403-2713            | 2403-2714<br>2403-2715 | 2403-2716<br>2403-2717<br>2403-2721<br>2403-2722 | 2403-2718<br>2403-2719<br>2403-2723<br>2403-2724 | 2403-2725<br>2403-2726 | 2403-2727<br>2403-2728 | 2403-2729<br>2403-2731 | 2403-2732<br>2403-2733 | 2403-2734<br>2403-2735 | 2403-2736<br>2403-2737 | 2403-2738<br>2403-2739<br>2403-2743<br>2403-2744 | 2403-2741<br>2403-2742<br>2403-2745<br>2403-2746 |        |        |
|---|-----------------------------------|------------------------|--|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--|--|--------|--------|
|   | Сочетание полей<br>допусков D и e |                        | H7—9H  | H8—11H   | H7—9H                  | H8—11H                 | H7—9H                  | H8—11H                 | H7—9H                  | H8—11H                 | H7—9H  | H8—11H   | H7—9H  | H8—11H |
| D×t   | 130×3,5                           |                        | 60×4   |  | 65×4                   |                        |                        |                        | 70×4                   |                        | 75×4   |  |        |        |
| Номера и диаметры D <sub>t</sub> зубьев<br>шлицев | Фасочных<br>черновых и переходных | 1                      | 123,000  | 123,000  | 52,000                 | 52,000                 | 57,000                 | 57,000                 | 57,000                 | 57,000                 | 62,000   | 62,000   | 67,000 | 67,000 |
|   |                                   | 2                      | 123,130  | 123,130  | 52,150                 | 52,150                 | 57,150                 | 57,150                 | 57,140                 | 57,140                 | 62,150   | 62,150   | 67,150 | 67,150 |
|   |                                   | 3                      | 123,260  | 123,260  | 52,300                 | 52,300                 | 57,300                 | 57,300                 | 57,280                 | 57,280                 | 62,300   | 62,300   | 67,300 | 67,300 |
|   |                                   | 4                      | 123,390  | 123,390  | 52,450                 | 52,450                 | 57,450                 | 57,450                 | 57,420                 | 57,420                 | 62,450   | 62,450   | 67,450 | 67,450 |
|   |                                   | 5                      | 123,520  | 123,520  | 52,600                 | 52,600                 | 57,600                 | 57,600                 | 57,560                 | 57,560                 | 62,600   | 62,600   | 67,600 | 67,600 |
|   |                                   | 6                      | 123,650  | 123,650  | 52,750                 | 52,750                 | 57,750                 | 57,750                 | 57,700                 | 57,700                 | 62,750   | 62,750   | 67,750 | 67,750 |
|   |                                   | 7                      | 123,780  | 123,780  | 52,900                 | 52,900                 | 57,900                 | 57,900                 | 57,840                 | 57,840                 | 62,900   | 62,900   | 67,900 | 67,900 |
|   |                                   | 8                      | 123,910  | 123,910  | 53,050                 | 53,050                 | 58,050                 | 58,050                 | 57,980                 | 57,980                 | 63,050   | 63,050   | 68,050 | 68,050 |
|   |                                   | 9                      | 124,040  | 124,040  | 53,200                 | 53,200                 | 58,200                 | 58,200                 | 58,120                 | 58,120                 | 63,200   | 63,200   | 68,200 | 68,200 |
|   |                                   | 10                     | 124,170  | 124,170  | 53,350                 | 53,350                 | 58,350                 | 58,350                 | 58,260                 | 58,260                 | 63,350   | 63,350   | 68,350 | 68,350 |
|   |                                   | 11                     | 124,300  | 124,300  | 53,500                 | 53,500                 | 58,500                 | 58,500                 | 58,400                 | 58,400                 | 63,500   | 63,500   | 68,500 | 68,500 |
|   |                                   | 12                     | 124,430  | 124,430  | 53,650                 | 53,650                 | 58,650                 | 58,650                 | 58,530                 | 58,530                 | 63,650   | 63,650   | 68,650 | 68,650 |
|   |                                   | 13                     | 124,560  | 124,560  | 53,800                 | 53,800                 | 58,800                 | 58,800                 | 58,660                 | 58,660                 | 63,800   | 63,800   | 68,800 | 68,800 |
|   |                                   | 14                     | 124,690  | 124,690  | 53,950                 | 53,950                 | 58,950                 | 58,950                 | 58,810                 | 58,810                 | 63,950   | 63,950   | 68,950 | 68,950 |
|   |                                   | 15                     | 124,820  | 124,820  | 54,100                 | 54,100                 | 59,100                 | 59,100                 | 58,960                 | 58,960                 | 64,100   | 64,100   | 69,100 | 69,100 |
|   |                                   | 16                     | 124,950  | 124,950  | 54,250                 | 54,250                 | 59,250                 | 59,250                 | 59,110                 | 59,110                 | 64,250   | 64,250   | 69,250 | 69,250 |
|   |                                   | 17                     | 125,080  | 125,080  | 54,400                 | 54,400                 | 59,400                 | 59,400                 | 59,260                 | 59,260                 | 64,400   | 64,400   | 69,400 | 69,400 |
|   |                                   | 18                     | 125,210  | 125,210  | 54,550                 | 54,550                 | 59,550                 | 59,550                 | 59,410                 | 59,410                 | 64,550   | 64,550   | 69,550 | 69,550 |
|   |                                   | 19                     | 125,340  | 125,340  | 54,700                 | 54,700                 | 59,700                 | 59,700                 | 59,560                 | 59,560                 | 64,700   | 64,700   | 69,700 | 69,700 |
|   |                                   | 20                     | 125,470  | 125,470  | 54,850                 | 54,850                 | 59,850                 | 59,850                 | 59,710                 | 59,710                 | 64,850   | 64,850   | 69,850 | 69,850 |
|   |                                   | 21                     | 125,600  | 125,600  | 55,000                 | 55,000                 | 60,000                 | 60,000                 | 59,860                 | 59,860                 | 65,000   | 65,000   | 70,000 | 70,000 |
|   |                                   | 22                     | 125,730  | 125,730  | 55,150                 | 55,150                 | 60,150                 | 60,150                 | 59,960                 | 59,960                 | 65,150   | 65,150   | 70,150 | 70,150 |
|   |                                   | 23                     | 125,860  | 125,860  | 55,300                 | 55,300                 | 60,300                 | 60,300                 | 60,060                 | 60,060                 | 65,300   | 65,300   | 70,300 | 70,300 |
|   |                                   | 24                     | 125,990  | 125,990  | 55,450                 | 55,450                 | 60,450                 | 60,450                 | 60,160                 | 60,160                 | 65,450   | 65,450   | 70,450 | 70,450 |
|   |                                   | 25                     | 126,120  | 126,120  | 55,600                 | 55,600                 | 60,600                 | 60,600                 | 60,310                 | 60,310                 | 65,600   | 65,600   | 70,600 | 70,600 |
|   |                                   | 26                     | 126,250  | 126,250  | 55,750                 | 55,750                 | 60,750                 | 60,750                 | 60,460                 | 60,460                 | 65,750   | 65,750   | 70,750 | 70,750 |
|   |                                   | 27                     | 126,380  | 126,380  | 55,900                 | 55,900                 | 60,900                 | 60,900                 | 60,610                 | 60,610                 | 65,900   | 65,900   | 70,900 | 70,900 |
|   |                                   | 28                     | 126,510  | 126,510  | 56,050                 | 56,050                 | 61,050                 | 61,050                 | 60,760                 | 60,760                 | 66,050   | 66,050   | 71,050 | 71,050 |
|   |                                   | 29                     | 126,640  | 126,640  | 56,200                 | 56,200                 | 61,200                 | 61,200                 | 60,910                 | 60,910                 | 66,200   | 66,200   | 71,200 | 71,200 |
|   |                                   | 30                     | 126,770  | 126,770  | 56,350                 | 56,350                 | 61,350                 | 61,350                 | 61,060                 | 61,060                 | 66,350   | 66,350   | 71,350 | 71,350 |
|   |                                   | 31                     | 126,900  | 126,900  | 56,500                 | 56,500                 | 61,500                 | 61,500                 | 61,210                 | 61,210                 | 66,500   | 66,500   | 71,500 | 71,500 |

## Размеры, мм

| Обозначение<br>протяжки | 2403-2712<br>2403-2713 | 2403-2714<br>2403-2715 | 2403-2716<br>2403-2717<br>2403-2721<br>2403-2722 | 2403-2718<br>2403-2719<br>2403-2723<br>2403-2724 | 2403-2725<br>2403-2726 | 2403-2727<br>2403-2728 | 2403-2729<br>2403-2731 | 2403-2732<br>2403-2733 | 2403-2734<br>2403-2735 | 2403-2736<br>2403-2737 | 2403-2738<br>2403-2739<br>2403-2743<br>2403-2744 | 2403-2741<br>2403-2742<br>2403-2745<br>2403-2746 |        |
|-------------------------|------------------------|------------------------|--|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--|--|--------|
|                         | Н7-9Н                  | Н8-11Н                 | Н7-9Н  | Н8-11Н   | Н7-9Н                  | Н8-11Н                 | Н7-9Н                  | Н8-11Н                 | Н7-9Н                  | Н8-11Н                 | Н7-9Н  | Н8-11Н   |        |
| D×t                     | 130×3,5                |                        | 60×4   |  | 65×4                   |                        |                        | 70×4                   |                        | 75×4                   |  |  |        |
| черновых и переходных   | 32                     | 127,070                | 127,070  | 56,460   | 56,460                 | 61,460                 | 61,460                 | 61,360                 | 61,360                 | 66,460                 | 66,460   | 71,460   | 71,460 |
|                         | 33                     | 127,210                | 127,210  | 56,610   | 56,610                 | 61,610                 | 61,610                 | 61,510                 | 61,510                 | 66,610                 | 66,610   | 71,610   | 71,610 |
|                         | 34                     | 127,350                | 127,350  | 56,760   | 56,760                 | 61,760                 | 61,760                 | 61,660                 | 61,660                 | 66,760                 | 66,760   | 71,760   | 71,760 |
|                         | 35                     | 127,490                | 127,490  | 56,910   | 56,910                 | 61,910                 | 61,910                 | 61,810                 | 61,810                 | 66,910                 | 66,910   | 71,910   | 71,910 |
|                         | 36                     | 127,630                | 127,630  | 57,060   | 57,060                 | 62,060                 | 62,060                 | 61,960                 | 61,960                 | 67,060                 | 67,060   | 72,060   | 72,060 |
|                         | 37                     | 127,770                | 127,770  | 57,210   | 57,210                 | 62,210                 | 62,210                 | 62,110                 | 62,110                 | 67,210                 | 67,210   | 72,210   | 72,210 |
|                         | 38                     | 127,910                | 127,910  | 57,360   | 57,360                 | 62,360                 | 62,360                 | 62,260                 | 62,260                 | 67,360                 | 67,360   | 72,360   | 72,360 |
|                         | 39                     | 128,050                | 128,050  | 57,510   | 57,510                 | 62,510                 | 62,510                 | 62,410                 | 62,410                 | 67,510                 | 67,510   | 72,510   | 72,510 |
|                         | 40                     | 128,190                | 128,190  | 57,660   | 57,660                 | 62,660                 | 62,660                 | 62,560                 | 62,560                 | 67,660                 | 67,660   | 72,660   | 72,660 |
|                         | 41                     | 128,330                | 128,330  | 57,810   | 57,810                 | 62,810                 | 62,810                 | 62,710                 | 62,710                 | 67,810                 | 67,810   | 72,810   | 72,810 |
|                         | 42                     | 128,470                | 128,470  | 57,960   | 57,960                 | 62,960                 | 62,960                 | 62,860                 | 62,860                 | 67,960                 | 67,960   | 72,960   | 72,960 |
|                         | 43                     | 128,610                | 128,610  | 58,110   | 58,110                 | 63,110                 | 63,110                 | 63,010                 | 63,010                 | 68,110                 | 68,110   | 73,110   | 73,110 |
|                         | 44                     | 128,750                | 128,750  | 58,260   | 58,260                 | 63,260                 | 63,260                 | 63,160                 | 63,160                 | 68,260                 | 68,260   | 73,260   | 73,260 |
|                         | 45                     | 128,890                | 128,890  | 58,410   | 58,410                 | 63,410                 | 63,410                 | 63,310                 | 63,310                 | 68,410                 | 68,410   | 73,410   | 73,410 |
|                         | 46                     | 129,030                | 129,030  | 58,560   | 58,560                 | 63,560                 | 63,560                 | 63,460                 | 63,460                 | 68,560                 | 68,560   | 73,560   | 73,560 |
|                         | 47                     | 129,170                | 129,170  | 58,710   | 58,710                 | 63,710                 | 63,710                 | 63,610                 | 63,610                 | 68,710                 | 68,710   | 73,710   | 73,710 |
|                         | 48                     | 129,310                | 129,310  | 58,860   | 58,860                 | 63,860                 | 63,860                 | 63,760                 | 63,760                 | 68,860                 | 68,860   | 73,860   | 73,860 |
|                         | 49                     | 129,450                | 129,450  | 59,010   | 59,010                 | 64,010                 | 64,010                 | 63,910                 | 63,910                 | 69,010                 | 69,010   | 74,010   | 74,010 |
|                         | 50                     | 129,590                | 129,590  | 59,160   | 59,160                 | 64,160                 | 64,160                 | 64,060                 | 64,060                 | 69,160                 | 69,160   | 74,160   | 74,160 |
| 51                      | 129,730                | 129,730                | 59,310   | 59,310   | 64,310                 | 64,310                 | 64,210                 | 64,210                 | 69,310                 | 69,310                 | 74,310   | 74,310   |        |
| 52                      | 129,850                | 129,850                | 59,460   | 59,460   | 64,460                 | 64,460                 | 64,360                 | 64,360                 | 69,460                 | 69,460                 | 74,460   | 74,460   |        |
| 53                      | 129,920                | 129,920                | 59,610   | 59,610   | 64,610                 | 64,610                 | 64,510                 | 64,510                 | 69,610                 | 69,610                 | 74,610   | 74,610   |        |
| 54                      | 129,960                | 129,960                | 59,760   | 59,760   | 64,760                 | 64,760                 | 64,660                 | 64,660                 | 69,760                 | 69,760                 | 74,760   | 74,760   |        |
| чистовых                | 55                     | 129,980                | 129,990  | 59,880   | 59,880                 | 64,880                 | 64,880                 | 64,810                 | 64,810                 | 69,880                 | 69,880   | 74,880   | 74,880 |
|                         | 56                     | 130,000                | 130,020  | 59,940   | 59,940                 | 64,940                 | 64,940                 | 64,890                 | 64,890                 | 69,940                 | 69,940   | 74,940   | 74,940 |
|                         | 57                     | 130,020                | 130,045  | 59,970   | 59,970                 | 64,970                 | 64,970                 | 64,940                 | 64,940                 | 69,970                 | 69,970   | 74,970   | 74,970 |
|                         | 58                     | 130,040                | 130,063  | 59,990   | 60,000                 | 64,990                 | 65,000                 | 64,970                 | 64,970                 | 69,990                 | 70,000   | 74,990   | 75,000 |
| калибрующих             | 59                     | 130,040                | 130,063  | 60,010   | 60,025                 | 65,010                 | 65,025                 | 64,990                 | 65,000                 | 70,010                 | 70,025   | 75,010   | 75,025 |
|                         | 60                     |                        |  | 60,030   | 60,046                 | 65,030                 | 65,046                 | 65,010                 | 65,025                 | 70,030                 | 70,046   | 75,030   | 75,046 |
|                         | 61                     |                        |  | 60,030   | 60,046                 | 65,030                 | 65,046                 | 65,030                 | 65,046                 | 70,030                 | 70,046   | 75,030   | 75,046 |
|                         | 62                     |                        |  |  |                        |                        |                        |                        |                        |                        |  |  |        |
|                         | 63                     |                        |  |  |                        |                        |                        |                        |                        |                        |  |  |        |
|                         | 64                     |                        |  |  |                        |                        |                        |                        |                        |                        |  |  |        |
| 65                      | —                      | —                      | —  | —  | —                      | —                      | —                      | —                      | —                      | —                      |  |  |        |
| 66                      |                        |                        |  |  |                        |                        |                        |                        |                        |                        |  |  |        |
| 67                      |                        |                        |  |  |                        |                        |                        |                        |                        |                        |  |  |        |

