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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ГОСТ 11860-85 : ГАЙКИ КОЛПАЧКОВЫЕ КЛАССА ТОЧНОСТИ А.**  1. Настоящий стандарт распространяется на колпачковые гайки класса точности А с диаметром резьбы от 3 до 24 мм.  Требования настоящего стандарта являются обязательными.  2. Конструкция и размеры гаек исполнения 1 должны соответствовать указанным на чертеже и в табл. 1, гаек исполнения 2 - указанным на чертеже и в табл. 2.    http://www.metiz.net/files/catalog_images/image001_21.jpg    \* Размер для справок.  m1 - минимальная высота «под ключ».  Таблица 1  мм     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы d | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | (14) | 16 | (18) | 20 | (22) | 24 | | Шаг резьбы | крупный | 0,5 | 0,7 | 0,8 | 1 | 1,25 | 1,5 | 1,75 | 2 | | 2,5 | | | 3 | | мелкий | - | - | - | - | 1 | 1,25 | | 1,5 | | | | | 2 | | Размер «под ключ» S | | 5,5 | 7 | 8 | 10 | 13 | 16 | 18 | 21 | 24 | 27 | 30 | 34 | 36 | | Диаметр описанной ок­ружности е, не менее | | 6,0 | 7,7 | 8,8 | 11,1 | 14,4 | 17,8 | 20,0 | 23,4 | 26,7 | 30,1 | 33,5 | 37,7 | 40,0 | | Н, пред откл. по h14 | | 7,5 | 8,0 | 10,0 | 12,0 | 15,0 | 18,0 | 22,0 | 25,0 | 28,0 | 32,0 | 34,0 | 39,0 | 42,0 | | m, пред откл. по h14 | | 2,4 | 3,2 | 4,0 | 5,0 | 6,5 | 8,0 | 10,0 | 11,0 | 13,0 | 15,0 | 16,0 | 18,0 | 19,0 | | D, пред. откл. по h14 | | 5,0 | 6,5 | 7,5 | 9,5 | 12,5 | 15,0 | 17,0 | 20,0 | 23,0 | 26,0 | 28,0 | 33,0 | 34,0 | | dа | не более | 3,45 | 4,60 | 5,75 | 6,75 | 8,75 | 10,8 | 13,0 | 15,1 | 17,3 | 19,4 | 21,6 | 23,8 | 25,9 | | не менее | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | | R | | 2,5 | 3,2 | 3,7 | 4,7 | 6,2 | 7,5 | 8,5 | 10,0 | 11,5 | 13,0 | 14,0 | 16,5 | 17,0 | | l, пред. откл. по js 15 | | 5,0 | 5,5 | 7,5 | 8,0 | 11 | 13 | 16 | 18 | 21 | 25 | 26 | 29 | 31 | | ll, не менее | | 2 | 3 | 3,8 | 4 | 6 | 7 | 9 | 11 | 13 | 14 | 16 | 18 | 19 | | dw, не менее | | 5,0 | 5,8 | 6,8 | 8,3 | 11,3 | 14,3 | 16,2 | 19,2 | 22,2 | 25,3 | 28,2 | 31,4 | 33,2 | | w, не менее | | 2,0 | | | | | | 3,0 | 4,0 | | 5,0 | | | 6,0 |     Таблица 2  мм     |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы d | | 4 | 5 | 6 | 8 | 10 | 12 | (14) | 16 | (18) | 20 | (22) | 24 | | Шаг резьбы | крупный | 0,7 | 0,8 | 1 | 1,25 | 1,5 | 1,75 | 2 | | 2,5 | | | 3 | | мелкий | - | - | - | 1 | 1,25 | | 1,5 | | | | | 2 | | Размер «под ключ» S, пред. откл. по h13 | | 7 | 8 | 10 | 13 | 16 | 18 | 21 | 24 | 27 | 30 | 34 | 36 | | Диаметр описанной ок­ружности е, не менее | | 7,7 | 8,8 | 11,1 | 14,4 | 17,8 | 20,0 | 23,4 | 26,7 | 30,1 | 33,5 | 37,7 | 40,0 | | Н1, пред откл. по h14 | | 5,5 | 7 | 9 | 12 | 14 | 16 | 18 | 20 | 22 | 25 | 28 | 30 | | m1, не менее | | 2,75 | 3,5 | 4,5 | 6 | 7 | 8 | 9 | 10 | 11 | 12,5 | 14 | 15 | | dа | не более | 4,60 | 5,75 | 6,75 | 8,75 | 10,8 | 13,0 | 15,1 | 17,3 | 19,4 | 21,6 | 23,8 | 25,9 | | не менее | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | | R1 | | 