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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 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--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ГОСТ 7796-70 (ГОСТ 7808-70): БОЛТЫ С ШЕСТИГРАННОЙ УМЕНЬШЕННОЙ ГОЛОВКОЙ** ГОСТ 7808-70 **мм**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Номинальный диаметр резьбы *d* | 8 | 10 | 12 | (14) | 16 | (18) | 20 | (22) | 24 | (27) | 30 | 36 | 42 | 48 |
| Шаг резьбы | крупный | 1,25 | 1,5 | 1,75 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
| мелкий | 1 | 1,25 | 1,5 | 2 | 3 |
| Диаметр стержня *d*1 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 27 | 30 | 36 | 42 | 48 |
| Размер «под ключ» *S* | 12 | 14 | 17 | 19 | 22 | 24 | 27 | 30 | 32 | 36 | 41 | 50 | 60 | 70 |
| Высота головки *k* | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 | 17 | 20 | 23 | 26 |
| Высота головки *k*1 | 5,3 | 6,4 | 7,5 | 8,8 | 10,0 | 12,0 | 12,5 | 14,0 | 15,0 | 17,0 | 18,7 | 22,5 | 26,0 | 30,0 |
| Диаметр описанной окружности *е*, не менее | 13,2 | 15,5 | 18,9 | 21,1 | 24,5 | 26,8 | 30,1 | 33,5 | 35,7 | 40,0 | 45,6 | 55,8 | 67,0 | 78,3 |
| *dw*, не менее | 10,6 | 12,6 | 15,6 | 17,4 | 20,6 | 22,5 | 25,3 | 28,2 | 30,0 | 33,6 | 38,4 | 46,9 | 56,3 | 65,8 |
| *hw* | не менее | 0,15 | 0,20 | 0,25 |
| не более | 0,6 | 0,8 |
| Диаметр отверстия в стержне *d*3 | 2,0 | 2,5 | 3,2 | 4,0 | 5,0 | 6,3 | 8,0 |
| Диаметр отверстия в головке *d*4H15 | 2,5 | 3,2 | 4,0 | 5,0 |
| Расстояние от опорной поверхности до оси отверстия в головке *l*2js15 | 2,8 | 3,5 | 4,0 | 4,5 | 5,0 | 6,0 | 6,5 | 7,0 | 7,5 | 8,5 | 9,5 | 11,5 | 13,0 | 15,0 |

 Примечание. *Размеры болтов, заключенные в скобки, применять не рекомендуется.*Пример условного обозначения болта исполнения 1 с диаметром резьбы d = 12 мм, длиной l = 60 мм, с крупным шагом резьбы с полем допуска 6g, класса прочности 5.8, без покрытия: *Болт М12-6g×60.58 ГОСТ 7808-70* То же, исполнения 2, с мелким шагом резьбы с полем допуска 6g, класса прочности 10.9, из стали марки 40Х, с покрытием 01 толщиной 6 мкм: *Болт 2М12×1,25-6g×60.109.40Х.016 ГОСТ 7808-70* **Масса стальных болтов (исполнение 1) с крупным шагом резьбы**

|  |  |
| --- | --- |
| Длина болта *l*, мм | Теоретическая масса 1000 шт. болтов, кг », при номинальном диаметре резьбы *d*, мм |
| 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 27 | 30 | 36 | 42 | 48 |
| 8 | 7,732 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 8,458 | 13,57 | - | - | - | - | - | - | - | - | - | - | - | - |