Номера и диаметры D<sub>1</sub> зубьев

шлицевых



## Размеры, мм

| Обозначение<br>протяжки   | 2403-2747 | 2403-2749 | 2403-2756 | 2403-2758 | 2403-2765 | 2403-2767 | 2403-2774 | 2403-2776 | 2403-2778 | 2403-2781 | 2403-2783 | 2403-2785 |         |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
|   | 2403-2748 | 2403-2751 | 2403-2757 | 2403-2759 | 2403-2766 | 2403-2768 | 2403-2775 | 2403-2777 | 2403-2779 | 2403-2782 | 2403-2784 | 2403-2786 |         |
| Сочетание полей<br>допусков <i>D</i> и <i>e</i>   | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    |         |
| <i>D</i> × <i>m</i>   | 80×4      |           | 85×4      |           | 90×4      |           | 95×4      |           | 100×4     |           | 105×4     |           |         |
| Номера и диаметры <i>D</i> <sub>1</sub> зубьев<br>шлицевых<br>фасочных<br>черновых и переходных | 1         | 72,000    | 72,000    | 77,000    | 77,000    | 82,000    | 82,000    | 87,000    | 87,000    | 92,000    | 92,000    | 97,000    | 97,000  |
|   | 2         | 72,150    | 72,150    | 77,150    | 77,150    | 82,150    | 82,150    | 87,150    | 87,150    | 92,150    | 92,150    | 97,150    | 97,150  |
|   | 3         | 72,300    | 72,300    | 77,300    | 77,300    | 82,300    | 82,300    | 87,300    | 87,300    | 92,300    | 92,300    | 97,300    | 97,300  |
|   | 4         | 72,450    | 72,450    | 77,450    | 77,450    | 82,450    | 82,450    | 87,450    | 87,450    | 92,450    | 92,450    | 97,450    | 97,450  |
|   | 5         | 72,600    | 72,600    | 77,600    | 77,600    | 82,600    | 82,600    | 87,600    | 87,600    | 92,600    | 92,600    | 97,600    | 97,600  |
|   | 6         | 72,750    | 72,750    | 77,750    | 77,750    | 82,750    | 82,750    | 87,750    | 87,750    | 92,750    | 92,750    | 97,750    | 97,750  |
|   | 7         | 72,900    | 72,900    | 77,900    | 77,900    | 82,900    | 82,900    | 87,900    | 87,900    | 92,900    | 92,900    | 97,900    | 97,900  |
|   | 8         | 73,050    | 73,050    | 78,050    | 78,050    | 83,050    | 83,050    | 88,050    | 88,050    | 93,050    | 93,050    | 98,050    | 98,050  |
|   | 9         | 73,200    | 73,200    | 78,200    | 78,200    | 83,200    | 83,200    | 88,200    | 88,200    | 93,200    | 93,200    | 98,200    | 98,200  |
|   | 10        | 73,350    | 73,350    | 78,160    | 78,160    | 83,350    | 83,350    | 88,350    | 88,350    | 93,160    | 93,160    | 98,350    | 98,350  |
|   | 11        | 73,310    | 73,310    | 78,310    | 78,310    | 83,310    | 83,310    | 88,310    | 88,310    | 93,310    | 93,310    | 98,310    | 98,310  |
|   | 12        | 73,460    | 73,460    | 78,460    | 78,460    | 83,460    | 83,460    | 88,460    | 88,460    | 93,460    | 93,460    | 98,460    | 98,460  |
|   | 13        | 73,610    | 73,610    | 78,610    | 78,610    | 83,610    | 83,610    | 88,610    | 88,610    | 93,610    | 93,610    | 98,610    | 98,610  |
|   | 14        | 73,760    | 73,760    | 78,760    | 78,760    | 83,760    | 83,760    | 88,760    | 88,760    | 93,760    | 93,760    | 98,760    | 98,760  |
|   | 15        | 73,910    | 73,910    | 78,910    | 78,910    | 83,910    | 83,910    | 88,910    | 88,910    | 93,910    | 93,910    | 98,910    | 98,910  |
|   | 16        | 74,060    | 74,060    | 79,060    | 79,060    | 84,060    | 84,060    | 89,060    | 89,060    | 94,060    | 94,060    | 99,060    | 99,060  |
|   | 17        | 74,210    | 74,210    | 79,210    | 79,210    | 84,210    | 84,210    | 89,210    | 89,210    | 94,210    | 94,210    | 99,210    | 99,210  |
|   | 18        | 74,360    | 74,360    | 79,360    | 79,360    | 84,360    | 84,360    | 89,360    | 89,360    | 94,360    | 94,360    | 99,360    | 99,360  |
|   | 19        | 74,510    | 74,510    | 79,510    | 79,510    | 84,510    | 84,510    | 89,510    | 89,510    | 94,510    | 94,510    | 99,510    | 99,510  |
|   | 20        | 74,660    | 74,660    | 79,660    | 79,660    | 84,660    | 84,660    | 89,660    | 89,660    | 94,660    | 94,660    | 99,660    | 99,660  |
|   | 21        | 74,810    | 74,810    | 79,810    | 79,810    | 84,810    | 84,810    | 89,810    | 89,810    | 94,810    | 94,810    | 99,810    | 99,810  |
|   | 22        | 74,960    | 74,960    | 79,960    | 79,960    | 84,960    | 84,960    | 89,960    | 89,960    | 94,960    | 94,960    | 99,960    | 99,960  |
|   | 23        | 75,110    | 75,110    | 80,110    | 80,110    | 85,110    | 85,110    | 90,110    | 90,110    | 95,110    | 95,110    | 100,110   | 100,110 |
|   | 24        | 75,260    | 75,260    | 80,260    | 80,260    | 85,260    | 85,260    | 90,260    | 90,260    | 95,260    | 95,260    | 100,260   | 100,260 |
|   | 25        | 75,410    | 75,410    | 80,410    | 80,410    | 85,410    | 85,410    | 90,410    | 90,410    | 95,410    | 95,410    | 100,410   | 100,410 |
|   | 26        | 75,560    | 75,560    | 80,560    | 80,560    | 85,560    | 85,560    | 90,560    | 90,560    | 95,560    | 95,560    | 100,560   | 100,560 |
|   | 27        | 75,710    | 75,710    | 80,710    | 80,710    | 85,710    | 85,710    | 90,710    | 90,710    | 95,710    | 95,710    | 100,710   | 100,710 |
|   | 28        | 75,860    | 75,860    | 80,860    | 80,860    | 85,860    | 85,860    | 90,860    | 90,860    | 95,860    | 95,860    | 100,860   | 100,860 |
|   | 29        | 76,010    | 76,010    | 81,010    | 81,010    | 86,010    | 86,010    | 91,010    | 91,010    | 96,010    | 96,010    | 101,010   | 101,010 |
|   | 30        | 76,160    | 76,160    | 81,160    | 81,160    | 86,160    | 86,160    | 91,160    | 91,160    | 96,160    | 96,160    | 101,160   | 101,160 |
|   | 31        | 76,310    | 76,310    | 81,310    | 81,310    | 86,310    | 86,310    | 91,310    | 91,310    | 96,310    | 96,310    | 101,310   | 101,310 |

Размеры, мм

| Обозначение протяжки           | 2403-2747<br>2403-2748<br>2403-2752<br>2403-2753 | 2403-2749<br>2403-2751<br>2403-2754<br>2403-2755 | 2403-2756<br>2403-2757<br>2403-2761<br>2403-2762 | 2403-2758<br>2403-2759<br>2403-2763<br>2403-2764 | 2403-2765<br>2403-2766<br>2403-2769<br>2403-2771 | 2403-2767<br>2403-2768<br>2403-2772<br>2403-2773 | 2403-2774<br>2403-2775 | 2403-2776<br>2403-2777 | 2403-2778<br>2403-2779 | 2403-2781<br>2403-2782 | 2403-2783<br>2403-2784 | 2403-2785<br>2403-2786 |         |         |
|--------------------------------|--|--|--|--|--|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---------|---------|
|                                | Н7—9Н  |  | Н8—11Н   |  | Н7—9Н  |  | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        |         |         |
| Сочетание полей допусков D и e | Н7—9Н  |  | Н8—11Н   |  | Н7—9Н  |  | Н8—11Н                 |                        | Н7—9Н                  |                        | Н8—11Н                 |                        |         |         |
| D×t                            | 80×4   |  | 85×4   |  | 90×4   |  | 95×4                   |                        | 100×4                  |                        | 105×4                  |                        |         |         |
| черновых и переходных          | 32   | 76,460   | 76,460   | 81,460   | 81,460   | 86,460   | 86,460                 | 91,460                 | 91,460                 | 96,460                 | 96,460                 | 101,460                | 101,460 |         |
|                                | 33   | 76,610   | 76,610   | 81,610   | 81,610   | 86,610   | 86,610                 | 91,610                 | 91,610                 | 96,610                 | 96,610                 | 101,610                | 101,610 |         |
|                                | 34   | 76,760   | 76,760   | 81,760   | 81,760   | 86,760   | 86,760                 | 91,760                 | 91,760                 | 96,760                 | 96,760                 | 101,760                | 101,760 |         |
|                                | 35   | 76,910   | 76,910   | 81,910   | 81,910   | 86,910   | 86,910                 | 91,910                 | 91,910                 | 96,910                 | 96,910                 | 101,910                | 101,910 |         |
|                                | 36   | 77,060   | 77,060   | 82,060   | 82,060   | 87,060   | 87,060                 | 92,060                 | 92,060                 | 97,060                 | 97,060                 | 102,060                | 102,060 |         |
|                                | 37   | 77,210   | 77,210   | 82,210   | 82,210   | 87,210   | 87,210                 | 92,210                 | 92,210                 | 97,210                 | 97,210                 | 102,210                | 102,210 |         |
|                                | 38   | 77,360   | 77,360   | 82,360   | 82,360   | 87,360   | 87,360                 | 92,360                 | 92,360                 | 97,360                 | 97,360                 | 102,360                | 102,360 |         |
|                                | 39   | 77,510   | 77,510   | 82,510   | 82,510   | 87,510   | 87,510                 | 92,510                 | 92,510                 | 97,510                 | 97,510                 | 102,510                | 102,510 |         |
|                                | 40   | 77,660   | 77,660   | 82,660   | 82,660   | 87,660   | 87,660                 | 92,660                 | 92,660                 | 97,660                 | 97,660                 | 102,660                | 102,660 |         |
|                                | 41   | 77,810   | 77,810   | 82,810   | 82,810   | 87,810   | 87,810                 | 92,810                 | 92,810                 | 97,810                 | 97,810                 | 102,810                | 102,810 |         |
|                                | 42   | 77,960   | 77,960   | 82,960   | 82,960   | 87,960   | 87,960                 | 92,960                 | 92,960                 | 97,960                 | 97,960                 | 102,960                | 102,960 |         |
|                                | 43   | 78,110   | 78,110   | 83,110   | 83,110   | 88,110   | 88,110                 | 93,110                 | 93,110                 | 98,110                 | 98,110                 | 103,110                | 103,110 |         |
|                                | 44   | 78,260   | 78,260   | 83,260   | 83,260   | 88,260   | 88,260                 | 93,260                 | 93,260                 | 98,260                 | 98,260                 | 103,260                | 103,260 |         |
|                                | 45   | 78,410   | 78,410   | 83,410   | 83,410   | 88,410   | 88,410                 | 93,410                 | 93,410                 | 98,410                 | 98,410                 | 103,410                | 103,410 |         |
|                                | 46   | 78,560   | 78,560   | 83,560   | 83,560   | 88,560   | 88,560                 | 93,560                 | 93,560                 | 98,560                 | 98,560                 | 103,560                | 103,560 |         |
|                                | 47   | 78,710   | 78,710   | 83,710   | 83,710   | 88,710   | 88,710                 | 93,710                 | 93,710                 | 98,710                 | 98,710                 | 103,710                | 103,710 |         |
|                                | 48   | 78,860   | 78,860   | 83,860   | 83,860   | 88,860   | 88,860                 | 93,860                 | 93,860                 | 98,860                 | 98,860                 | 103,860                | 103,860 |         |
|                                | 49   | 79,010   | 79,010   | 84,010   | 84,010   | 89,010   | 89,010                 | 94,010                 | 94,010                 | 99,010                 | 99,010                 | 104,010                | 104,010 |         |
|                                | 50   | 79,160   | 79,160   | 84,160   | 84,160   | 89,160   | 89,160                 | 94,160                 | 94,160                 | 99,160                 | 99,160                 | 104,160                | 104,160 |         |
|                                | 51   | 79,310   | 79,310   | 84,320   | 84,320   | 89,310   | 89,310                 | 94,310                 | 94,310                 | 99,310                 | 99,310                 | 104,310                | 104,310 |         |
|                                | 52   | 79,460   | 79,460   | 84,460   | 84,460   | 89,460   | 89,460                 | 94,460                 | 94,460                 | 99,460                 | 99,460                 | 104,460                | 104,460 |         |
|                                | 53   | 79,610   | 79,610   | 84,610   | 84,610   | 89,610   | 89,610                 | 94,610                 | 94,610                 | 99,610                 | 99,610                 | 104,610                | 104,610 |         |
|                                | 54   | 79,760   | 79,760   | 84,760   | 84,760   | 89,760   | 89,760                 | 94,760                 | 94,760                 | 99,760                 | 99,760                 | 104,760                | 104,760 |         |
|                                | 55   | 79,880   | 79,880   | 84,880   | 84,880   | 89,880   | 89,880                 | 94,880                 | 94,880                 | 99,880                 | 99,880                 | 104,880                | 104,880 |         |
|                                | 56   | 79,940   | 79,940   | 84,950   | 84,950   | 89,950   | 89,950                 | 94,950                 | 94,950                 | 99,950                 | 99,950                 | 104,950                | 104,950 |         |
|                                | чистовых   | 57   | 79,970   | 79,970   | 84,980   | 84,980   | 89,980                 | 89,980                 | 94,980                 | 94,980                 | 99,980                 | 99,980                 | 104,980 | 104,980 |
|                                |  | 58   | 79,990   | 80,000   | 85,000   | 85,010   | 90,000                 | 90,010                 | 95,000                 | 95,010                 | 100,000                | 100,010                | 105,000 | 105,010 |
|                                |  | 59   | 80,010   | 80,025   | 85,020   | 85,035   | 90,020                 | 90,035                 | 95,020                 | 95,035                 | 100,020                | 100,035                | 105,020 | 105,035 |
|                                |  | 60   | 80,030   | 80,046   | 85,035   | 85,054   | 90,035                 | 90,054                 | 95,035                 | 95,054                 | 100,035                | 100,054                | 105,035 | 105,054 |
|                                | калибрующих                                      | 61   |  |  |  |  |                        |                        |                        |                        |                        |                        |         |         |
|                                |  | 62   |  |  |  |  |                        |                        |                        |                        |                        |                        |         |         |
|                                |  | 63   |  |  |  |  |                        |                        |                        |                        |                        |                        |         |         |
| 64                             |  | 80,030   | 80,046   | 85,035   | 85,054   | 90,035   | 90,054                 | 95,035                 | 95,054                 | 100,035                | 100,054                | 105,035                | 105,054 |         |
| 65                             |  |  |  |  |  |  |                        |                        |                        |                        |                        |                        |         |         |
| 66                             |  |  |  |  |  |  |                        |                        |                        |                        |                        |                        |         |         |

