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концом | 12-48 | | 2 | | 3 |     **Тип 1**  Болты фундаментные изогнутые  *Исполнение 1 Исполнение 2*    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_1.png    **Тип 2**  Болты фундаментные с анкерной плитой  *Исполнение 1 Исполнение 2 Исполнение 3*    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_2.png    **Тип 3**  Болты фундаментные составные  *Исполнение 1 Исполнение 2*    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_3.png    **Тип 4**  Болты фундаментные съемные  *Исполнение 1 Исполнение 2 Исполнение 3*    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_4.png    **Тип 5**  Болт фундаментный прямой    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_5.png    **Тип 6**  Болты фундаментные с коническим концом  *Исполнение 1 Исполнение 2 Исполнение 3*    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_6.png  Размеры для справок.  *1*-*10* - шпилька; *11*, *12* - плита анкерная; *13* - муфта; *14* - анкерная арматура; *15* - цанга разжимная; *16* - втулка коническая; *17* - шайба; *18* - гайка по ГОСТ 5915-70; *19* - гайка по ГОСТ 10605-72    Черт. 1      Длина болтов *L* и диаметр резьбы *d* назначаются в зависимости от длины шпилек и диаметра их резьбы.    Пример условного обозначения болта типа 1, исполнения 1, диаметром резьбы *d* = 20 мм, длиной *L* = 800 мм, со шпилькой из стали марки ВСт3пс2:    *БОЛТ 1.1.М20´800. ВСт3пс2 ГОСТ 24379.1-80*    То же, болта типа 4, исполнения 2, диаметром резьбы *d* = 100 мм, с мелким шагом резьбы 6 мм, длиной *L* = 1900 мм, со шпилькой из стали марки 09Г2С-6:    *БОЛТ 4.2.М100´6´1900 09Г2С-6 ГОСТ 24379.1-80*    **ШПИЛЬКИ (поз.** *1-10* **по черт. 1)**    Поз. *1* (*d* = 12-48 мм)      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_7.png    Поз. *2* (*d* = 12-48 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_8.png    Поз. *3* (*d* = 16-48 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_9.png    Поз. *4* (*d* = 56-140 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_10.png    Поз. *5* (*d* = 24-64 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_11.png    Поз. *6* (*d* = 56-125 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_12.png    Поз. *7* (*d* = 12-48 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_13.png    Поз. *8* (*d* = 12-48 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_14.png    Поз. *9* (*d* = 12-48 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_15.png    Поз. *10* (*d* = 12-48 мм)    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_16.png    Черт. 2      мм     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный | Шаг резьбы | |  | *d2* | *d3* | *d4* | *d5* | *d6* | *lo* | *l* | *l1* | *l2* | *l3* | *l4* | *l5* | *l6* | | диаметр резьбы *d* | крупный | мелкий | *d\*1* | Пред. откл. по h16 | | Пред. откл. по Н15 | Пред. откл. по h16 | | Пред. откл. по +IТ17 | Пред. откл. по | | | | Пред. откл. по +IТ17 | Пред. откл. по | | | 12 | 1,75 |  | 12 |  |  |  | 17 | 20 | 80 | 40 | 100 | 50 | 25 | 24 |  |  | | 16 | 2 |  | 16 |  |  | - | 22 | 26 | 90 | 50 | 130 | 60 | 30 | 32 |  |  | | 20 | 2,5 |  | 20 |  |  |  | 28 | 32 | 100 | 60 | 160 | 80 | 40 | 40 |  |  | | 24 | 3 |  | 24 |  |  | 5 | 34 | 39 | 110 | 75 | 200 | 100 | 50 | 48 |  |  | | 30 | 3,5 | - | 30 | - | - |  | 42 | 48 | 120 | 90 | 250 | 120 | 60 | 60 | - | - | | 36 | 4 |  | 36 |  |  |  | 50 | 58 | 130 | 110 | 300 | 140 | 70 | 73 |  |  | | 42 | 4,5 |  | 42 |  |  | 8 | 58 | 68 | 140 | 125 | 350 | 170 | 85 | 85 |  |  | | 48 | 5 |  | 48 |  |  |  | 68 | 77 | 150 | 150 | 400 | 200 | 100 | 98 |  |  | | 56 | 5,5 |  | 60 | 56 | 47,8 | 12 |  |  | 160 |  |  |  |  |  | 400 | 180 | | 64 | 6 |  | 70 | 64 | 55 | 16 |  |  | 170 |  |  |  |  |  | 500 | 190 | | 72 |  |  | 75 | 72 | 63 | 20 |  |  | 180 |  |  |  |  |  |  | 200 | | 80 |  |  | 85 | 80 | 71 |  |  |  | 190 |  |  |  |  |  | 600 | 220 | | 90 |  |  | 95 | 90 | 81 |  | - | - | 210 | - | - | - | - | - | 800 | 230 | | 100 | - | 6 | 105 | 100 | 91 | 25 |  |  | 230 |  |  |  |  |  |  | 250 | | 110 |  |  | 120 | 110 | 101 |  |  |  | 240 |  |  |  |  |  | 1000 | 260 | | 125 |  |  | 130 | 125 | 116 | 30 |  |  | 250 |  |  |  |  |  |  | 270 | | 140 |  |  | 145 | 140 | - | - |  |  | 270 |  |  |  |  |  |  | 280 |     мм     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный | Шаг резьбы | | *l7* | *l8* | *l9* | *l10* | *l11* | *l12* | *S* | *H* | *h* | *c* | *c1* |  |  | | диаметр резьбы *d* | крупный | мелкий | Пред. откл. по | | | | | | Пред. откл. по h15 | Пред. откл. по | | | | *R* | *r* | | 12 | 1,75 |  |  |  |  |  | 30 | 20 |  |  |  |  | 6 | 12 | 8 | | 16 | 2 |  | - | - |  |  | 36 | 28 | - | - |  | - | 9 | 16 | 10 | | 20 | 2,5 |  |  |  |  |  | 48 | 34 |  |  |  |  | 9 | 20 |  | | 24 | 3 |  | 7 | 65 |  |  | 60 | 41 | 17 | 16 |  | 9 | 11 | 24 | 20 | | 30 | 3,5 | - |  | 75 | - | - | 73 | 50 | 19 |  | - | 12 | 14 | 30 |  | | 36 | 4 |  | 10 | 90 |  |  | 85 | 63 | 24 | 20 |  |  | 17 | 36 | 30 | | 42 | 4,5 |  |  | 100 |  |  | 95 | 71 | 27 |  |  | 15 | 20 | 42 |  | | 48 | 5 |  | 12 | 115 |  |  | 120 | 82 | 32 | 25 |  | 18 | 22 | 48 | 40 | | 56 | 5,5 |  | 16 | 130 | 120 | 180 |  |  | 41 | 30 | 25 | 20 |  |  |  | | 64 | 6 |  |  | 150 | 135 | 200 |  |  | 46 |  |  | 25 |  |  |  | | 72 |  |  | 20 |  | 155 | 240 |  |  | 50 | 40 | 35 | 30 |  |  |  | | 80 |  |  |  |  |  |  |  |  | 55 |  |  |  |  |  |  | | 90 |  |  |  |  | 180 | 280 | - | - | 65 |  |  | 35 | - | - | - | | 100 | - | 6 | 25 | - | 200 | 300 |  |  | 75 | 50 | 45 | 40 |  |  |  | | 110 |  |  |  |  | 220 | 340 |  |  | 85 |  |  |  |  |  |  | | 125 |  |  | 30 |  | 240 | 370 |  |  | 95 | 60 | 55 | 45 |  |  |  | | 140 |  |  | - |  | - | - |  |  | - | - | - | - |  |  |  |     Пример условного обозначения шпильки поз. *1*, диаметром резьбы *d* = 20 мм, длиной *L* = 800 мм, из стали марки ВСт3пс2:    *ШПИЛЬКА 1.М20´800 ВСт3пс2 ГОСТ 24379.1-80*    То же, поз. *4*, диаметром резьбы *d* = 100 мм, с мелким шагом резьбы 6 мм, длиной *L* = 3150 мм, из стали марки 09Г2С-6:    *ШПИЛЬКА 4.М100´6´3150.09Г2С-6 ГОСТ 24379.1-80*      **ПЛИТА АНКЕРНАЯ (поз. *11* по черт. 1)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_17.png    Черт. 3    Размеры в мм     |  |  |  |  |  | | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы шпильки *d* | *D*  Пред. откл. по Н17 | *B*  Пред. откл. по | *S*\* | Теоретическая масса плиты, кг | | 16 | 22 | 65 | 14 | 0,42 | | 20 | 26 | 80 | 16 | 0,74 | | 24 | 32 | 100 | 18 | 1,30 | | 30 | 38 | 120 | 20 | 2,08 | | 36 | 45 | 150 | 20 | 3,28 | | 42 | 50 | 170 | 25 | 5,29 | | 48 | 60 | 190 | 28 | 7,31 | | 56 | 66 | 220 | 32 | 11,21 | | 64 | 74 | 260 | 36 | 17,80 | | 72 | 82 | 300 | 40 | 26,41 | | 80 | 90 | 320 | 45 | 33,70 | | 90 | 100 | 360 | 50 | 47,50 |     **ПЛИТА АНКЕРНАЯ (поз. *12* по черт. 1)**    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_18.png    Черт. 4    Размеры в мм     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы шпильки *d* | *D* | *D1* | *D2* | *Н4* | Теоретическая масса плиты, кг | | 100 | 135 | 625 | 220 | 130 | 94,27 | | 110 | 145 | 650 | 230 | 135 | 100,32 | | 125 | 165 | 675 | 240 | 135 | 106,70 | | 140 | 185 | 700 | 290 | 145 | 125,50 |     Пример условного обозначения анкерной плиты (поз. *11*), размером *B* = 150 мм:    *ПЛИТА 150 ГОСТ 24379.1-80*    То же, поз. *12*, наружным диаметром *D1* = 625 мм:    *ПЛИТА 625 ГОСТ 24379.1-80*    **МУФТА (поз. *13* по черт. 1)**    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_19.png    Черт. 5    Размеры в мм     |  |  |  |  |  | | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы *d* | *D\** | *H*  Пред. откл. по +IТ17 | *с* | Теоретическая масса муфты, кг | | 24 | 50 | 120 | 2 | 1,42 | | 30 | 60 | 140 | 3 | 2,35 | | 36 | 70 | 170 | 4 | 3,78 | | 42 | 80 | 190 | 5 | 5,43 | | 48 | 90 | 220 | 6 | 7,36 | | 56 | 100 | 250 | 8 | 10,58 | | 64 | 110 | 280 | 8 | 13,82 |     Пример условного обозначения муфты из стали марки ВСт3пс2 для шпильки *d* = 24 мм:    *МУФТА М24.ВСт3пс2 ГОСТ 24379.1-80*    **АРМАТУРА АНКЕРНАЯ (поз.** ***14* по черт. 1)**    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_20.png    *1* - труба(черт. 7); *2* - составная анкерная плита (черт. 3); *3* - литая анкерная плита (черт. 9), *4* - сварная анкерная плита (черт. 10); *5* - заглушка (черт. 13).  Черт. 6  Длина *L1* анкерной арматуры назначается по длине трубы, диаметр резьбы отверстия *d* - по диаметру резьбы шпильки.    **ТРУБА (поз. *1* по черт. 6)**    http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_21.png    Черт. 7     |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Диаметр резьбы шпильки | 24 | 30 | 36 | 42 | 48 | 56 | 64 | 72 | 80 | 90 | 100 | 110 | 125 | | Диаметр и толщина стенки трубы D´s | 60´3,5 | | 89´4 | | 102´4 | | 114´4,5 | 127´4,5 | 140´4,5 | 152´5 | 168´5 | 180´5 | 203´6 |     **ПЛИТА АНКЕРНАЯ СОСТАВНАЯ (поз. *2* по черт. 6)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_22.png    *1* - гайка по ГОСТ 5915-70  Черт. 8    Размеры в мм     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы *d*\* | *D*  Пред. откл. по Н16 | *Н*\* | *s*\* | *B*  Пред. откл. по | Теоретическая масса плиты, кг | | 24 | 32 | 37 | 18 | 140 | 2,61 | | 30 | 38 | 44 | 20 | 160 | 3,28 | | 36 | 45 | 49 | 20 | 180 | 4,96 | | 42 | 50 | 59 | 25 | 200 | 7,65 | | 46 | 60 | 63 | 25 | 240 | 10,98 |     Примечание к черт. 6 и 8. С 01.07 1981 г. действует ГОСТ 5264-80.    **ПЛИТА АНКЕРНАЯ ЛИТАЯ (поз. *3* по черт. 6)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_23.png      Черт. 9    Размеры в мм     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Шаг резьбы | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | Номинальный диаметр резьбы *d* | крупный | мелкий | *d1* | *d2* | *d3* | *d4* | *d5* | *B* | *l* | *H* | *h* | *h1* | *h2* | *h3* | *R* | Теоретическая масса плиты, кг | | 56 | 5,5 | - | 80 | 100 | 115 | 80 | 106 | 300 | 105 | 150 | 40 | 30 | 40 | 20 |  | 26 | | 64 | 6 |  | 85 | 105 | 125 | 90 | 120 | 350 | 120 | 170 |  | 40 | 45 |  | 20 | 38 | | 72 |  |  | 100 | 125 | 150 | 100 | 133 | 400 | 130 | 200 | 50 |  | 50 | 25 |  | 57 | | 80 |  |  |  |  |  |  | 145 |  |  |  |  |  |  |  |  | 56 | | 90 | - | 6 | 120 | 150 | 180 | 120 | 158 | 450 | 150 | 230 |  | 50 | 60 | 30 | 25 | 89 | | 100 |  |  | 130 | 170 | 190 | 150 | 174 | 500 | 160 | 240 |  |  | 70 |  | 40 | 117 | | 110 |  |  | 145 | 185 | 210 | 165 | 185 | 550 | 180 | 270 | 60 |  | 75 | 35 | 45 | 158 | | 125 |  |  | 150 | 190 | 230 | 180 | 210 | 600 | 190 | 290 |  |  | 80 |  | 50 | 195 |     Сверление отверстия в анкерной плите производится после приварки втулки и ребер.    **ПЛИТА АНКЕРНАЯ СВАРНАЯ (поз. *4* по черт. 6)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_24.png    *1* - ребро (черт. 11); *2* - втулка (черт. 12)  Черт. 10    Размеры в мм     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный | Шаг резьбы | | *B* | *d1* | *d2* |  |  |  | | диаметр резьбы *d* | крупный | мелкий | Пред. откл. по | Пред. откл. по H16 | | *Н\** | s\* | Теоретическая масса плиты, кг | | 56 | 5,5 | - | 280 | 106 | 76 | 110 | 20 | 16,61 | | 64 | 6 |  | 300 | 120 | 84 | 120 |  | 19,71 | | 72 |  |  | 340 | 133 | 92 | 135 | 25 | 31,24 | | 80 | - | 6 | 400 | 145 | 100 | 145 |  | 43,01 | | 90 |  |  | 420 | 158 | 110 | 170 | 30 | 59,19 | | 100 |  |  | 450 | 174 | 120 | 180 |  | 71,21 |     Примечание. С 01.07 1981 г. действует ГОСТ 5264-80.    **РЕБРО (поз. *1* по черт. 10)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_25.png  \* Размер для справок.  Черт. 11    Размеры в мм     |  |  |  | | --- | --- | --- | | Номинальный диаметр резьбы отверстия в анкерной плите *d* | *h*  Пред. откл. по | Толщина *s*\* | | 56 | 80 |  | | 64 | 90 | 10 | | 72 | 100 |  | | 80 | 110 |  | | 90 | 130 | 16 | | 100 | 140 |  |     **ВТУЛКА (поз. *2* по черт. 10)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_26.png    Черт. 12    мм     |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Номинальный, диаметр резьбы *d* | 56 | 64 | 72 | 80 | 90 | 100 | | Диаметр заготовки *D*\* | 100 | 110 | 130 | 140 | 160 | 180 | | *h* Пред. откл. по +IТ17 | 90 | 100 | 110 | 120 | 140 | 150 |     **ЗАГЛУШКА (поз. 5 по черт. 6)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_27.png    Черт. 13    Размеры в мм     |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Труба *D*´*s* | 60´3,5 | 89´4 | 102´4 | 114´4,5 | 127´4,5 | 140´4,5 | 152´5 | 168´5 | 180´5 | 203´6 | | *D1*  Пред. откл. по h16 | 56 | 85 | 98 | 110 | 122 | 135 | 147 | 163 | 175 | 198 | | Теоретическая масса, кг | 0,06 | 0,13 | 0,18 | 0,22 | 0,28 | 0,34 | 0,40 | 0,49 | 0,57 | 0,72 |       Размеры в мм     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный диаметр резьбы под анкерную плиту *d* | 56 | 64 | 72 | 80 | 90 | 100 | 110 | 125 | | *D1*  Пред. откл. по h16 | 90 | 95 | 115 | | 13,0 | 150 | 160 | 170 | | Теоретическая масса, кг | 0,15 | 0,17 | 0,24 | | 0,31 | 0,42 | 0,47 | 0,53 |       Пример условного обозначения анкерной арматуры, исполнения 1, под шпильку *d* = 24 мм, длиной *L1* = 400 мм:    *АРМАТУРА АНКЕРНАЯ 1.М24´400 ГОСТ 24379.1-80*    То же, исполнения 2, под шпильку *d* = 64 мм, длиной *L1* = 2000 мм:    *АРМАТУРА АНКЕРНАЯ 2.М64´2000 ГОСТ 24379.1-80*    То же, исполнения 3, под шпильку *d* = 100 мм с мелким шагом резьбы 6 мм, длиной *L1* = 3150 мм:    *АРМАТУРА АНКЕРНАЯ 3.М100´6´3150 ГОСТ 24379.1-80*      **ЦАНГА РАЗЖИМНАЯ (поз. 15по черт. 1)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_28.png    Черт. 14    Размеры в мм     |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Номинальный | *D* | *d1* | *d2* | *d3* | *H* | *h* | *h1* | *h2* | *h3* | *h4* | *h5* | *R,* |  | | диаметр резьбы шпильки *d* | Пред. откл. по h16 | Пред. откл. по h16 | Пред. откл. по h16 | | Пред. откл. по | | | | | | Пред. откл. по | не более | Теоретическая масса цанги, кг | | 12 | 17 | 12,5 | 15 | 16,5 | 36 | 30 | 24 | 16 | 11 | 7 | 0,5 | 0,8 | 0,03 | | 16 | 24 | 17,0 | 20 | 23,2 | 45 | 36 | 30 | 21 | 14 | 10 | 0,8 | 1,0 | 0,08 | | 20 | 30 | 21,0 | 25 | 29,0 | 60 | 48 | 40 | 26 | 18 | 12 | 1,0 | 1,2 | 0,17 | | 24 | 34 | 25,0 | 30 | 32,5 | 75 | 60 | 54 | 31 | 22 | 15 | 1,5 | 1,5 | 0,25 | | 30 | 42 | 32,0 | 37 | 32,5 | 90 | 72 | 60 | 34 | 27 | 18 | 1,5 | 1,5 | 0,41 | | 36 | 50 | 38,0 | 42 | 48,0 | 105 | 84 | 70 | 47 | 33 | 22 | 2,0 | 1,5 | 0,68 | | 42 | 58 | 44,0 | 52 | 55,5 | 120 | 96 | 80 | 55 | 39 | 25 | 2,5 | 2,0 | 1,06 | | 48 | 68 | 50,0 | 60 | 65,0 | 150 | 120 | 100 | 63 | 43 | 29 | 3,0 | 2,0 | 1,96 |     Предельные отклонения размеров - по СТ СЭВ 144-75.    