| 12 | 9,184 | 14,71 | - | - | - | - | - | - | - | - | - | - | - | - |
| 14 | 9,910 | 15,85 | 25,09 | - | - | - | - | - | - | - | - | - | - | - |
| 16 | 10,640 | 16,99 | 26,73 | 35,04 | - | - | - | - | - | - | - | - | - | - |
| 18 | 11,360 | 18,12 | 28,37 | 37,28 | 55,80 | - | - | - | - | - | - | - | - | - |
| 20 | 12,090 | 19,26 | 30,01 | 39,52 | 58,75 | 75,63 | - | - | - | - | - | - | - | - |
| 22 | 12,810 | 20,40 | 31,65 | 41,76 | 61,70 | 79,39 | - | - | - | - | - | - | - | - |
| 25 | 13,900 | 22,11 | 34,11 | 45,11 | 66,12 | 84,95 | 111,5 | - | - | - | - | - | - | - |
| 28 | 15,150 | 23,81 | 36,57 | 48,47 | 70,54 | 90,51 | 118,4 | - | - | - | - | - | - | - |
| 30 | 15,940 | 24,95 | 38,21 | 50,71 | 73,49 | 94,21 | 123,0 | 156,5 | - | - | - | - | - | - |
| 32 | 16,720 | 26,32 | 39,85 | 52,95 | 76,44 | 97,92 | 127,6 | 162,1 | 195,6 | - | - | - | - | - |
| 35 | 17,910 | 28,17 | 42,59 | 56,30 | 80,86 | 103,50 | 134,6 | 170,5 | 205,6 | 279,0 | - | - | - | - |
| 38 | 19,090 | 30,02 | 45,26 | 59,66 | 85,28 | 109,00 | 141,5 | 178,9 | 215,6 | 291,7 | - | - | - | - |
| 40 | 19,880 | 31,25 | 47,03 | 64,56 | 88,23 | 112,70 | 146,1 | 184,5 | 222,2 | 300,2 | 400,7 | - | - | - |
| 45 | 21,860 | 34,34 | 51,48 | 70,60 | 96,26 | 122,00 | 157,7 | 198,5 | 238,8 | 321,3 | 426,8 | - | - | - |
| 50 | 23,830 | 37,42 | 55,92 | 76,65 | 104,20 | 132,20 | 169,2 | 212,6 | 255,4 | 342,5 | 452,8 | 712,6 | - | - |
| 55 | 25,810 | 40,51 | 60,36 | 82,70 | 112,10 | 142,20 | 181,9 | 226,6 | 272,0 | 363,7 | 478,9 | 750,3 | 1124 | - |
| 60 | 27,780 | 43,59 | 64,80 | 88,74 | 120,00 | 152,20 | 194,3 | 242,6 | 288,6 | 384,9 | 504,9 | 787,9 | 1175 | - |
| 65 | 29,760 | 46,68 | 69,25 | 94,79 | 127,80 | 162,20 | 206,6 | 257,5 | 307,4 | 406,0 | 531,0 | 825,5 | 1226 | 1729 |
| 70 | 31,730 | 49,76 | 73,69 | 100,80 | 135,80 | 172,20 | 218,9 | 272,4 | 325,2 | 429,5 | 557,0 | 863,2 | 1278 | 1796 |
| 75 | 33,710 | 52,85 | 78,13 | 106,90 | 143,70 | 182,20 | 231,3 | 287,4 | 342,9 | 452,0 | 585,6 | 900,8 | 1329 | 1863 |
| 80 | 35,680 | 55,93 | 82,57 | 112,90 | 151,60 | 192,20 | 243,6 | 302,3 | 360,7 | 474,4 | 613,4 | 938,4 | 1380 | 1930 |
| 85 | 37,650 | 56,02 | 87,02 | 119,00 | 159,40 | 202,20 | 256,0 | 317,2 | 378,5 | 496,9 | 641,1 | 976,0 | 1432 | 1998 |
| 90 | 39,630 | 62,10 | 91,46 | 125,00 | 167,40 | 212,20 | 268,3 | 332,2 | 396,2 | 519,4 | 668,9 | 1018,0 | 1483 | 2065 |
| 95 | 41,600 | 65,19 | 95,90 | 131,10 | 175,20 | 222,20 | 280,6 | 347,1 | 414,0 | 541,9 | 696,7 | 1059,0 | 1534 | 2132 |