Номера и диаметры D, зубьев

шлицевых

черновых и переходных

чистовых

калибрующих

## Размеры, мм

Продолжение табл. 4

С. 51 ГОСТ 28050-89

| Обозначение<br>протяжки  | 2403-2787<br>2403 2788               | 2403-2789<br>2403-2791 | 2403-2792<br>2403-2793 | 2403-2794<br>2403-2795 | 2403-2796 | 2403-2797 | 2403-2798 | 2403-2799 | 2403-2801 | 2403-2802 |        |
|--|--------------------------------------|------------------------|------------------------|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
|  | Сочетание полей<br>допусков<br>D и e |                        | H7-9H                  | H8-11H                 | H7-9H     | H8-11H    | H7-9H     | H8-11H    | H7-9H     | H8-11H    |        |
| D×t  | 110×4                                |                        | 120×4                  |                        | 130×4     |           | 70×5      |           | 75×5      |           |        |
| Номера и диаметры D <sub>1</sub> зубьев<br>шлицевых<br>черновых и переходных<br>фасочных | 1                                    | 102,000                | 102,000                | 112,000                | 112,000   | 122,000   | 122,000   | 60,000    | 60,000    | 65,000    | 65,000 |
|  | 2                                    | 102,150                | 102,150                | 112,150                | 112,150   | 122,140   | 122,140   | 60,150    | 60,150    | 65,180    | 65,180 |
|  | 3                                    | 102,300                | 102,300                | 112,300                | 112,300   | 122,280   | 122,280   | 60,300    | 60,300    | 65,360    | 65,360 |
|  | 4                                    | 102,450                | 102,450                | 112,450                | 112,450   | 122,420   | 122,420   | 60,450    | 60,450    | 65,540    | 65,540 |
|  | 5                                    | 102,600                | 102,600                | 112,600                | 112,600   | 122,560   | 122,560   | 60,600    | 60,600    | 65,720    | 65,720 |
|  | 6                                    | 102,750                | 102,750                | 112,750                | 112,750   | 122,700   | 122,700   | 60,750    | 60,750    | 65,900    | 65,900 |
|  | 7                                    | 102,900                | 102,900                | 112,900                | 112,900   | 122,840   | 122,840   | 60,900    | 60,900    | 66,080    | 66,080 |
|  | 8                                    | 103,050                | 103,050                | 113,050                | 113,050   | 122,980   | 122,980   | 61,050    | 61,050    | 66,260    | 66,260 |
|  | 9                                    | 103,200                | 103,200                | 113,200                | 113,200   | 123,120   | 123,120   | 61,200    | 61,200    | 66,440    | 66,440 |
|  | 10                                   | 103,350                | 103,350                | 113,350                | 113,350   | 123,260   | 123,260   | 61,350    | 61,350    | 66,400    | 66,400 |
|  | 11                                   | 103,310                | 103,310                | 113,310                | 113,310   | 123,400   | 123,400   | 61,310    | 61,310    | 66,580    | 66,580 |
|  | 12                                   | 103,460                | 103,460                | 113,460                | 113,460   | 123,360   | 123,360   | 61,460    | 61,460    | 66,760    | 66,760 |
|  | 13                                   | 103,610                | 103,610                | 113,610                | 113,610   | 123,510   | 123,510   | 61,610    | 61,610    | 66,940    | 66,940 |
|  | 14                                   | 103,760                | 103,760                | 113,760                | 113,760   | 123,660   | 123,660   | 61,760    | 61,760    | 67,120    | 67,120 |
|  | 15                                   | 103,910                | 103,910                | 113,910                | 113,910   | 123,810   | 123,810   | 61,910    | 61,910    | 67,300    | 67,300 |
|  | 16                                   | 104,060                | 104,060                | 114,060                | 114,060   | 123,960   | 123,960   | 62,060    | 62,060    | 67,480    | 67,480 |
|  | 17                                   | 104,210                | 104,210                | 114,210                | 114,210   | 124,110   | 124,110   | 62,210    | 62,210    | 67,660    | 67,660 |
|  | 18                                   | 104,360                | 104,360                | 114,360                | 114,360   | 124,260   | 124,260   | 62,360    | 62,360    | 67,840    | 67,840 |
|  | 19                                   | 104,510                | 104,510                | 114,510                | 114,510   | 124,410   | 124,410   | 62,510    | 62,510    | 68,020    | 68,020 |
|  | 20                                   | 104,660                | 104,660                | 114,660                | 114,660   | 124,560   | 124,560   | 62,660    | 62,660    | 68,200    | 68,200 |
|  | 21                                   | 104,810                | 104,810                | 114,810                | 114,810   | 124,710   | 124,710   | 62,810    | 62,810    | 68,380    | 68,380 |
|  | 22                                   | 104,960                | 104,960                | 114,960                | 114,960   | 124,860   | 124,860   | 62,960    | 62,960    | 68,560    | 68,560 |
|  | 23                                   | 105,110                | 105,110                | 115,110                | 115,110   | 125,010   | 125,010   | 63,110    | 63,110    | 68,740    | 68,740 |
|  | 24                                   | 105,260                | 105,260                | 115,260                | 115,260   | 125,160   | 125,160   | 63,260    | 63,260    | 68,920    | 68,920 |
|  | 25                                   | 105,410                | 105,410                | 115,410                | 115,410   | 125,310   | 125,310   | 63,410    | 63,410    | 69,100    | 69,100 |
|  | 26                                   | 105,560                | 105,560                | 115,560                | 115,560   | 125,460   | 125,460   | 63,560    | 63,560    | 69,280    | 69,280 |
|  | 27                                   | 105,710                | 105,710                | 115,710                | 115,710   | 125,610   | 125,610   | 63,710    | 63,710    | 69,460    | 69,460 |

## Размеры, мм

| Обозначение<br>проточки              | 2403-2787<br>2403-2788 | 2403-2789<br>2403-2791 | 2403-2792<br>2403-2793 | 2403-2794<br>2403-2795 | 2403-2796 | 2403-2797 | 2403-2798 | 2403-2799 | 2403-2801 | 2403-2802 |
|--------------------------------------|------------------------|------------------------|------------------------|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Сочетание полей<br>допусков<br>D и e | H7-9H                  | H8-11H                 | H7-9H                  | H8-11H                 | H7-9H     | H8-11H    | H7-9H     | H8-11H    | H7-9H     | H8-11H    |
| D × m                                | 110 × 4                |                        | 120 × 4                |                        | 130 × 4   |           | 70 × 5    |           | 75 × 5    |           |
| 28                                   | 105,860                | 105,860                | 115,860                | 115,860                | 125,760   | 125,760   | 63,860    | 63,860    | 69,640    | 69,640    |
| 29                                   | 106,010                | 106,010                | 116,010                | 116,010                | 125,910   | 125,910   | 64,010    | 64,010    | 69,820    | 69,820    |
| 30                                   | 106,160                | 106,160                | 116,160                | 116,160                | 126,060   | 126,060   | 64,160    | 64,160    | 70,000    | 70,000    |
| 31                                   | 106,310                | 106,310                | 116,310                | 116,310                | 126,210   | 126,210   | 64,310    | 64,310    | 70,180    | 70,180    |
| 32                                   | 106,460                | 106,460                | 116,460                | 116,460                | 126,360   | 126,360   | 64,460    | 64,460    | 70,360    | 70,360    |
| 33                                   | 106,610                | 106,610                | 116,610                | 116,610                | 126,510   | 126,510   | 64,610    | 64,610    | 70,540    | 70,540    |
| 34                                   | 106,760                | 106,760                | 116,760                | 116,760                | 126,660   | 126,660   | 64,760    | 64,760    | 70,720    | 70,720    |
| 35                                   | 106,910                | 106,910                | 116,910                | 116,910                | 126,810   | 126,810   | 64,910    | 64,910    | 70,900    | 70,900    |
| 36                                   | 107,060                | 107,060                | 117,060                | 117,060                | 126,960   | 126,960   | 65,060    | 65,060    | 71,080    | 71,080    |
| 37                                   | 107,210                | 107,210                | 117,210                | 117,210                | 127,110   | 127,110   | 65,210    | 65,210    | 71,260    | 71,260    |
| 38                                   | 107,360                | 107,360                | 117,360                | 117,360                | 127,260   | 127,260   | 65,360    | 65,360    | 71,440    | 71,440    |
| 39                                   | 107,510                | 107,510                | 117,510                | 117,510                | 127,410   | 127,410   | 65,510    | 65,510    | 71,620    | 71,620    |
| 40                                   | 107,660                | 107,660                | 117,660                | 117,660                | 127,560   | 127,560   | 65,660    | 65,660    | 71,800    | 71,800    |
| 41                                   | 107,810                | 107,810                | 117,810                | 117,810                | 127,710   | 127,710   | 65,810    | 65,810    | 71,980    | 71,980    |
| 42                                   | 107,960                | 107,960                | 117,960                | 117,960                | 127,860   | 127,860   | 65,960    | 65,960    | 72,160    | 72,160    |
| 43                                   | 108,110                | 108,110                | 118,110                | 118,110                | 128,010   | 128,010   | 66,110    | 66,110    | 72,340    | 72,340    |
| 44                                   | 108,260                | 108,260                | 118,260                | 118,260                | 128,160   | 128,160   | 66,260    | 66,260    | 72,520    | 72,520    |
| 45                                   | 108,410                | 108,410                | 118,410                | 118,410                | 128,310   | 128,310   | 66,410    | 66,410    | 72,700    | 72,700    |
| 46                                   | 108,560                | 108,560                | 118,560                | 118,560                | 128,460   | 128,460   | 66,560    | 66,560    | 72,880    | 72,880    |
| 47                                   | 108,710                | 108,710                | 118,710                | 118,710                | 128,610   | 128,610   | 66,710    | 66,710    | 73,060    | 73,060    |
| 48                                   | 108,860                | 108,860                | 118,860                | 118,860                | 128,760   | 128,760   | 66,860    | 66,860    | 73,240    | 73,240    |
| 49                                   | 109,010                | 109,010                | 119,010                | 119,010                | 128,910   | 128,910   | 67,010    | 67,010    | 73,420    | 73,420    |
| 50                                   | 109,160                | 109,160                | 119,160                | 119,160                | 129,060   | 129,060   | 67,160    | 67,160    | 73,600    | 73,600    |
| 51                                   | 109,310                | 109,310                | 119,310                | 119,310                | 129,210   | 129,210   | 67,310    | 67,310    | 73,780    | 73,780    |
| 52                                   | 109,460                | 109,460                | 119,460                | 119,460                | 129,360   | 129,360   | 67,460    | 67,460    | 73,960    | 73,960    |
| 53                                   | 109,610                | 109,610                | 119,610                | 119,610                | 129,510   | 129,510   | 67,610    | 67,610    | 74,140    | 74,140    |
| 54                                   | 109,760                | 109,760                | 119,760                | 119,760                | 129,660   | 129,660   | 67,760    | 67,760    | 74,320    | 74,320    |

