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| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **ГОСТ 7802-81 : БОЛТЫ С УВЕЛИЧЕННОЙ ПОЛУКРУГЛОЙ ГОЛОВКОЙ И КВАДРАТНЫМ ПОДГОЛОВКОМ КЛАССА ТОЧНОСТИ С**  ГОСТ 7802-81  **мм**     |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы *d* | | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 24 | | Диаметр головки *D* | | 11 | 14 | 18 | 23 | 28 | 35 | 44 | 52 | | Высота головки *k* | | 2,5 | 3,0 | 4,0 | 5,0 | 6,0 | 8,0 | 10,0 | 12,0 | | Радиус сферы *R* *»* | | 8 | 11 | 14 | 18 | 22 | 26 | 32 | 39 | | Размер стороны квадратного подголовка *V* | | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 24 | | Высота подголовка *f*, не менее | | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 15 | | Длина резьбы *b* | Для *l* £ 120 | 16 | 18 | 22 | 26 | 30 | 38 | 46 | 54 | | Для *l* > 120 | - | - | - | 32 | 36 | 44 | 52 | 60 |     Пример условного обозначения болта с диаметром резьбы d = 12 мм, с крупным шагом резьбы с полем допуска 8g, длиной l = 60 мм, класса прочности 3.6, с цинковым покрытием толщиной 6 мкм, нанесенным способом катодного восстановления, хроматированным:  *Болт M12х60.36.016 ГОСТ 7802-81*     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина болта *l*, мм | Теоретическая масса 1000 шт. болтов, кг, при номинальном диаметре резьбы *d*, мм | | | | | | | | | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 24 | | 12 | 2,699 | 4,612 | - | - | - | - | - | - | | 14 | 2,936 | 4,950 | 10,10 | - | - | - | - | - | | 16 | 3,172 | 5,288 | 10,71 | 19,39 | - | - | - | - | | 20 | 3,644 | 5,964 | 11,94 | 21,34 | 34,76 | - | - | - | | 25 | 4,235 | 6,809 | 13,48 | 23,79 | 38,30 | 75,60 | 133,4 | - | | 30 | 4,825 | 7,655 | 15,02 | 26,22 | 41,84 | 82,13 | 143,6 | - | | 35 | 5,416 | 8,500 | 16,56 | 28,67 | 45,38 | 88,66 | 153,8 | - | | 40 | 6,006 | 9,345 | 18,10 | 31,11 | 48,92 | 95,18 | 164,1 | - | | 45 | 6,596 | 10,196 | 19,64 | 33,55 | 52,46 | 101,71 | 174,3 | - | | 50 | 7,187 | 11,036 | 21,18 | 35,99 | 56,00 | 108,24 | 184,5 | - | | 55 | 7,746 | 11,881 | 22,72 | 38,44 | 59,54 | 114,77 | 194,8 | - | | 60 | 8,336 | 12,726 | 24,26 | 40,88 | 63,08 | 121,23 | 205,0 | - | | 65 | 8,926 | 13,574 | 25,80 | 43,32 | 66,62 | 127,82 | 215,2 | - | | 70 | 9,516 | 14,417 | 27,34 | 45,76 | 70,17 | 134,35 | 225,5 | - | | 75 | - | 15,262 | 28,88 | 48,20 | 73,71 | 140,87 | 235,7 | 366,4 | | 80 | - | 16,107 | 30,42 | 50,65 | 77,25 | 147,40 | 245,9 | 381,2 | | 90 | - | 17,798 | 33,50 | 55,53 | 84,33 | 160,45 | 266,4 | 410,6 | | 100 | - | 19,488 | 36,57 | 60,41 | 91,41 | 173,51 | 286,9 | 440,1 | | 110 | - | - | 39,65 | 65,30 | 98,49 | 186,56 | 307,4 | 469,6 | | 120 | - | - | 42,73 | 70,18 | 105,57 | 199,62 | 327,8 | 499,0 | | 130 | - | - | 45,81 | 75,10 | 112,65 | 212,67 | 348,3 | 528,5 | | 140 | - | - | 48,89 | 79,95 | 119,73 | 225,72 | 368,8 | 558,0 | | 150 | - | - | 51,97 | 84,84 | 126,81 | 238,78 | 389,2 | 587,4 | | 160 | - | - | 55,05 | 89,72 | 133,89 | 251,83 | 409,7 | 616,9 | | 170 | - | - | 58,13 | 94,61 | 140,97 | 264,87 | 430,2 | 646,4 | | 180 | - | - | 61,21 | 99,49 | 148,05 | 277,94 | 450,6 | 675,8 | | 190 | - | - | 64,29 | 104,37 | 155,13 | 290,99 | 471,1 | 705,3 | | 200 | - | - | 67,37 | 109,26 | 162,22 | 304,04 | 491,6 | 734,8 | | 220 | - | - | 73,53 | 119,02 | 176,38 | 330,15 | 532,6 | 793,8 | | 240 | - | - | - | 128,79 | 190,54 | 366,26 | 573,6 | 852,8 | | 260 | - | - | - | 138,56 | 204,70 | 382,37 | 614,6 | 911,8 | | |