| 100 | 43,580 | 68,27 | 100,30 | 137,10 | 183,10 | 232,20 | 293,0 | 362,0 | 431,8 | 564,4 | 724,4 | 1098,0 | 1586 | 2199 |
| 105 | - | 71,36 | 104,80 | 143,20 | 191,00 | 242,10 | 305,3 | 377,0 | 449,6 | 586,9 | 752,2 | 1138,0 | 1645 | 2266 |
| 110 | - | 74,44 | 109,20 | 149,20 | 198,90 | 252,10 | 317,7 | 391,9 | 467,3 | 609,4 | 780,0 | 1178,0 | 1699 | 2332 |
| 115 | - | 77,52 | 113,70 | 155,30 | 206,80 | 262,10 | 330,0 | 406,8 | 485,1 | 631,9 | 807,7 | 1218,0 | 1753 | 2409 |
| 120 | - | 80,61 | 118,10 | 161,30 | 214,70 | 272,10 | 342,3 | 421,8 | 502,9 | 654,4 | 835,5 | 1258,0 | 1808 | 2480 |
| 125 | - | 83,70 | 122,60 | 167,40 | 222,60 | 282,10 | 354,7 | 436,7 | 520,6 | 676,8 | 863,3 | 1298,0 | 1863 | 2550 |
| 130 | - | 86,78 | 127,00 | 173,40 | 230,50 | 292,10 | 367,0 | 451,6 | 538,4 | 699,3 | 891,0 | 1338,0 | 1917 | 2623 |
| 140 | - | 92,94 | 135,90 | 185,50 | 246,30 | 312,10 | 391,7 | 481,5 | 574,0 | 744,3 | 946,6 | 1418,0 | 2026 | 2765 |
| 150 | - | 99,11 | 144,80 | 197,60 | 262,10 | 332,10 | 416,4 | 511,3 | 609,5 | 789,3 | 1002,0 | 1498,0 | 2135 | 2907 |
| 160 | - | 105,30 | 153,60 | 207,70 | 277,90 | 352,10 | 441,1 | 541,2 | 645,0 | 834,3 | 1058,0 | 1578,0 | 2244 | 3049 |
| 170 | - | 111,40 | 162,50 | 221,80 | 293,70 | 372,10 | 465,7 | 571,0 | 680,6 | 879,3 | 1113,0 | 1658,0 | 2353 | 3191 |
| 180 | - | 117,60 | 171,40 | 233,90 | 309,50 | 392,10 | 490,4 | 600,9 | 716,1 | 924,3 | 1169,0 | 1738,0 | 2461 | 3333 |
| 190 | - | 123,80 | 180,30 | 246,00 | 325,30 | 412,10 | 515,1 | 630,8 | 751,6 | 969,2 | 1224,0 | 1818,0 | 2570 | 3475 |
| 200 | - | 130,00 | 189,20 | 258,00 | 341,10 | 432,10 | 539,8 | 660,7 | 787,2 | 1014,0 | 1280,0 | 1898,0 | 2679 | 3618 |
| 220 | - | - | 207,00 | 282,20 | 372,70 | 472,00 | 589,1 | 720,4 | 858,2 | 1104,0 | 1391,0 | 2058,0 | 2897 | 3902 |
| 240 | - | - | 224,00 | 306,40 | 404,30 | 512,00 | 638,5 | 780,1 | 929,4 | 1194,0 | 1502,0 | 2218,0 | 3115 | 4186 |
| 260 | - | - | 245,50 | 330,60 | 435,90 | 552,00 | 687,6 | 839,9 | 1000,0 | 1284,0 | 1613,0 | 2378,0 | 3332 | 4471 |
| 280 | - | - | - | 354,80 | 467,50 | 592,00 | 737,2 | 899,5 | 1072,0 | 1374,0 | 1724,0 | 2538,0 | 3550 | 4755 |
| 300 | - | - | - | 378,00 | 499,00 | 632,00 | 786,6 | 959,3 | 1143,0 | 1464,0 | 1835,0 | 2698,0 | 3768 | 5039 |

 *Для определения массы болтов из других материалов значения массы, указанные в таблице, следует умножить на коэффициенты: 0,356 - для алюминиевого сплава; 1,080 - для латуни.*  | Длина : L 8…300 |