Номера и диаметры  $D_i$  зубьев

шлицевых

черновых и переходных

## Размеры, мм

| Обозначение<br>протяжки                             | 2403-2787,<br>2403-2788 | 2403-2789<br>2403-2791 | 2403-2792<br>2403-2793 | 2403-2794<br>2403-2795 | 2403-2796 □ | 2403-2797 | 2403-2798 | 2403-2799 | 2403-2801 | 2403-2802 |        |        |
|---|-------------------------|------------------------|------------------------|------------------------|-------------|-----------|-----------|-----------|-----------|-----------|--------|--------|
|   | Н7-9Н                   | Н8-11Н                 | Н7-9Н                  | Н8-11Н                 | Н7-9Н       | Н8-11Н    | Н7-9Н     | Н8-11Н    | Н7-9Н     | Н8-11Н    |        |        |
| Сочетание полей<br>допуска<br>D и e                 | 110×4                   |                        | 120×4                  |                        | 130×4       |           | 70×5      |           | 75×5      |           |        |        |
| D×t   | 110×4                   |                        | 120×4                  |                        | 130×4       |           | 70×5      |           | 75×5      |           |        |        |
| Номера и диаметры D <sub>t</sub> зубьев<br>шлицевых | чистовых                | 55                     | 109,880                | 109,880                | 119,880     | 119,880   | 129,810   | 129,810   | 67,910    | 67,910    | 74,500 | 74,500 |
|   |                         | 56                     | 109,950                | 109,950                | 119,950     | 119,950   | 129,900   | 129,900   | 68,060    | 68,060    | 74,680 | 74,680 |
|   |                         | 57                     | 109,980                | 109,980                | 119,980     | 119,980   | 129,950   | 129,960   | 68,210    | 68,210    | 74,820 | 74,820 |
|   |                         | 58                     | 110,000                | 110,010                | 120,000     | 120,010   | 129,980   | 129,990   | 68,360    | 68,360    | 74,890 | 74,890 |
|   |                         | 59                     | 110,020                | 110,035                | 120,020     | 120,035   | 130,000   | 130,020   | 68,510    | 68,510    | 74,940 | 74,940 |
|   |                         | 60                     | 110,035                | 110,054                | 120,035     | 120,054   | 130,020   | 130,045   | 68,660    | 68,660    | 74,970 | 74,970 |
|   |                         | 61                     | 110,035                | 110,054                | 120,035     | 120,054   | 130,040   | 130,063   | 68,810    | 68,810    | 74,990 | 75,000 |
|   |                         | 62                     |                        |                        |             |           | 68,960    | 68,960    | 75,010    | 75,025    |        |        |
|   |                         | 63                     |                        |                        |             |           | 69,110    | 69,110    | 75,030    | 75,046    |        |        |
|   |                         | 64                     |                        |                        |             |           | 69,260    | 69,260    | 75,030    | 75,046    |        |        |
|   | 65                      | 69,410                 |                        |                        |             |           | 69,410    |           |           |           |        |        |
|   | 66                      | 69,560                 |                        |                        |             |           | 69,560    |           |           |           |        |        |
|   | 67                      | 69,710                 |                        |                        |             |           | 69,710    |           |           |           |        |        |
|   | 68                      | 69,820                 |                        |                        |             |           | 69,820    |           |           |           |        |        |
|   | 69                      | 69,890                 |                        |                        |             |           | 69,890    |           |           |           |        |        |
|   | 70                      | 69,940                 |                        |                        |             |           | 69,940    |           |           |           |        |        |
|   | 71                      | 69,970                 | 69,970                 |                        |             |           |           |           |           |           |        |        |
|   | 72                      | 69,990                 | 70,000                 |                        |             |           |           |           |           |           |        |        |
|   | 73                      | 70,010                 | 70,025                 |                        |             |           |           |           |           |           |        |        |
|   | 74                      | 70,030                 | 70,046                 |                        |             |           |           |           |           |           |        |        |
| 75  | -                       | -                      | -                      | -                      | -           | -         | -         | -         | -         | -         |        |        |
| 76  |                         |                        |                        |                        |             |           |           |           |           |           |        |        |
| 77  |                         |                        |                        |                        |             |           |           |           |           |           |        |        |
| 78  |                         |                        |                        |                        |             |           |           |           |           |           |        |        |
| 79  |                         |                        |                        |                        |             |           |           |           |           |           |        |        |
| 80  |                         |                        |                        |                        |             |           |           |           |           |           |        |        |
| 78  | 70,030                  | 70,046                 | -                      | -                      |             |           |           |           |           |           |        |        |

## Размеры, мм

| Обозначение<br>протяжки  | 2403-2803 | 2403-2804 | 2403-2805 | 2403-2806 | 2403-2807 | 2403-2808 | 2403-2809 | 2403-2811 |        |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
|  | Н7—9Н     | Н8—11Н    | Н7—9Н     | Н8—11Н    | Н7—9Н     | Н8—11Н    | Н7—9Н     | Н8—11Н    |        |
| Сочетание полей<br>допусков<br>D и e   |           |           |           |           |           |           |           |           |        |
| D×m  | 80×5      |           | 85×5      |           | 90×5      |           | 95×5      |           |        |
| Номера и диаметры D <sub>1</sub> зубьев<br>фасочных<br>шлицевых<br>черновых и переходных | 1         | 70,000    | 70,000    | 75,000    | 75,000    | 80,000    | 80,000    | 85,000    | 85,000 |
|  | 2         | 70,180    | 70,180    | 75,180    | 75,180    | 80,180    | 80,180    | 85,190    | 85,190 |
|  | 3         | 70,360    | 70,360    | 75,360    | 75,360    | 80,360    | 80,360    | 85,380    | 85,380 |
|  | 4         | 70,540    | 70,540    | 75,540    | 75,540    | 80,540    | 80,540    | 85,570    | 85,570 |
|  | 5         | 70,720    | 70,720    | 75,720    | 75,720    | 80,720    | 80,720    | 85,760    | 85,760 |
|  | 6         | 70,900    | 70,900    | 75,900    | 75,900    | 80,900    | 80,900    | 85,950    | 85,950 |
|  | 7         | 71,080    | 71,080    | 76,080    | 76,080    | 81,080    | 81,080    | 86,140    | 86,140 |
|  | 8         | 71,260    | 71,260    | 76,260    | 76,260    | 81,260    | 81,260    | 86,330    | 86,330 |
|  | 9         | 71,440    | 71,440    | 76,440    | 76,440    | 81,440    | 81,440    | 86,520    | 86,520 |
|  | 10        | 71,400    | 71,400    | 76,620    | 76,620    | 81,400    | 81,400    | 86,480    | 86,480 |
|  | 11        | 71,580    | 71,580    | 76,580    | 76,580    | 81,580    | 81,580    | 86,670    | 86,670 |
|  | 12        | 71,760    | 71,760    | 76,760    | 76,760    | 81,760    | 81,760    | 86,860    | 86,860 |
|  | 13        | 71,940    | 71,940    | 76,940    | 76,940    | 81,940    | 81,940    | 87,050    | 87,050 |
|  | 14        | 72,120    | 72,120    | 77,120    | 77,120    | 82,120    | 82,120    | 87,240    | 87,240 |
|  | 15        | 72,300    | 72,300    | 77,300    | 77,300    | 82,300    | 82,300    | 87,430    | 87,430 |
|  | 16        | 72,480    | 72,480    | 77,480    | 77,480    | 82,480    | 82,480    | 87,620    | 87,620 |
|  | 17        | 72,660    | 72,660    | 77,660    | 77,660    | 82,660    | 82,660    | 87,810    | 87,810 |
|  | 18        | 72,840    | 72,840    | 77,840    | 77,840    | 82,840    | 82,840    | 88,000    | 88,000 |
|  | 19        | 73,020    | 73,020    | 78,020    | 78,020    | 83,020    | 83,020    | 88,190    | 88,190 |
|  | 20        | 73,200    | 73,200    | 78,200    | 78,200    | 83,200    | 83,200    | 88,380    | 88,380 |
|  | 21        | 73,380    | 73,380    | 78,380    | 78,380    | 83,380    | 83,380    | 88,570    | 88,570 |
|  | 22        | 73,560    | 73,560    | 78,560    | 78,560    | 83,560    | 83,560    | 88,760    | 88,760 |
|  | 23        | 73,740    | 73,740    | 78,740    | 78,740    | 83,740    | 83,740    | 88,950    | 88,950 |
|  | 24        | 73,920    | 73,920    | 78,920    | 78,920    | 83,920    | 83,920    | 89,140    | 89,140 |
|  | 25        | 74,100    | 74,100    | 79,100    | 79,100    | 84,100    | 84,100    | 89,330    | 89,330 |
|  | 26        | 74,280    | 74,280    | 79,280    | 79,280    | 84,280    | 84,280    | 89,520    | 89,520 |
|  | 27        | 74,460    | 74,460    | 79,460    | 79,460    | 84,460    | 84,460    | 89,710    | 89,710 |

## Размеры, мм

Продолжение табл. 4

| Обозначение протяжки  | 2403-2803 | 2403-2804 | 2403-28 | 2403-2806 | 2403-2807 | 2403-2808 | 2403-2809 | 2403-2811 |        |
|---|-----------|-----------|---------|-----------|-----------|-----------|-----------|-----------|--------|
| Сочетание полей допусков $D$ и $e$                                  | H7—9H     | H8—11H    | H7—9H   | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—11H    |        |
| $D \times m$  | 80×5      |           | 85×5    |           | 90×5      |           | 95×5      |           |        |
| Номера и диаметры $D_i$ зубьев<br>шлицевых<br>черновых и переходных | 28        | 74,640    | 74,640  | 79,640    | 79,640    | 84,640    | 84,640    | 89,900    | 89,900 |
|   | 29        | 74,820    | 74,820  | 79,820    | 79,820    | 84,820    | 84,820    | 90,090    | 90,090 |
|   | 30        | 75,000    | 75,000  | 80,000    | 80,000    | 85,000    | 85,000    | 90,280    | 90,280 |
|   | 31        | 75,180    | 75,180  | 80,180    | 80,180    | 85,180    | 85,180    | 90,470    | 90,470 |
|   | 32        | 75,360    | 75,360  | 80,360    | 80,360    | 85,360    | 85,360    | 90,660    | 90,660 |
|   | 33        | 75,540    | 75,540  | 80,540    | 80,540    | 85,540    | 85,540    | 90,850    | 90,850 |
|   | 34        | 75,720    | 75,720  | 80,720    | 80,720    | 85,720    | 85,720    | 91,040    | 91,040 |
|   | 35        | 75,900    | 75,900  | 80,900    | 80,900    | 85,900    | 85,900    | 91,230    | 91,230 |
|   | 36        | 76,080    | 76,080  | 81,080    | 81,080    | 86,080    | 86,080    | 91,420    | 91,420 |
|   | 37        | 76,260    | 76,260  | 81,260    | 81,260    | 86,260    | 86,260    | 91,610    | 91,610 |
|   | 38        | 76,440    | 76,440  | 81,440    | 81,440    | 86,440    | 86,440    | 91,800    | 91,800 |
|   | 39        | 76,620    | 76,620  | 81,620    | 81,620    | 86,620    | 86,620    | 91,990    | 91,990 |
|   | 40        | 76,800    | 76,800  | 81,800    | 81,800    | 86,800    | 86,800    | 92,180    | 92,180 |
|   | 41        | 76,980    | 76,980  | 81,980    | 81,980    | 86,980    | 86,980    | 92,370    | 92,370 |
|   | 42        | 77,160    | 77,160  | 82,160    | 82,160    | 87,160    | 87,160    | 92,560    | 92,560 |
|   | 43        | 77,340    | 77,340  | 82,340    | 82,340    | 87,340    | 87,340    | 92,750    | 92,750 |
|   | 44        | 77,520    | 77,520  | 82,520    | 82,520    | 87,520    | 87,520    | 92,940    | 92,940 |
|   | 45        | 77,700    | 77,700  | 82,700    | 82,700    | 87,700    | 87,700    | 93,130    | 93,130 |
|   | 46        | 77,880    | 77,880  | 82,880    | 82,880    | 87,880    | 87,880    | 93,320    | 93,320 |
|   | 47        | 78,060    | 78,060  | 83,060    | 83,060    | 88,060    | 88,060    | 93,510    | 93,510 |
|   | 48        | 78,240    | 78,240  | 83,240    | 83,240    | 88,240    | 88,240    | 93,700    | 93,700 |
|   | 49        | 78,420    | 78,420  | 83,420    | 83,420    | 88,420    | 88,420    | 93,890    | 93,890 |
|   | 50        | 78,600    | 78,600  | 83,600    | 83,600    | 88,600    | 88,600    | 94,080    | 94,080 |
|   | 51        | 78,780    | 78,780  | 83,780    | 83,780    | 88,780    | 88,780    | 94,270    | 94,270 |
|   | 52        | 78,960    | 78,960  | 83,960    | 83,960    | 88,960    | 88,960    | 94,460    | 94,460 |
|   | 53        | 79,140    | 79,140  | 84,140    | 84,140    | 89,140    | 89,140    | 94,650    | 94,650 |
|   | 54        | 79,320    | 79,320  | 84,320    | 84,320    | 89,320    | 89,320    | 94,790    | 94,790 |