8 | 10 | 12 | 15 | 20 | 25 | 28 | 30 | 32 | 35 | 35 | 40 | | l2, не более | | 4,4 | 5,2 | 7 | 9,5 | 11 | 13,5 | 15 | 17 | 19 | 21 | 22 | 24 | | l3, не менее | | 3 | 3,8 | 4 | 6 | 7 | 9 | И | 13 | 14 | 16 | 18 | 19 | | dw, не менее | | 6,3 | 7,2 | 9,0 | 11,7 | 14,6 | 16,6 | 19,6 | 22,5 | 25,3 | 28,2 | 31,7 | 33,6 | | w, не менее | | 1 | | 1,5 | 2 | | | | | | 2,5 | 3,0 | |     Примечания к табл. 1 и 2:  Размеры гаек, заключенные в скобки, применять не рекомендуется.  Для изделий, спроектированных до 01.01.93, допускается применять гайки М10, М12, М14 и М22 исполнений 1 и 2 с размерами, указанными в приложении 2.    Пример условного обозначения гайки исполнения 1, диаметром резьбы d = 12 мм, с крупным шагом резьбы с полем допуска 6Н, класса прочности 5, без покрытия:    *Гайка М12-6Н.5 ГОСТ 11860-85*    То же, исполнения 2, с мелким шагом резьбы с полем допуска 6Н, класса прочности 6, с цинковым покрытием толщиной 6 мкм, хроматированным, с размером «под ключ» S - 16 мм:    *Гайка 2М12 х l,25-6H.6.016(sl6) ГОСТ 11860-85*    3. Резьба - по ГОСТ 24705-81.  4. Недорез резьбы - короткий по ГОСТ 10549-80.  Допускается выполнение проточки - нормальная по ГОСТ 10549-80 для гаек с d>10 мм на длине l-l1.  5. Неуказанные допуски и методы контроля размеров, отклонений формы и расположения поверхностей - по ГОСТ 1759.1-82.  6. Дефекты поверхности и методы контроля - по ГОСТ 1759.3-83.  7. Допускается на радиусной поверхности прямая площадка диаметром не более 0,3 D.  8. Конфигурация дна отверстия не регламентируется.  9. Технические требования - по ГОСТ 1759.0-87 для гаек класса точности А.  10. Теоретическая масса гаек исполнения 1 указана в приложении.    ПРИЛОЖЕНИЕ 1  Справочное    Таблица 3  Масса стальных гаек с крупньш шагом резьбы     |  |  |  | | --- | --- | --- | | Номинальный диаметр резьбы, d, мм | Теоретическая масса 1000 шт. гаек, кг, исполнения | | | 1 | 2 | | 3 | 0,92 | - | | 4 | 1,60 | 1,30 | | 5 | 2,43 | 2,16 | | 6 | 4,93 | 4,40 | | 8 | 10,00 | 9,67 | | 10 | 17,46 | 16,91 | | 12 | 26,06 | 22,04 | | 14 | 40,40 | 34,74 | | 16 | 57,80 | 48,78 | | 18 | 83,68 | 67,48 | | 20 | 102,13 | 94,87 | | 22 | 167,00 | 137,10 | | 24 | 192,60 | 174,40 |     Для определения массы алюминиевых и латунных гаек значения массы, указанные в таблице, следует умножить на коэффициенты:  0,356 - для алюминиевого сплава;  1,080 - для латуни.    ПРИЛОЖЕНИЕ 2  Справочное  Таблица 4  мм     |  |  |  |  |  | | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы d | 10 | 12 | 14 | 22 | | Размер «под ключ» | 17 | 19 | 22 | 32 | | Диаметр описанной окружности е, не менее | 18,9 | 21,1 | 24,5 | 35,7 | | lw, не менее | 15,3 | 17,2 | 20,2 | 29,5 | | D, пред. откл. по h14 | 16 | 18 | 21 | 30 | | R | 8,0 | 9,0 | 10,5 | 15,0 |     Пример условного обозначения гайки исполнения 1, диаметром резьбы d - 10 мм, с крупным шагом резьбы с полем допуска 6Н, класса прочности 6, без покрытия:    *Гайка М10-6Н.6 ГОСТ 11860-85.*     (Введено дополнительно, Изм. № 1). |