## Размеры, мм

Продолжение табл. 4

| Обозначение протяжки                            |                       | 2403-2803 | 2403-2804 | 2403-2805 | 2403-2806 | 2403-2807 | 2403-2808 | 2403-2809 | 2403-2811 |        |
|---|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| Сочетание полей допусков <i>D</i> и <i>e</i>    |                       | H7-9H     | H8-11H    | H7-9H     | H8-11H    | H7-9H     | H8-11H    | H7-9H     | H8-11H    |        |
| <i>D</i> × <i>m</i>                             |                       | 80×5      |           | 85×5      |           | 90×5      |           | 95×5      |           |        |
| Номера и диаметры <i>D</i> ; зубьев<br>шлицевых | черновых и переходных | 55        | 79,500    | 79,500    | 84,500    | 84,500    | 89,500    | 89,500    | 94,890    | 94,890 |
|   |                       | 56        | 79,680    | 79,680    | 84,680    | 84,680    | 89,680    | 89,680    | 94,950    | 94,950 |
|   |                       | 57        | 79,820    | 79,820    | 84,820    | 84,820    | 89,820    | 89,820    | 94,980    | 94,980 |
|   |                       | 58        | 79,890    | 79,890    | 84,900    | 84,900    | 89,900    | 89,900    | 95,000    | 95,010 |
|   |                       | 59        | 79,940    | 79,940    | 84,950    | 84,950    | 89,950    | 89,950    | 95,020    | 95,035 |
|   |                       | 60        | 79,970    | 79,970    | 84,980    | 84,980    | 89,980    | 89,980    | 95,035    | 95,054 |
|   | чистовых              | 61        | 79,990    | 80,000    | 85,000    | 85,010    | 90,000    | 90,010    | 95,035    | 95,054 |
|   |                       | 62        | 80,010    | 80,025    | 85,020    | 85,035    | 90,020    | 90,035    |           |        |
|   |                       | 63        | 80,030    | 80,046    | 85,035    | 85,054    | 90,035    | 90,054    |           |        |
|   | калибрующих           | 64        | 80,030    | 80,046    | 85,035    | 85,054    | 90,035    | 90,054    | 95,035    | 95,054 |
|   |                       | 65        |           |           |           |           |           |           |           |        |
|   |                       | 66        |           |           |           |           |           |           |           |        |
|   |                       | 67        |           |           |           |           |           |           |           |        |
|   |                       | 68        |           |           |           |           |           |           |           |        |
|   |                       | 69        |           |           |           |           |           |           |           |        |



## Размеры, мм

| Обозначение<br>протяжки  | 2403-2812 | 2403-2813 | 2403-2814 | 2403-2815 | 2403-2816 | 2403-2817 | 2403-2818 | 2403-2819 |         |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
|  | Н7—9Н     | Н8—11Н    | Н7—9Н     | Н8—11Н    | Н7—9Н     | Н8—11Н    | Н7—9Н     | Н8—11Н    |         |
| Сочетание полей<br>допусков<br>D к e   |           |           |           |           |           |           |           |           |         |
| D×m  | 100×5     |           | 105×5     |           | 110×5     |           | 120×5     |           |         |
| Номера и диаметры D <sub>1</sub> зубьев<br>шлицевых<br>фасонных<br>черновых и переходных | 1         | 90,000    | 90,000    | 95,000    | 95,000    | 100,000   | 100,000   | 110,000   | 110,000 |
|  | 2         | 90,190    | 90,190    | 95,190    | 95,190    | 100,190   | 100,190   | 110,190   | 110,190 |
|  | 3         | 90,380    | 90,380    | 95,380    | 95,380    | 100,380   | 100,380   | 110,380   | 110,380 |
|  | 4         | 90,570    | 90,570    | 95,570    | 95,570    | 100,570   | 100,570   | 110,570   | 110,570 |
|  | 5         | 90,760    | 90,760    | 95,760    | 95,760    | 100,760   | 100,760   | 110,760   | 110,760 |
|  | 6         | 90,950    | 90,950    | 95,950    | 95,950    | 100,950   | 100,950   | 110,950   | 110,950 |
|  | 7         | 91,140    | 91,140    | 96,140    | 96,140    | 101,140   | 101,140   | 111,140   | 111,140 |
|  | 8         | 91,330    | 91,330    | 96,330    | 96,330    | 101,330   | 101,330   | 111,330   | 111,330 |
|  | 9         | 91,520    | 91,520    | 96,520    | 96,520    | 101,520   | 101,520   | 111,520   | 111,520 |
|  | 10        | 91,480    | 91,480    | 96,480    | 96,480    | 101,480   | 101,480   | 111,480   | 111,480 |
|  | 11        | 91,670    | 91,670    | 96,670    | 96,670    | 101,670   | 101,670   | 111,670   | 111,670 |
|  | 12        | 91,860    | 91,860    | 96,860    | 96,860    | 101,860   | 101,860   | 111,860   | 111,860 |
|  | 13        | 92,050    | 92,050    | 97,050    | 97,050    | 102,050   | 102,050   | 112,050   | 112,050 |
|  | 14        | 92,240    | 92,240    | 97,240    | 97,240    | 102,240   | 102,240   | 112,240   | 112,240 |
|  | 15        | 92,430    | 92,430    | 97,430    | 97,430    | 102,430   | 102,430   | 112,430   | 112,430 |
|  | 16        | 92,620    | 92,620    | 97,620    | 97,620    | 102,620   | 102,620   | 112,620   | 112,620 |
|  | 17        | 92,810    | 92,810    | 97,810    | 97,810    | 102,810   | 102,810   | 112,810   | 112,810 |
|  | 18        | 93,000    | 93,000    | 98,000    | 98,000    | 103,000   | 103,000   | 113,000   | 113,000 |
|  | 19        | 93,190    | 93,190    | 98,190    | 98,190    | 103,190   | 103,190   | 113,190   | 113,190 |
|  | 20        | 93,380    | 93,380    | 98,380    | 98,380    | 103,380   | 103,380   | 113,380   | 113,380 |
|  | 21        | 93,570    | 93,570    | 98,570    | 98,570    | 103,570   | 103,570   | 113,570   | 113,570 |
|  | 22        | 93,760    | 93,760    | 98,760    | 98,760    | 103,760   | 103,760   | 113,760   | 113,760 |
|  | 23        | 93,950    | 93,950    | 98,950    | 98,950    | 103,950   | 103,950   | 113,950   | 113,950 |
|  | 24        | 94,140    | 94,140    | 99,140    | 99,140    | 104,140   | 104,140   | 114,140   | 114,140 |
|  | 25        | 94,330    | 94,330    | 99,330    | 99,330    | 104,330   | 104,330   | 114,330   | 114,330 |
|  | 26        | 94,520    | 94,520    | 99,520    | 99,520    | 104,520   | 104,520   | 114,520   | 114,520 |
|  | 27        | 94,710    | 94,710    | 99,710    | 99,710    | 104,710   | 104,710   | 114,710   | 114,710 |

## Размеры, мм

| Обозначение<br>протяжки | 2403-2812                            | 2403-2813 | 2403-2814 | 2403-2815 | 2403-2816 | 2403-2817 | 2403-2818 | 2403-2819 |
|-------------------------|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                         | Сочетание полей<br>допусков<br>D и e |           |           |           |           |           |           |           |
|                         | H7-9H                                | H8-11H    | H7-9H     | H8-11H    | H7-9H     | H8-11H    | H7-9H     | H8-11H    |
| D × t                   | 100 × 5                              |           | 105 × 5   |           | 110 × 5   |           | 120 × 5   |           |
| 28                      | 94,900                               | 94,900    | 99,900    | 99,900    | 104,900   | 104,900   | 114,900   | 114,900   |
| 29                      | 95,090                               | 95,090    | 100,090   | 100,090   | 105,090   | 105,090   | 115,090   | 115,090   |
| 30                      | 95,280                               | 95,280    | 100,280   | 100,280   | 105,280   | 105,280   | 115,280   | 115,280   |
| 31                      | 95,470                               | 95,470    | 100,470   | 100,470   | 105,470   | 105,470   | 115,470   | 115,470   |
| 32                      | 95,660                               | 95,660    | 100,660   | 100,660   | 105,660   | 105,660   | 115,660   | 115,660   |
| 33                      | 95,850                               | 95,850    | 100,850   | 100,850   | 105,850   | 105,850   | 115,850   | 115,850   |
| 34                      | 96,040                               | 96,040    | 101,040   | 101,040   | 106,040   | 106,040   | 116,040   | 116,040   |
| 35                      | 96,230                               | 96,230    | 101,230   | 101,230   | 106,230   | 106,230   | 116,230   | 116,230   |
| 36                      | 96,420                               | 96,420    | 101,420   | 101,420   | 106,420   | 106,420   | 116,420   | 116,420   |
| 37                      | 96,610                               | 96,610    | 101,610   | 101,610   | 106,610   | 106,610   | 116,610   | 116,610   |
| 38                      | 96,800                               | 96,800    | 101,800   | 101,800   | 106,800   | 106,800   | 116,800   | 116,800   |
| 39                      | 96,990                               | 96,990    | 101,990   | 101,990   | 106,990   | 106,990   | 116,990   | 116,990   |
| 40                      | 97,180                               | 97,180    | 102,180   | 102,180   | 107,180   | 107,180   | 117,180   | 117,180   |
| 41                      | 97,370                               | 97,370    | 102,370   | 102,370   | 107,370   | 107,370   | 117,370   | 117,370   |
| 42                      | 97,560                               | 97,560    | 102,560   | 102,560   | 107,560   | 107,560   | 117,560   | 117,560   |
| 43                      | 97,750                               | 97,750    | 102,750   | 102,750   | 107,750   | 107,750   | 117,750   | 117,750   |
| 44                      | 97,940                               | 97,940    | 102,940   | 102,940   | 107,940   | 107,940   | 117,940   | 117,940   |
| 45                      | 98,130                               | 98,130    | 103,130   | 103,130   | 108,130   | 108,130   | 118,130   | 118,130   |
| 46                      | 98,320                               | 98,320    | 103,320   | 103,320   | 108,320   | 108,320   | 118,320   | 118,320   |
| 47                      | 98,510                               | 98,510    | 103,510   | 103,510   | 108,510   | 108,510   | 118,510   | 118,510   |
| 48                      | 98,700                               | 98,700    | 103,700   | 103,700   | 108,700   | 108,700   | 118,700   | 118,700   |
| 49                      | 98,890                               | 98,890    | 103,890   | 103,890   | 108,890   | 108,890   | 118,890   | 118,890   |
| 50                      | 99,080                               | 99,080    | 104,080   | 104,080   | 109,080   | 109,080   | 119,080   | 119,080   |
| 51                      | 99,270                               | 99,270    | 104,270   | 104,270   | 109,270   | 109,270   | 119,270   | 119,270   |
| 52                      | 99,460                               | 99,460    | 104,460   | 104,460   | 109,460   | 109,460   | 119,460   | 119,460   |
| 53                      | 99,650                               | 99,650    | 104,650   | 104,650   | 109,650   | 109,650   | 119,650   | 119,650   |
| 54                      | 99,790                               | 99,790    | 104,790   | 104,790   | 109,790   | 109,790   | 119,790   | 119,790   |

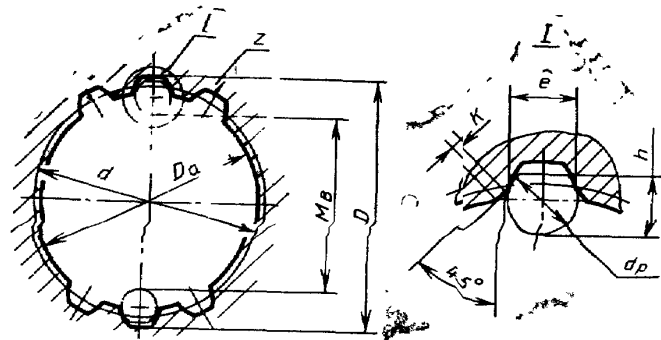
Номера и диаметры D<sub>1</sub> зубьев

шлифовых

черновых и переходных

## Размеры, мм

| Обозначение<br>протяжки  | 2403-2812 | 2403-2813 | 2403-2814 | 2403-2815 | 2403-2816 | 2403-2817 | 2403-2818 | 2403-2819 |         |         |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|
| Сочетание полей<br>допусков<br>D и e   | H7—9H     | H8—11H    | H7—9H     | H8—11H    | H7—9H     | H8—12H    | H6—9H     | H8—11H    |         |         |
| D×m  | 100×5     |           | 105×5     |           | 110×5     |           | 120×5     |           |         |         |
| Номера и диаметры D <sub>1</sub> зубьев<br>шлицевых<br>калибрующих<br>шлицевых | чистовых  | 55        | 99,890    | 99,890    | 104,890   | 104,890   | 109,890   | 109,890   | 119,890 | 119,890 |
|  |           | 56        | 99,950    | 99,950    | 104,950   | 104,950   | 109,950   | 109,950   | 119,950 | 119,950 |
|  |           | 57        | 99,980    | 99,980    | 104,980   | 104,980   | 109,980   | 109,980   | 119,980 | 119,980 |
|  |           | 58        | 100,000   | 100,010   | 105,000   | 105,010   | 110,000   | 110,010   | 120,000 | 120,010 |
|  |           | 59        | 100,020   | 100,035   | 105,020   | 105,035   | 110,020   | 110,035   | 120,020 | 120,035 |
|  |           | 60        | 100,035   | 100,054   | 105,035   | 105,054   | 110,035   | 110,054   | 120,035 | 120,054 |
|  | шлицевых  | 61        | 100,035   | 100,054   | 105,035   | 105,054   | 110,035   | 110,054   | 120,035 | 120,054 |
|  |           | 62        |           |           |           |           |           |           |         |         |
|  |           | 63        |           |           |           |           |           |           |         |         |
|  |           | 64        |           |           |           |           |           |           |         |         |
|  |           | 65        |           |           |           |           |           |           |         |         |
|  |           | 66        |           |           |           |           |           |           |         |         |
|  |           |           |           |           |           |           |           |           |         |         |
|  |           |           |           |           |           |           |           |           |         |         |



Черт. 2

Размеры, мм

Таблица 5

| Обозначение<br>протяжки | D × h  | r      | Сочетание<br>полей<br>допусков<br>D и e | d      | e      | D <sub>g</sub><br>(поле до-<br>пуска<br>H11) | k                 | d <sub>p</sub>    | k   | M <sub>B</sub> |                 | Длина<br>протяжки                       |                             | Усилия протягивания P, H<br>(кгс) при переднем угле |                   |                   |                   |
|-------------------------|--------|--------|---|--------|--------|--|-------------------|-------------------|-----|----------------|-----------------|---|-----------------------------|---|-------------------|-------------------|-------------------|
|                         |        |        |   |        |        |  |                   |                   |     | Наим.          | Верхн.<br>откл. | Сталь и<br>алюминие-<br>вые спла-<br>вы | Чугун,<br>бронза,<br>латунь | 20°   | 15°               | 10°               |                   |
|                         |        |        |   |        |        |  |                   |                   |     |                |                 |   |                             |   |                   |                   | 35—82             |
| 2403-2532; 2403-2533    | 55 × 3 | 17     | H7—9H                                   | 51,0   | 5,117  | 49   |                   |                   |     | —              | 43,193          | +0,101                                  | 35—82                       | 35—100  | 150800<br>(15370) | 165000<br>(16820) | 177400<br>(18080) |
| 2403-2534; 2403-2535    |        |        | H8—11H                                  |        |        |  |                   |                   |     |                | 43,254          | +0,199                                  |                             |   |                   |                   |                   |
| 2403-2536; 2403-2537    |        |        | H7—9H                                   |        |        |  |                   |                   |     |                | 43,193          | +0,101                                  | 45—110                      | 45—130  | 157900<br>(16100) | 172750<br>(17610) | 185700<br>(18930) |
| 2403-2538; 2403-2539    |        |        | H8—11H                                  |        |        |  |                   |                   |     |                | 43,254          | +0,199                                  |                             |   |                   |                   |                   |
| 2403-2541; 2403-2542    | 60 × 3 | 18     | H7—9H                                   | 54,0   | 6,271  | 54   | 0,45              | 5,455             | 5,2 | 48,549         | +0,086          | 35—82                                   | 35—100                      | 164800<br>(16800)                                   | 180300<br>(18380) | 193850<br>(19760) |                   |
| 2403-2543; 2403-2544    |        |        | H8—11H                                  |        |        |  |                   |                   |     | 48,600         | +0,172          |   |                             |   |                   |                   |                   |
| 2403-2545; 2403-2546    |        |        | H7—9H                                   |        |        |  |                   |                   |     | 48,549         | +0,086          | 45—120                                  | 45—145                      | 192700<br>(19640)                                   | 210800<br>(21490) | 226650<br>(23100) |                   |
| 2403-2547; 2403-2548    |        |        | H8—11H                                  |        |        |  |                   |                   |     | 48,600         | +0,172          |   |                             |   |                   |                   |                   |
| 2403-2549; 2403-2551    |        |        | H7—9H                                   |        |        |  |                   |                   |     | 53,522         | +0,091          | 35—82                                   | 35—100                      | 182800<br>(18640)                                   | 200050<br>(20390) | 215050<br>(21920) |                   |
| 2403-2552; 2403-2553    |        |        | H8—11H                                  |        |        |  |                   |                   |     | 53,577         | +0,182          |   |                             |   |                   |                   |                   |
| 2403-2554; 2403-2555    | H7—9H  | 53,522 | +0,091                                  | 45—120 | 45—145 | 191800<br>(19550)                            | 209850<br>(21390) | 225600<br>(23000) |     |                |                 |   |                             |   |                   |                   |                   |
| 2403-2556; 2403-2557    | H8—11H | 53,577 | +0,182                                  |        |        |  |                   |                   |     |                |                 |   |                             |   |                   |                   |                   |

## Размеры, мм

Продолжение табл. 5

| Обозначение<br>протяжки | D×t    | e      | Сочетание<br>полей<br>допусков<br>D и e | d      | e      | D <sub>a</sub><br>(поле до-<br>пуска<br>H11) | k    | d <sub>p</sub> | h   | M <sub>B</sub>    |                   | Длина<br>протягивания                   |                             | Усилия протягивания P, Н<br>(кгс) при переднем угле |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-------------------------|--------|--------|---|--------|--------|--|------|----------------|-----|-------------------|-------------------|---|-----------------------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                         |        |        |   |        |        |  |      |                |     | Наим.             | Верхн.<br>откл.   | Сталь и<br>алюминие-<br>вые спла-<br>вы | Чугун,<br>бронза,<br>латунь | 20°   | 15°               | 10°               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2558; 2403-2559    | 70×3   | 22     | H7—9H                                   | 66,00  | 5,117  | 64   | 0,45 | 5,455          | 5,2 | 58,442            | +0,097            | 35—96                                   | 35—110                      | 216700<br>(22090)                                   | 237100<br>(24170) | 254900<br>(25980) |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2561; 2403-2562    |        |        | H8—11H                                  |        |        |  |      |                |     | 58,500            | +0,192            |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2563; 2403-2564    | H7—9H  | 58,442 | +0,097                                  | 45—140 | 45—170 | 261900<br>(26700)                            |      |                |     | 286550<br>(29210) | 308050<br>(31400) |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2565; 2403-2566    | H8—11H |        | 58,500                                  |        |        |  |      |                |     |                   |                   | +0,192                                  |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2567; 2403-2568    | 75×3   | 24     | H7—9H                                   | 72,0   | 4,539  | 69   |      |                |     | 0,45              | 5,455             | 5,2                                     | 63,308                      | +0,102  | 35—96             | 35—110            | 234400<br>(23890) | 256450<br>(26140) | 275650<br>(28100) |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2569; 2403-2571    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   | 63,369                      | +0,203  |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2572; 2403-2573    | H7—9H  | 63,308 | +0,102                                  | 45—140 | 45—170 | 268550<br>(27380)                            |      |                |     |                   |                   |   | 293800<br>(29950)           | 315850<br>(32200)                                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2574; 2403-2575    | H8—11H |        | 63,369                                  |        |        |  |      |                |     |                   |                   |   |                             |   | +0,203            |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2576; 2403-2577    | 80×3   | 25     | H7—9H                                   | 75,0   | 5,694  | 74   |      |                |     |                   |                   |   | 0,45                        | 5,455   | 5,2               | 68,382            | +0,090            | 35—96             | 35—110            | 251950<br>(25680) | 275650<br>(28100) | 296350<br>(30210) |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2578; 2403-2579    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   | 68,436            | +0,179            |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2581; 2403-2582    | H7—9H  | 68,382 | +0,090                                  | 45—150 | 45—180 | 304650<br>(31060)                            |      |                |     |                   |                   |   |                             |   |                   | 333350<br>(33980) | 358350<br>(36530) |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2583; 2403-2584    | H8—11H |        | 68,436                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   | +0,179            |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2585; 2403-2586    | 85×3   | 27     | H7—9H                                   | 81,0   | 5,117  | 79   |      |                |     |                   |                   |   |                             |   |                   | 0,45              | 5,455             | 5,2               | 73,332            | +0,094            | 35—96             | 35—110            | 265300<br>(27050) | 290300<br>(29590) | 312050<br>(31810) |                   |                   |                   |                   |                   |                   |
| 2403-2587; 2403-2588    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   | 73,388            | +0,188            |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2589; 2403-2591    | H7—9H  | 73,332 | +0,094                                  | 45—150 | 45—180 | 320800<br>(32700)                            |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   | 351000<br>(35780) | 377350<br>(38470) |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2592; 2403-2593    | H8—11H |        | 73,388                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   | +0,188            |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2594; 2403-2595    | 90×3   | 28     | H7—9H                                   | 84,0   | 6,271  | 84   |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   | 0,45              | 5,455             | 5,2               | 78,549            | +0,086            | 35—96             | 35—110            | 286300<br>(29190) | 313250<br>(31930) | 336750<br>(34330) |                   |                   |                   |
| 2403-2596; 2403-2597    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   | 78,601            | +0,172            |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2598               | H7—9H  | 78,549 | +0,086                                  | 45—150 | 45—180 | 310500<br>(31650)                            |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   | 339700<br>(34630) | 365200<br>(37230) |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2599               | H8—11H |        | 78,601                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   | +0,172            |                   |                   |                   |                   |                   |                   |                   |
| 2403-2601; 2403-2602    | 95×3   | 30     | H7—9H                                   | 90,0   | 5,694  | 89   | 0,45 | 5,455          | 5,2 |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   | 83,531            | +0,090            |                   |                   | 300200<br>(30600) | 328450<br>(33480) | 353100<br>(35990) |                   |                   |                   |
| 2403-2603; 2403-2604    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   | 83,585            | +0,179            |                   |                   |                   |                   |                   |                   |                   |                   |
| 2403-2605; 2403-2606    | 100×3  | 32     | H7—9H                                   | 96,0   | 5,117  | 94   |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   | 0,45              | 5,455             | 5,2               | 88,479            | +0,094            | 35—96             | 35—110            | 320300<br>(32650) | 350400<br>(35720) | 376700<br>(38400) |
| 2403-2607; 2403-2608    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | 88,536            | +0,185            |                   |                   |                   |                   |                   |
| 2403-2609; 2403-2611    | 105×3  | 34     | H7—9H                                   | 102,0  | 4,539  | 99   |      |                |     | 0,45              | 5,455             | 5,2                                     |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | 93,400            | +0,108            |                   |                   | 333650<br>(34010) | 365050<br>(37210) | 392400<br>(40000) |
| 2403-2612; 2403-2613    |        |        | H8—11H                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | 93,466            | +0,214            |                   |                   |                   |                   |                   |
| 2403-2614               | H7—9H  | 93,400 | +0,108                                  | 45—150 | 45—180 | 382500<br>(38990)                            |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | 418500<br>(42660) | 449900<br>(45860) |                   |                   |                   |                   |                   |
| 2403-2615               | H8—11H |        | 93,466                                  |        |        |  |      |                |     |                   |                   |   |                             |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   | +0,214            |                   |                   |                   |                   |

## Размеры, мм

| Обозначение<br>протяжки | D×t    | z  | Сочетание<br>полей<br>допусков<br>D и e | d     | e     | D <sub>z</sub><br>(поле до-<br>пуска<br>H11) | k    | d <sub>p</sub> | h   | M <sub>B</sub> |                 | Длина<br>протягивания                 |                             | Усилия протягивания P, H<br>(кгс) при переднем угле |                   |                   |
|-------------------------|--------|----|---|-------|-------|--|------|----------------|-----|----------------|-----------------|---------------------------------------|-----------------------------|---|-------------------|-------------------|
|                         |        |    |   |       |       |  |      |                |     | Наим.          | Верхн.<br>откл. | Сталь и<br>алюминие-<br>вые<br>сплавы | Чугун,<br>бронза,<br>латунь | 20°   | 15°               | 10°               |
| 2403-2616; 2403-2617    | 110×3  | 35 | H7-9H                                   | 105,0 | 5,694 | 104  |      | 5,455          | 5,2 | 98,437         | +0,099          |                                       |                             | 350050<br>(35680)                                   | 383000<br>(39040) | 411700<br>(41970) |
| 2403-2618; 2403-2619    |        |    | H8-11H                                  |       |       |  |      |                |     | 98,497         | +0,199          |                                       |                             |   |                   |                   |
| 2403-2621; 2403-2622    | 120×3  | 38 | H7-9H                                   | 114,0 | 6,271 | 114  | 0,45 | 6,212          | —   | 106,253        | +0,101          | 35-96                                 | 35-110                      | 381800<br>(38920)                                   | 417700<br>(42580) | 449050<br>(45780) |
| 2403-2623; 2403-2624    |        |    | H8-11H                                  |       |       |  |      |                |     | 106,314        | +0,202          |                                       |                             |   |                   |                   |
| 2403-2625; 2403-2626    | 130×3  | 42 | H7-9H                                   | 126,0 | 5,117 | 124  |      | 5,455          | 5,2 | 118,505        | +0,103          |                                       |                             | 396850<br>(40460)                                   | 434200<br>(44260) | 466750<br>(47580) |
| 2403-2627; 2403-2628    |        |    | H8-11H                                  |       |       |  |      |                |     | 118,567        | +0,204          |                                       |                             |   |                   |                   |
| 2403-2629; 2403-2631    | 55×3,5 | 14 | H7-9H                                   | 49,0  | 6,739 | 48   |      | 6,518          | —   | 41,101         | +0,086          | 35-82                                 | 35-100                      | 145900<br>(14670)                                   | 159600<br>(16270) | 171600<br>(17490) |
| 2403-2632; 2403-2633    |        |    | H8-11H                                  |       |       |  |      |                |     | 41,147         | +0,170          |                                       |                             |   |                   |                   |
| 2403-2634; 2403-2635    |        |    | H7-9H                                   |       |       |  |      |                |     | 41,101         | +0,086          | 45-110                                | 45-130                      | 152800<br>(15580)                                   | 167150<br>(17040) | 179700<br>(18320) |
| 2403-2636; 2403-2637    |        |    | H8-11H                                  |       |       |  |      |                |     | 41,147         | +0,170          |                                       |                             |   |                   |                   |
| 2403-2638; 2403-2639    | 60×3,5 | 16 | H7-9H                                   | 56,0  | 5,584 | 53   |      | 6,212          | 5,8 | 46,823         | +0,106          | 35-82                                 | 35-100                      | 163000<br>(16620)                                   | 178350<br>(18180) | 191750<br>(19550) |
| 2403-2641; 2403-2642    |        |    | H8-11H                                  |       |       |  |      |                |     | 46,887         | +0,210          |                                       |                             |   |                   |                   |
| 2403-2643; 2403-2644    |        |    | H7-9H                                   |       |       |  |      |                |     | 46,823         | +0,106          | 45-120                                | 45-145                      | 190600<br>(19430)                                   | 208550<br>(21260) | 224200<br>(22860) |
| 2403-2645; 2403-2646    |        |    | H8-11H                                  |       |       |  |      |                |     | 46,887         | +0,210          |                                       |                             |   |                   |                   |
| 2403-2647; 2403-2648    | 65×3,5 | 18 | H7-9H                                   | 63,0  | 4,430 | 58   | 0,52 |                | —   | 51,143         | +0,138          | 35-82                                 | 35-100                      | 171950<br>(17530)                                   | 188150<br>(19180) | 202250<br>(20620) |
| 2403-2649; 2403-2651    |        |    | H8-11H                                  |       |       |  |      |                |     | 51,226         | +0,271          |                                       |                             |   |                   |                   |
| 2403-2652; 2403-2653    |        |    | H7-9H                                   |       |       |  |      |                |     | 51,143         | +0,138          | 45-120                                | 45-145                      | 193650<br>(19740)                                   | 211900<br>(21600) | 227800<br>(23220) |
| 2403-2654; 2403-2655    |        |    | H8-11H                                  |       |       |  |      |                |     | 51,226         | +0,271          |                                       |                             |   |                   |                   |
| 2403-2656; 2403-2657    | 70×3,5 |    | H7-9H                                   |       | 7,316 | 63   |      | 6,518          |     | 56,167         | +0,088          | 35-96                                 | 35-110                      | 187300<br>(19090)                                   | 204950<br>(20890) | 220300<br>(22460) |
| 2403-2658; 2403-2659    |        |    | H8-11H                                  |       |       |  |      |                |     | 56,220         | +0,174          |                                       |                             |   |                   |                   |
| 2403-2661; 2403-2662    | 75×3,5 | 20 | H7-9H                                   | 70,0  | 6,162 | 68   |      |                | 5,8 | 62,018         | +0,094          | 35-96                                 | 35-110                      | 231400<br>(23590)                                   | 253200<br>(25810) | 272200<br>(27750) |
| 2403-2663; 2403-2664    |        |    | H8-11H                                  |       |       |  |      |                |     | 62,074         | +0,188          |                                       |                             |   |                   |                   |
| 2403-2665; 2403-2666    |        |    | H7-9H                                   |       |       |  |      |                |     | 62,018         | +0,094          | 45-140                                | 45-170                      | 265150<br>(27030)                                   | 290100<br>(29570) | 311850<br>(31790) |
| 2403-2667; 2403-2668    |        |    | H8-11H                                  |       |       |  |      |                |     | 62,074         | +0,188          |                                       |                             |   |                   |                   |
| 2403-2669; 2403-2671    | 80×3,5 | 22 | H7-9H                                   | 77,0  | 5,007 | 73   |      | 6,212          | 5,8 | 66,727         | +0,107          | 35-96                                 | 35-110                      | 243450<br>(24820)                                   | 266350<br>(27150) | 286300<br>(29190) |
| 2403-2672; 2403-2673    |        |    | H8-11H                                  |       |       |  |      |                |     | 66,791         | +0,211          |                                       |                             |   |                   |                   |

## Размеры, мм

| Обозначение<br>протяжки | D×t     | z  | Сочетание<br>полей<br>допусков<br>D и e | d     | e     | D <sub>а</sub><br>(поле до-<br>пуска<br>Н11) | h    | d <sub>p</sub> | h       | M <sub>B</sub> |                 | Длина<br>протягивания                 |                             | Усилие протягивания P, Н<br>(кгс) при переднем угле |                   |                   |
|-------------------------|---------|----|---|-------|-------|--|------|----------------|---------|----------------|-----------------|---------------------------------------|-----------------------------|---|-------------------|-------------------|
|                         |         |    |   |       |       |  |      |                |         | Наим.          | Верхн.<br>откл. | Сталь и<br>алюминие-<br>вые<br>сплавы | Чугун,<br>бронза,<br>латунь | 20°   | 15°               | 10°               |
| 2403-2674               | 80×3,5  | 22 | H7-9H                                   | 77,0  | 5,007 | 73   |      | 6,212          | 5,8     | 66,727         | +0,107          | 45-150                                | 45-180                      | 294100<br>(29980)                                   | 321750<br>(32800) | 345900<br>(35260) |
| 2403-2675               |         |    | H8-11H                                  |       |       |  |      |                |         | 66,791         | +0,211          |                                       |                             |   |                   |                   |
| 2403-2676; 2403-2677    | 85×3,5  | 24 | H7-9H                                   | 84,0  | 3,582 | 78   |      | 5,455          | 5,2     | 73,928         | +0,108          | 35-96                                 | 35-110                      | 256250<br>(26120)                                   | 280350<br>(28580) | 301400<br>(30730) |
| 2403-2678; 2403-2679    |         |    | H8-11H                                  |       |       |  |      |                |         | 73,993         | +0,214          |                                       |                             |   |                   |                   |
| 2403-2681               |         |    | H7-9H                                   |       |       |  |      |                |         | 73,928         | +0,108          | 45-150                                | 45-180                      | 309700<br>(31570)                                   | 338850<br>(34540) | 364250<br>(37130) |
| 2403-2682               |         |    | H8-11H                                  |       |       |  |      |                |         | 73,993         | +0,214          |                                       |                             |   |                   |                   |
| 2403-2683; 2403-2684    | 90×3,5  | 24 | H7-9H                                   | 84,0  | 6,739 | 83   |      | 5,8            | 77,079  | +0,089         | 35-96           | 35-110                                | 282350<br>(28780)           | 308900<br>(31490)                                   | 332100<br>(33850) |                   |
| 2403-2685; 2403-2686    |         |    | H8-11H                                  |       |       |  |      |                | 77,132  | +0,177         |                 |                                       |                             |   |                   |                   |
| 2403-2687               |         |    | H7-9H                                   |       |       |  |      |                | 77,079  | +0,089         | 45-150          | 45-180                                | 303400<br>(30930)           | 331950<br>(33840)                                   | 356900<br>(36380) |                   |
| 2403-2688               |         |    | H8-11H                                  |       |       |  |      |                | 77,132  | +0,177         |                 |                                       |                             |   |                   |                   |
| 2403-2689; 2403-2691    | 95×3,5  | 26 | H7-9H                                   | 91,0  | 5,584 | 88   |      | 6,212          | 81,945  | +0,097         |                 |                                       | 294300<br>(30000)           | 321950<br>(32820)                                   | 346100<br>(35280) |                   |
| 2403-2692; 2403-2693    |         |    | H8-11H                                  |       |       |  |      |                | 82,003  | +0,184         |                 |                                       |                             |   |                   |                   |
| 2403-2694; 2403-2695    | 100×3,5 | 28 | H7-9H                                   | 98,0  | 4,430 | 93   | 0,52 |                | 86,631  | +0,107         |                 |                                       | 310400<br>(31640)           | 339600<br>(34620)                                   | 365100<br>(37220) |                   |
| 2403-2696; 2403-2697    |         |    | H8-11H                                  |       |       |  |      |                | 86,695  | +0,212         |                 |                                       |                             |   |                   |                   |
| 2403-2698; 2403-2699    | 105×3,5 | 29 | H7-9H                                   | 101,5 | 5,296 | 98   |      |                | 91,771  | +0,109         |                 |                                       | 329800<br>(33620)           | 360800<br>(36780)                                   | 387900<br>(39540) |                   |
| 2403-2701; 2403-2702    |         |    | H8-11H                                  |       |       |  |      |                | 91,837  | +0,217         |                 |                                       |                             |   |                   |                   |
| 2403-2703; 2403-2704    | 110×3,5 | 30 | H7-9H                                   | 105,0 | 6,162 | 103  |      | 6,518          | 96,092  | +0,105         | 35-96           | 35-110                                | 346100<br>(35280)           | 378650<br>(38600)                                   | 407100<br>(41500) |                   |
| 2403-2705; 2403-2706    |         |    | H8-11H                                  |       |       |  |      |                | 96,156  | +0,208         |                 |                                       |                             |   |                   |                   |
| 2403-2707; 2403-2708    | 120×3,5 | 34 | H7-9H                                   | 119,0 | 3,852 | 113  |      | 6,212          | 106,542 | +0,119         |                 |                                       | 371850<br>(37910)           | 406800<br>(41470)                                   | 437350<br>(44580) |                   |
| 2403-2709; 2403-2711    |         |    | H8-11H                                  |       |       |  |      |                | 106,614 | +0,237         |                 |                                       |                             |   |                   |                   |
| 2403-2712; 2403-2713    | 130×3,5 | 36 | H7-9H                                   | 126,0 | 5,584 | 123  |      | 5,8            | 116,997 | +0,105         |                 |                                       | 394150<br>(40180)           | 431250<br>(43960)                                   | 463600<br>(47260) |                   |
| 2403-2714; 2403-2715    |         |    | H8-11H                                  |       |       |  |      |                | 117,060 | +0,186         |                 |                                       |                             |   |                   |                   |
| 2403-2716; 2403-2717    | 60×4    | 13 | H7-9H                                   | 52,0  | 8,362 | 52   | 0,60 | 7,000          | -       | 45,144         | +0,084          | 36-82                                 | 36-100                      | 158950<br>(16210)                                   | 173950<br>(17730) | 187000<br>(19060) |
| 2403-2718; 2403-2719    |         |    | H8-11H                                  |       |       |  |      |                |         | 45,195         | +0,165          |                                       |                             |   |                   |                   |
| 2403-2721; 2403-2722    |         |    | H7-9H                                   |       |       |  |      |                |         | 45,144         | +0,084          | 45-110                                | 45-130                      | 185700<br>(18930)                                   | 203150<br>(20710) | 218400<br>(22260) |
| 2403-2723; 2403-2724    |         |    | H8-11H                                  |       |       |  |      |                |         | 45,195         | +0,165          |                                       |                             |   |                   |                   |

| Обозначение<br>протяжки | D×m   | z  | Сочетание<br>полей<br>допусков<br>D и e | d    | e     | D <sub>a</sub><br>(поле<br>допуска<br>H11) | k    | d <sub>p</sub> | h   | M <sub>B</sub> |                 | Длина<br>протягивания                 |                             | Усилие протягивания P, Н<br>(кгс) при переднем угле |                   |                   |
|-------------------------|-------|----|---|------|-------|--|------|----------------|-----|----------------|-----------------|---------------------------------------|-----------------------------|---|-------------------|-------------------|
|                         |       |    |   |      |       |  |      |                |     | Наим.          | Верхн.<br>откл. | Сталь и<br>алюми-<br>ниевые<br>сплавы | Чугун,<br>бронза,<br>латунь | 20°   | 15°               | 10°               |
|                         |       |    |   |      |       |  |      |                |     |                |                 |                                       |                             |   |                   |                   |
| 2403-2725; 2403-2726    | 65×4  | 15 | H7-9H                                   | 60,0 | 6,630 | 57   | 0,60 | 7,000          | 6,6 | 50,026         | +0,102          | 36-82                                 | 36-100                      | 171000<br>(17430)                                   | 187100<br>(19070) | 201100<br>(20500) |
| 2403-2727; 2403-2728    |       |    | H8-11H                                  |      |       |  |      |                |     | 50,087         | +0,202          |                                       |                             |   |                   |                   |
| 2403-2729; 2403-2731    |       |    | H7-9H                                   |      |       |  |      |                |     | 50,026         | +0,102          | 45-110                                | 45-130                      | 189300<br>(19300)                                   | 207100<br>(21110) | 222650<br>(22690) |
| 2403-2732; 2403-2733    |       |    | H8-11H                                  |      |       |  |      |                |     | 50,087         | +0,202          |                                       |                             |   |                   |                   |
| 2403-2734; 2403-2735    | 70×4  | 16 | H7-9H                                   | 64,0 | 7,207 | 62   | 0,60 | 7,000          | 6,6 | 55,478         | +0,093          | 36-82                                 | 36-100                      | 190800<br>(19450)                                   | 208750<br>(21280) | 224400<br>(22880) |
| 2403-2736; 2403-2737    |       |    | H8-11H                                  |      |       |  |      |                |     | 55,534         | +0,186          |                                       |                             |   |                   |                   |
| 2403-2738; 2403-2739    | 75×4  | 17 | H7-9H                                   | 68,0 | 7,784 | 67   | 0,60 | 7,000          | 6,6 | 60,241         | +0,088          | 36-88                                 | 36-105                      | 238700<br>(24330)                                   | 261150<br>(26620) | 280750<br>(28620) |
| 2403-2741; 2403-2742    |       |    | H8-11H                                  |      |       |  |      |                |     | 60,294         | +0,175          |                                       |                             |   |                   |                   |
| 2403-2743; 2403-2744    |       |    | H7-9H                                   |      |       |  |      |                |     | 60,241         | +0,088          | 45-110                                | 45-130                      | 239150<br>(24380)                                   | 261650<br>(26670) | 281250<br>(28670) |
| 2403-2745; 2403-2746    |       |    | H8-11H                                  |      |       |  |      |                |     | 60,294         | +0,175          |                                       |                             |   |                   |                   |
| 2403-2747; 2403-2748    | 80×4  | 18 | H7-9H                                   | 72,0 | 8,362 | 72   | 0,60 | 7,000          | 6,6 | 65,530         | +0,084          | 36-88                                 | 36-105                      | 253550<br>(25850)                                   | 277450<br>(28280) | 298250<br>(30400) |
| 2403-2749; 2403-2751    |       |    | H8-11H                                  |      |       |  |      |                |     | 65,580         | +0,169          |                                       |                             |   |                   |                   |
| 2403-2752; 2403-2753    |       |    | H7-9H                                   |      |       |  |      |                |     | 65,530         | +0,084          | 45-110                                | 45-130                      | 253850<br>(25880)                                   | 277700<br>(28310) | 298550<br>(30430) |
| 2403-2754; 2403-2755    |       |    | H8-11H                                  |      |       |  |      |                |     | 65,580         | +0,169          |                                       |                             |   |                   |                   |
| 2403-2756; 2403-2757    | 85×4  | 20 | H7-9H                                   | 80,0 | 6,630 | 77   | 0,60 | 7,000          | 6,6 | 70,400         | +0,097          | 36-88                                 | 36-105                      | 274450<br>(27980)                                   | 300300<br>(30610) | 322800<br>(32910) |
| 2403-2758; 2403-2759    |       |    | H8-11H                                  |      |       |  |      |                |     | 70,458         | +0,193          |                                       |                             |   |                   |                   |
| 2403-2761; 2403-2762    |       |    | H7-9H                                   |      |       |  |      |                |     | 70,400         | +0,097          | 45-110                                | 45-130                      | 274800<br>(28020)                                   | 300700<br>(30650) | 323250<br>(32950) |
| 2403-2763; 2403-2764    |       |    | H8-11H                                  |      |       |  |      |                |     | 70,458         | +0,193          |                                       |                             |   |                   |                   |
| 2403-2765; 2403-2766    | 90×4  | 21 | H7-9H                                   | 84,0 | 7,207 | 82   | 0,60 | 7,000          | 6,6 | 75,262         | +0,092          | 36-88                                 | 36-105                      | 292300<br>(29800)                                   | 319800<br>(32600) | 343800<br>(35050) |
| 2403-2767; 2403-2768    |       |    | H8-11H                                  |      |       |  |      |                |     | 75,317         | +0,182          |                                       |                             |   |                   |                   |
| 2403-2769; 2403-2771    |       |    | H7-9H                                   |      |       |  |      |                |     | 75,262         | +0,092          | 45-110                                | 45-130                      | 292650<br>(29830)                                   | 320200<br>(32640) | 344200<br>(35090) |
| 2403-2772; 2403-2773    |       |    | H8-11H                                  |      |       |  |      |                |     | 75,317         | +0,182          |                                       |                             |   |                   |                   |
| 2403-2774; 2403-2775    | 95×4  | 22 | H7-9H                                   | 88,0 | 7,784 | 87   | 0,60 | 7,000          | 6,6 | 80,530         | +0,088          | 36-88                                 | 36-105                      | 307000<br>(31300)                                   | 335900<br>(34240) | 361100<br>(36810) |
| 2403-2776; 2403-2777    |       |    | H8-11H                                  |      |       |  |      |                |     | 80,583         | +0,175          |                                       |                             |   |                   |                   |
| 2403-2778; 2403-2779    | 100×4 | 24 | H7-9H                                   | 96,0 | 6,052 | 92   | 0,60 | 7,000          | 6,6 | 85,302         | +0,099          | 36-88                                 | 36-105                      | 310050<br>(31610)                                   | 339250<br>(34580) | 364700<br>(37180) |
| 2403-2781; 2403-2782    |       |    | H8-11H                                  |      |       |  |      |                |     | 85,362         | +0,198          |                                       |                             |   |                   |                   |



## Размеры, мм

Продолжение табл. 5

С. 65 ГОСТ 28050—89

| Обозначение<br>протяжки | D×m   | z  | Сочетание<br>полей<br>допусков<br>D и e | d     | e      | D <sub>a</sub><br>(поле<br>допуска<br>Н11) | k    | d <sub>p</sub> | h   | M <sub>B</sub> |                 | Длина<br>протягивания                 |                             | Усилие протягивания P, H (кгс)<br>при переднем угле |                   |                   |
|-------------------------|-------|----|---|-------|--------|--|------|----------------|-----|----------------|-----------------|---------------------------------------|-----------------------------|---|-------------------|-------------------|
|                         |       |    |   |       |        |  |      |                |     | Наим.          | Верхн.<br>откл. | Сталь и<br>алюми-<br>ниевые<br>сплавы | Чугун,<br>бронза,<br>латунь | 20°   | 15°               | 10°               |
| 2403-2783; 2403-2784    | 105×4 | 25 | H7—9H                                   | 100,0 | 6,630  | 97   |      |                |     | 90,239         | +0,094          | 36—88                                 | 36—105                      | 343950<br>(35060)                                   | 376300<br>(38360) | 404550<br>(41240) |
| 2403-2785; 2403-2786    |       |    | H8—11H                                  |       |        |  |      |                |     | 90,295         | +0,188          |                                       |                             |   |                   |                   |
| 2403-2787; 2403-2788    | 110×4 | 26 | H7—9H                                   | 104,0 | 7,207  | 102  | 0,60 | 7,000          | 6,6 | 95,508         | +0,102          | 36—88                                 | 36—105                      | 360550<br>(36750)                                   | 394450<br>(40210) | 424050<br>(43230) |
| 2403-2789; 2403-2791    |       |    | H8—11H                                  |       |        |  |      |                |     | 95,570         | +0,202          |                                       |                             |   |                   |                   |
| 2403-2792; 2403-2793    | 120×4 | 28 | H7—9H                                   | 112,0 | 8,362  | 112  |      |                |     | 105,538        | +0,096          | 36—88                                 | 36—105                      | 379650<br>(38700)                                   | 415350<br>(42340) | 446500<br>(45520) |
| 2403-2794; 2403-2795    |       |    | H8—11H                                  |       |        |  |      |                |     | 105,596        | +0,191          |                                       |                             |   |                   |                   |
| 2403-2796               | 130×4 | 31 | H7—9H                                   | 124,0 | 7,207  | 122  |      |                |     | 115,357        | +0,100          | 36—88                                 | 36—105                      | 387950<br>(39550)                                   | 424500<br>(43270) | 456350<br>(46520) |
| 2403-2797               |       |    | H8—11H                                  |       |        |  |      |                |     | 115,418        | +0,200          |                                       |                             |   |                   |                   |
| 2403-2798               | 70×5  | 12 | H7—9H                                   | 60,0  |        | 60   |      |                |     | 52,078         | +0,093          | 36—82                                 | 36—100                      | 169100<br>(18860)                                   | 202400<br>(20630) | 217550<br>(22180) |
| 2403-2799               |       |    | H8—11H                                  |       |        |  |      |                |     | 52,135         | +0,185          |                                       |                             |   |                   |                   |
| 2403-2801               | 75×5  | 13 | H7—9H                                   | 65,0  |        | 65   |      |                |     | 56,599         | +0,093          | 36—82                                 | 36—100                      | 227750<br>(23220)                                   | 249150<br>(25400) | 267850<br>(27310) |
| 2403-2802               |       |    | H8—11H                                  |       |        |  |      |                |     | 56,656         | +0,185          |                                       |                             |   |                   |                   |
| 2403-2803               | 80×5  | 14 | H7—9H                                   | 70,0  | 10,452 | 70   | 0,75 | 8,690          | 8,3 | 62,080         | +0,094          | 36—82                                 | 36—100                      | 242450<br>(24720)                                   | 265250<br>(27040) | 285150<br>(29070) |
| 2403-2804               |       |    | H8—11H                                  |       |        |  |      |                |     | 62,137         | +0,187          |                                       |                             |   |                   |                   |
| 2403-2805               | 85×5  | 15 | H7—9H                                   | 75,0  |        | 75   |      |                |     | 66,665         | +0,094          | 36—82                                 | 36—100                      | 257250<br>(26220)                                   | 281450<br>(28690) | 302550<br>(30840) |
| 2403-2806               |       |    | H8—11H                                  |       |        |  |      |                |     | 66,722         | +0,187          |                                       |                             |   |                   |                   |
| 2403-2807               | 90×5  | 16 | H7—9H                                   | 80,0  |        | 80   |      |                | 8,3 | 72,081         | +0,095          | 36—82                                 | 36—100                      | 281450<br>(28690)                                   | 307950<br>(31390) | 331050<br>(33750) |
| 2403-2808               |       |    | H8—11H                                  |       |        |  |      |                |     | 72,138         | +0,188          |                                       |                             |   |                   |                   |
| 2403-2809               | 95×5  | 18 | H7—9H                                   | 90,0  | 7,565  | 85   |      |                |     | 76,694         | +0,118          | 38—90                                 | 38—105                      | 305100<br>(31100)                                   | 333850<br>(34030) | 358900<br>(36580) |
| 2403-2811               |       |    | H8—11H                                  |       |        |  |      |                |     | 76,766         | +0,235          |                                       |                             |   |                   |                   |
| 2403-2812               | 100×5 | 18 | H7—9H                                   | 90,0  | 10,452 | 90   |      |                | 8,3 | 82,082         | +0,095          | 38—90                                 | 38—105                      | 311200<br>(31730)                                   | 340500<br>(34710) | 366050<br>(37310) |
| 2403-2813               |       |    | H8—11H                                  |       |        |  |      |                |     | 82,140         | +0,188          |                                       |                             |   |                   |                   |
| 2403-2814               | 105×5 | 20 | H7—9H                                   | 100,0 | 7,565  | 95   |      |                |     | 86,747         | +0,115          | 38—90                                 | 38—105                      | 345850<br>(35250)                                   | 378350<br>(38570) | 406750<br>(41460) |
| 2403-2815               |       |    | H8—11H                                  |       |        |  |      |                |     | 86,816         | +0,229          |                                       |                             |   |                   |                   |
| 2403-2816               | 110×5 | 20 | H7—9H                                   | 100,0 |        | 100  |      |                |     | 92,083         | +0,095          | 38—90                                 | 38—105                      | 366200<br>(37330)                                   | 400550<br>(40840) | 430700<br>(43900) |
| 2403-2817               |       |    | H8—11H                                  |       |        |  |      |                |     | 92,141         | +0,189          |                                       |                             |   |                   |                   |
| 2403-2818               | 120×5 | 22 | H7—9H                                   | 110,0 | 10,452 | 110  |      |                | 8,3 | 102,089        | +0,107          | 38—90                                 | 38—105                      | 397550<br>(40530)                                   | 435000<br>(44340) | 467600<br>(47670) |
| 2403-2819               |       |    | H8—11H                                  |       |        |  |      |                |     | 102,154        | +0,211          |                                       |                             |   |                   |                   |

4. Наибольшие расчетные усилия протягивания  $P$  указаны для обработки деталей из стали I—IV групп обрабатываемости по ГОСТ 20365.

Для определения усилия протягивания для закаленных сталей и других материалов следует величину  $P$  умножить на коэффициент  $K$ , указанный в ГОСТ 28048.

5. Центровые отверстия — формы  $B$ ,  $T$  или  $R$  — по ГОСТ 14034.

6. Хвостовики — типа 2, исполнения 1 по ГОСТ 4044.

Протяжки с хвостовиком типа 2 исполнений 2, 3 или 4 изготавливают по заказу потребителя.

Продольные лыски на хвостовиках исполнений 2 и 4 должны располагаться перпендикулярно оси впадины профиля протяжки.

Допуск перпендикулярности на 10 мм ширины лыски не должен превышать 0,015 мм.

Длину лыски на заднем хвостовике указывает потребитель при заказе.

7. Неуказанные предельные отклонения размеров  $H16$ ,  $h16$ ,  $\pm \frac{IT16}{2}$ .

8. Допуск симметричности боковых поверхностей фасочных зубьев относительно боковых поверхностей шлицевых зубьев не должен превышать  $T$  0,1 мм.

9. Форма и размеры профиля зубьев протяжек, группы, заточки, форма передней грани зубьев протяжек — по ГОСТ 20365.

10. Задний угол зубьев протяжек должен быть:

|                                 |    |
|---------------------------------|----|
| черновых и переходных . . . . . | 3° |
| чистовых . . . . .              | 2° |
| калибрующих . . . . .           | 1° |

11. Пределы длины протягивания заготовок из чугуна, бронзы, и латуни — справочные. Для протягивания заготовок из этих материалов с длиной протягивания, превышающей верхний предел длины протягивания по стали, следует применять навертной хвостовик увеличенной длины.

12. Предельные отклонения диаметров сопрягаемых центрирующих поверхностей:

протяжки (рабочей части) по I7,  
навертного хвостовика — по H9.

13. Технические требования — по ГОСТ 6767.

## ИНФОРМАЦИОННЫЕ ДАННЫЕ

1. РАЗРАБОТАН И ВНЕСЕН Министерством станкостроительной и инструментальной промышленности СССР

### ИСПОЛНИТЕЛИ

Л. В. Барон, А. И. Либерман, А. И. Прохорова, Ф. И. Фельдман

2. УТВЕРЖДЕН И ВВЕДЕН В ДЕЙСТВИЕ Постановлением Государственного комитета СССР по стандартам от 16.03.89. № 518

3. ВВЕДЕН ВПЕРВЫЕ

4. ССЫЛОЧНЫЕ НОРМАТИВНО-ТЕХНИЧЕСКИЕ ДОКУМЕНТЫ

| Обозначение НТД, на который дана ссылка | Номер пункта             |
|---|--------------------------|
| ГОСТ 2475—88                            | 1 (примечание к табл. 3) |
| ГОСТ 4044—70                            | 6                        |
| ГОСТ 6038—80                            | Вводная часть            |
| ГОСТ 6767—79                            | 13                       |
| ГОСТ 14034—74                           | 5                        |
| ГОСТ 20365—74                           | 4, 9                     |
| ГОСТ 28048—89                           | 1, 4                     |