Пример условного обозначения разжимной цанги для шпильки *d* = 24 мм:    *ЦАНГА М24 ГОСТ 24379.1-80*    **ВТУЛКА КОНИЧЕСКАЯ (поз. *16* по черт. 1)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_29.png    Черт. 15    Размеры в мм     |  |  |  |  |  | | --- | --- | --- | --- | --- | | Номинальный | *D* | *H\** | *h* |  | | диаметр резьбы шпильки *d* | Пред. откл. по h16 | Пред. откл. по | | Теоретическая масса втулки, кг | | 12 | 22 | 24 | 20 | 0,03 | | 16 | 29 | 32 | 28 | 0,06 | | 20 | 35 | 40 | 34 | 0,11 | | 24 | 42 | 48 | 41 | 0,20 | | 30 | 52 | 60 | 51 | 0,36 | | 36 | 62 | 72 | 61 | 0,67 | | 49 | 72 | 84 | 71 | 0,94 | | 48 | 82 | 96 | 82 | 1,41 |     Пример условного обозначения конической втулки под шпильку *d* = 24 мм:    *ВТУЛКА М24 ГОСТ 24379.1-80*    **ШАЙБА (поз. *17* по черт. 1)**      http://www.metiz.net/files/imagefield_thumbs/catalog_images/24379.1-80_30.png    Черт. 16    Размеры в мм     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Номинальный | *d* | *D* |  | Предельное | Теоретическая | | диаметр резьбы шпильки *d* | Пред. откл. по H16 | Пред. откл. по h16 | *s* | радиальное биение | масса шайбы, кг | | 12 | 13 | 36 | 3 | 0,5 | 0,021 | | 16 | 17 | 42 | 4 |  | 0,050 | | 20 | 21 | 45 | 8 | 0,6 | 0,076 | | 24 | 25 | 55 |  |  | 0,120 | | 30 | 32 | 80 | 10 |  | 0,330 | | 36 | 38 | 90 |  | 0,7 | 0,410 | | 42 | 44 | 95 | 14 |  | 0,610 | | 48 | 50 | 105 |  |  | 0,740 | | 56 | 60 | 115 | 16 |  | 0,950 | | 64 | 68 | 130 |  | 0,8 | 1,210 | | 72 | 76 | 140 | 18 |  | 1,530 | | 80 | 85 | 160 | 20 |  | 2,270 | | 90 | 95 | 180 |  | 0,9 | 2,880 | | 100 | 105 | 190 | 22 |  | 3,400 | | 110 | 115 | 200 |  |  | 3,630 | | 125 | 130 | 240 | 25 | 1,0 | 6,300 | | 140 | 145 | 270 |  |  | 7,990 |     Пример условного обозначения шайбы, для шпильки диаметром резьбы *d* = 12 мм:    *ШАЙБА М12 ГОСТ 24379.1-80*    **Теоретическая масса болтов типов 1, 2, 5 и 6**     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* | Теоретическая масса болта типа 1, кг, при номинальном диаметре резьбы *d*, мм | | | | | | | | | болта *L*, мм | 12 | 16 | 20 | 24 | 30 | 36 | 42 | 48 | | 300 | 0,35 | 0,66 | - | - | - | - | - | - | | 400 | 0,44 | 0,82 | 1,32 | - | - | - | - | - | | 500 | 0,52 | 0,97 | 1,57 | 2,35 | - | - | - | - | | 600 | 0,61 | 1,13 | 1,81 | 2,71 | 4,55 | - | - | - | | 710 | 0,71 | 1,31 | 2,09 | 3,10 | 5,16 | 7,59 | - | - | | 800 | 0,79 | 1,45 | 2,31 | 3,42 | 5,66 | 8,31 | 11,81 | - | | 900 | 0,88 | 1,60 | 2,55 | 3,77 | 6,22 | 9,10 | 12,89 | 17,41 | | 1000 | 0,97 | 1,77 | 2,80 | 4,13 | 6,77 | 9,91 | 13,98 | 18,83 | | 1120 | - | 1,95 | 3,10 | 4,56 | 7,43 | 10,85 | 15,29 | 20,53 | | 1250 | - | 2,15 | 3,43 | 5,03 | 8,15 | 11,88 | 16,71 | 22,38 | | 1320 | - | - | 3,60 | 5,28 | 8,53 | 12,43 | 17,47 | 23,37 | | 1400 | - | - | 3,79 | 5,55 | 8,99 | 13,10 | 18,33 | 24,51 | | 1500 | - | - | - | 5,90 | 9,54 | 13,90 | 19,42 | 2,5,93 | | 1600 | - | - | - | 6,26 | 10,10 | 14,70 | 20,50 | 27,35 | | 1700 | - | - | - | 6,61 | 10,65 | 15,50 | 21,59 | 28,77 | | 1800 | - | - | - | - | 11,21 | 16,29 | 22,68 | 30,19 | | 1900 | - | - | - | - | 11,76 | 17,09 | 23,76 | 31,61 | | 2000 | - | - | - | - | 12,32 | 17,89 | 24,85 | 33,03 | | 2120 | - | - | - | - | - | 18,85 | 26,16 | 34,73 | | 2240 | - | - | - | - | - | 19,81 | 27,47 | 36,44 | | 2300 | - | - | - | - | - | 20,29 | 28,11 | 37,29 | | 2360 | - | - | - | - | - | - | 28,76 | 38,07 | | 2500 | - | - | - | - | - | - | 30,29 | 40,13 | | 2650 | - | - | - | - | - | - | - | 42,26 | | 2800 | - | - | - | - | - | - | - | 44,39 |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Теоретическая масса болта типа 1, кг, исполнении | | | | | | | | | | | | | | | | | Длина\* | 1 | | | | | | | 2 | | | | | 3 | | | | | болта *L*, мм | Номинальный диаметр резьбы , мм | | | | | | | | | | | | | | | | |  | 16 | 20 | 24 | 30 | 36 | 42 | 48 | 56 | 64 | 72 | 80 | 90 | 100 | 110 | 125 | 140 | | 200 | 0,92 | 1,56 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 250 | 0,99 | 1,69 | 2,74 | 4,70 | - | - | - | - | - | - | - | - | - | - | - | - | | 300 | 1,07 | 1,81 | 2,91 | 4,98 | 7,60 | - | - | - | - | - | - | - | - | - | - | - | | 350 | 1,15 | 1,93 | 3,09 | 5,25 | 7,99 | 12,21 | - | - | - | - | - | - | - | - | - | - | | 400 | 1,23 | 2,06 | 3,27 | 5,53 | 8,39 | 12,75 | 17,56 | - | - | - | - | - | - | - | - | - | | 450 | 1,31 | 2,18 | 3,35 | 5,81 | 8,79 | 13,29 | 18,27 | - | - | - | - | - | - | - | - | - | | 500 | 1,39 | 2,30 | 3,62 | 6,08 | 9,19 | 13,84 | 18,98 | - | - | - | - | - | - | - | - | - | | 600 | 1,55 | 2,55 | 3,98 | 6,64 | 9,99 | 14,92 | 20,39 | - | - | - | - | - | - | - | - | - | | 710 | 1,72 | 2,82 | 4,37 | 7,25 | 10,87 | 16,12 | 21,95 | - | - | - | - | - | - | - | - | - | | 800 | 1,86 | 3,04 | 4,69 | 7,75 | 11,59 | 17,10 | 23,23 | 33,99 | - | - | - | - | - | - | - | - | | 900 | 2,02 | 3,29 | 5,04 | 8,30 | 12,39 | 18,18 | 24,66 | 35,26 | - | - | - | - | - | - | - | - | | 1000 | 2,18 | 3,53 | 5,40 | 8,86 | 13,18 | 19,27 | 26,07 | 38,43 | 53,60 | 71,35 | - | - | - | - | - | - | | 1120 | 2,37 | 3,84 | 5,83 | 9,53 | 14,14 | 20,57 | 27,79 | 40,14 | 56,52 | 74,66 | - | - | - | - | - | - | | 1250 | 2,57 | 4,15 | 6,29 | 10,25 | 15,19 | 21,99 | 29,63 | 43,98 | 59,20 | 79,16 | 98,8 | - | - | - | - | - | | 1320 | - | 4,32 | 6,54 | 10,64 | 15,75 | 22,75 | 30,63 | 44,58 | 62,56 | 80,92 | 101,9 | - | - | - | - | - | | 1400 | - | 4,52 | 6,82 | 11,07 | 16,38 | 23,62 | 31,75 | 47,30 | 65,63 | 85,22 | 107,7 | 141,9 | - | - | - | - | | 1500 | - | 4,77 | 7,10 | 11,63 | 17,18 | 24,71 | 33,17 | 48,57 | 67,58 | 87,16 | 109,4 | 144,6 | - | - | - | - | | 1600 | - | - | 7,53 | 12,18 | 17,98 | 25,79 | 34,59 | 51,74 | 71,71 | 92,1 | 116,7 | 153,0 | 219,1 | 252,6 | - | - | | 1700 | - | - | 7,88 | 12,74 | 18,77 | 26,88 | 36,17 | 53,96 | 75,48 | 95,6 | 121,1 | 158,6 | 225,8 | 261,5 | - | - | | 1800 | - | - | - | 13,29 | 19,57 | 27,97 | 37,42 | 56,18 | 77,75 | 99,0 | 125,6 | 164,1 | 232,6 | 270,3 | 329,3 | 408,3 | | 1900 | - | - | - | 13,85 | 20,57 | 29,05 | 38,84 | 58,40 | 81,52 | 102,5 | 130,0 | 169,6 | 239,4 | 280,3 | 339,8 | 421,3 | | 2000 | - | - | - | - | 21,17 | 30,14 | 40,26 | 60,61 | 83,79 | 106,0 | 134,5 | 175,3 | 246,2 | 288,1 | 350,1 | 434,2 | | 2120 | - | - | - | - | 22,13 | 31,44 | 41,98 | 63,11 | 87,25 | 109,6 | 139,3 | 181,3 | 254,3 | 298,7 | 362,6 | 449,7 | | 2240 | - | - | - | - | 23,09 | 32,75 | 43,68 | 65,69 | 91,7 | 114,3 | 145,2 | 188,6 | 262,5 | 310,3 | 375,3 | 465,3 | | 2500 | - | - | - | - | - | 35,57 | 47,37 | 71,71 | 98,9 | 123,3 | 156,7 | 203,1 | 280,2 | 332,5 | 402,2 | 499,0 | | 2800 | - | - | - | - | - | - | 51,63 | 78,36 | 108,0 | 133,7 | 170,1 | 219,8 | 300,6 | 359,1 | 433,4 | 537,8 | | 3150 | - | - | - | - | - | - | - | 86,02 | 118,5 | 145,9 | 185,7 | 242,0 | 324,4 | 391,1 | 470,1 | 583,2 | | 3350 | - | - | - | - | - | - | - | - | - | 159,2 | 203,5 | 261,4 | 351,6 | 426,6 | 511,9 | 636,0 | | 4000 | - | - | - | - | - | - | - | - | - | - | - | 286,5 | 382,1 | 465,6 | 558,4 | 693,3 | | 4500 | - | - | - | - | - | - | - | - | - | - | - | - | 416,1 | 509,9 | 610,5 | 758,1 | | 5000 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 662,5 | 822,9 |      |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* | Теоретическая масса болта типа 5, кг, при номинальном диаметре резьбы *d*, мм | | | | | | | | | болта *L*, мм | 12 | 16 | 20 | 24 | 30 | 36 | 42 | 48 | | 150 | 0,18 | 0,36 | 0,57 | - | - | - | - | - | | 200 | 0,23 | 0,44 | 0,69 | 1,04 | - | - | - | - | | 250 | 0,27 | 0,51 | 0,82 | 1,22 | 2,17 | - | - | - | | 300 | 0,32 | 0,59 | 0,94 | 1,39 | 2,44 | 3,56 | - | - | | 350 | 0,36 | 0,67 | 1,06 | 1,57 | 2,72 | 3,96 | 5,66 | - | | 400 | 0,40 | 0,75 | 1,19 | 1,75 | 3,00 | 4,35 | 6,21 | 8,33 | | 450 | 0,45 | 0,83 | 1,31 | 1,93 | 3,28 | 4,75 | 6,75 | 9,04 | | 500 | - | 0,91 | 1,43 | 2,10 | 3,55 | 5,15 | 7,30 | 9,75 | | 600 | - | 1,07 | 1,68 | 2,46 | 4,11 | 5,95 | 8,38 | 11,17 | | 710 | - | - | 1,95 | 2,85 | 4,72 | 6,83 | 9,54 | 12,73 | | 800 | - | - | 2,17 | 3,17 | 5,22 | 7,55 | 10,56 | 13,98 | | 900 | - | - | - | 3,52 | 5,77 | 8,35 | 11,64 | 15,43 | | 1000 | - | - | - | - | 6,33 | 9,15 | 12,73 | 16,85 | | 1120 | - | - | - | - | 6,99 | 10,11 | 14,04 | 18,55 | | 1250 | - | - | - | - | - | 11,14 | 15,45 | 20,40 | | 1320 | - | - | - | - | - | - | 16,21 | 21,39 | | 1400 | - | - | - | - | - | - | - | 22,53 |      |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Теоретическая масса болта типа 6, кг, исполнений | | | | | | | | | | | | | Длина\* | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | | болта | Номинальный диаметр резьбы *d*, мм | | | | | | | | | | | | | *L*, мм | 12 | | | 16 | | | 20 | | | 24 | | | | 150 | 0,23 | 0,21 | 0,20 | 0,47 | 0,42 | 0,39 | - | - | - | - | - | - | | 200 | 0,27 | 0,26 | 0,24 | 0,55 | 0,50 | 0,47 | 0,92 | 0,80 | 0,75 | - | - | - | | 250 | 0,32 | 0,30 | 0,29 | 0,63 | 0,57 | 0,55 | 1,04 | 0,93 | 0,87 | 1,57 | 1,42 | 1,32 | | 300 | 0,36 | 0,35 | 0,33 | 0,71 | 0,65 | 0,63 | 1,17 | 1,05 | 1,00 | 1,75 | 1,59 | 1,50 | | 350 | 0,40 | 0,39 | 0,37 | 0,78 | 0,73 | 0,70 | 1,29 | 1,17 | 1,12 | 1,93 | 1,77 | 1,68 | | 400 | 0,45 | 0,43 | 0,42 | 0,86 | 0,81 | 0,73 | 1,41 | 1,30 | 1,24 | 2,11 | 1,97 | 1,86 | | 450 | 0,49 | 0,48 | 0,46 | 0,94 | 0,89 | 0,86 | 1,54 | 1,42 | 1,37 | 2,28 | 2,13 | 2,03 | | 500 | 0,54 | 0,52 | 0,51 | 1,02 | 0,97 | 0,94 | 1,66 | 1,54 | 1,49 | 2,46 | 2,30 | 2,21 | | 600 | 0,63 | 0,61 | 0,60 | 1,18 | 1,13 | 1,10 | 1,91 | 1,79 | 1,74 | 2,82 | 2,63 | 2,57 | | 710 | - | - | - | 1,35 | 1,30 | 1,27 | 2,18 | 2,06 | 2,01 | 3,21 | 3,05 | 2,95 | | 800 | - | - | - | - | - | - | 2,40 | 2,28 | 2,23 | 3,53 | 3,37 | 3,28 | | 900 | - | - | - | - | - | - | - | - | - | 3,88 | 3,72 | 3,63 |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Теоретическая масса болта типа 6, кг, исполнений | | | | | | | | | | | | | | | | | Длина\* | 1 | 2 | 3 | 1 | | 2 | 3 | 1 | | 2 | | 3 | | 1 | 2 | 3 | | болта | Номинальный диаметр резьбы *d*, мм | | | | | | | | | | | | | | | | | *L*, мм | 30 | | | 36 | | | | | 42 | | | | | 48 | | | | 250 | 2,77 | 2,53 | 2,36 | - | - | | - | | - | | - | | - | - | - | - | | 300 | 3,05 | 2,81 | 2,64 | 4,58 | 4,23 | | 3,90 | | - | | - | | - | - | - | - | | 350 | 3,33 | 3,03 | 2,92 | 4,98 | 4,62 | | 4,30 | | 7,27 | | 6,61 | | 6,21 | - | - | - | | 400 | 3,60 | 3,36 | 3,19 | 5,97 | 5,02 | | 4,69 | | 7,82 | | 7,15 | | 6,76 | 11,14 | 9,74 | 9,18 | | 450 | 3,83 | 3,64 | 3,47 | 5,77 | 5,42 | | 5,09 | | 8,36 | | 7,69 | | 7,30 | 11,35 | 10,45 | 9,89 | | 500 | 4,16 | 3,91 | 3,75 | 6,17 | 5,82 | | 5,49 | | 8,90 | | 8,24 | | 7,84 | 12,51 | 11,16 | 10,55 | | 600 | 4,71 | 4,47 | 4,30 | 6,96 | 6,62 | | 6,28 | | 9,99 | | 9,32 | | 8,93 | 13,98 | 12,53 | 12,02 | | 710 | 5,33 | 5,08 | 4,92 | 7,85 | 7,50 | | 7,17 | | 11,19 | | 10,52 | | 10,13 | 15,54 | 14,14 | 13,58 | | 800 | 5,82 | 5,58 | 5,41 | 8,56 | 8,22 | | 7,88 | | 12,17 | | 11,50 | | 11,11 | 16,82 | 15,42 | 14,86 | | 900 | 6,38 | 6,13 | 5,97 | 9,36 | 9,02 | | 8,68 | | 13,25 | | 12,58 | | 12,19 | 18,24 | 16,85 | 16,28 | | 1000 | 6,93 | 6,69 | 6,52 | 10,16 | 9,81 | | 9,48 | | 14,34 | | 13,67 | | 13,28 | 19,65 | 18,26 | 17,70 | | 1120 | 7,59 | 7,36 | 7,18 | 11,12 | 10,77 | | 10,44 | | 15,64 | | 14,97 | | 14,58 | 21,36 | 19,98 | 19,40 | | 1250 | - | - | - | 12,16 | 11,82 | | 11,48 | | 17,06 | | 16,39 | | 16,00 | 23,21 | 21,82 | 21,25 | | 1320 | - | - | - | - | - | | - | | 17,82 | | 17,15 | | 16,76 | 24,20 | 22,82 | 22,24 | | 1400 | - | - | - | - | - | | - | | - | | - | | - | 25,34 | 23,94 | 23,38 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     \_\_\_\_\_\_\_\_\_  \* Длина принята в соответствии с ГОСТ 6636-69.    **Теоретическая масса шпилек (поз. *1*-*4; 7-10*)**     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* | Теоретическая масса шпильки (поз. 1 и 2), кг, при номинальном диаметре резьбы *d*, мм | | | | | | | | | шпильки *L*, мм | 12 | 16 | 20 | 24 | 30 | 36 | 42 | 48 | | 300 | 0,30 | 0,54 | - | - | - | - | - | - | | 400 | 0,39 | 0,70 | 1,12 | - | - | - | - | - | | 500 | 0,47 | 0,85 | 1,37 | 2,02 | - | - | - | - | | 600 | 0,56 | 1,01 | 1,61 | 2,38 | 3,77 | - | - | - | | 710 | 0,66 | 1,19 | 1,89 | 2,77 | 4,38 | 6,43 | - | - | | 800 | 0,74 | 1,33 | 2,11 | 3,09 | 4,88 | 7,15 | 9,95 | - | | 900 | 0,83 | 1,48 | 2,35 | 3,44 | 5,44 | 7,95 | 11,03 | 14,76 | | 1000 | 0,92 | 1,65 | 2,60 | 3,80 | 5,99 | 8,74 | 12,12 | 16,18 | | 1120 | - | 1,8 | 2,90 | 4,23 | 6,65 | 9,69 | 13,43 | 17,63 | | 1250 | - | 2,05 | 3,23 | 4,70 | 7,37 | 10,72 | 14,35 | 19,73 | | 1320 | - | - | 3,40 | 4,95 | 7,75 | 11,27 | 15,61 | 20,72 | | 1400 | - | - | 3,59 | 5,22 | 8,21 | 11,94 | 16,47 | 21,36 | | 1500 | - | - | - | 5,57 | 8,76 | 12,74 | 17,56 | 23,28 | | 1600 | - | - | - | 5,93 | 9,32 | 13,54 | 18,64 | 24,70 | | 1700 | - | - | - | 6,28 | 9,87 | 14,34 | 19,73 | 26,12 | | 1800 | - | - | - | - | 10,43 | 15,13 | 20,82 | 27,54 | | 1900 | - | - | - | - | 10,96 | 15,93 | 21,90 | 28,96 | | 2000 | - | - | - | - | 11,54 | 16,73 | 22,99 | 30,38 | | 2120 | - | - | - | - | - | 17,69 | 24,30 | 32,08 | | 2240 | - | - | - | - | - | 18,64 | 25,61 | 33,79 | | 2300 | - | - | - | - | - | 19,13 | 26,25 | 34,64 | | 2360 | - | - | - | - | - | - | 26,90 | 35,45 | | 2500 | - | - | - | - | - | - | 28,43 | 37,48 | | 2650 | - | - | - | - | - | - | - | 38,61 | | 2800 | - | - | - | - | - | - | - | 41,71 |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* | Теоретическая масса шпильки (поз. *3*, *4*, *7* и *9*), кг, при номинальном диаметре резьбы *d*, мм | | | | | | | | | | | | | | | | | | шпильки*L*, мм | 12 | 16 | 20 | 24 | 30 | 36 | 42 | 48 | 56 | 64 | 72 | 80 | 90 | 100 | 110 | 125 | 140 | | 150 | 0,13 | 0,24 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 200 | 0,18 | 0,32 | 0,49 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 250 | 0,22 | 0,39 | 0,62 | 0,89 | 1,39 | *-* | - | - | - | - | - | - | - | - | - | - | - | | 300 | 0,27 | 0,47 | 0,74 | 1,06 | 1,67 | 2,40 | - | - | - | - | - | - | - | - | - | - | - | | 350 | 0,31 | 0,55 | 0,86 | 1,24 | 1,94 | 2,79 | 3,81 | - | - | - | - | - | - | - | - | - | - | | 400 | 0,35 | 0,63 | 0,99 | 1,42 | 2,22 | 3,19 | 4,35 | 5,68 | - | - | - | - | - | - | - | - | - | | 450 | 0,40 | 0,71 | 1,11 | 1,60 | 2,50 | 3,59 | 4,89 | 6,39 | - | - | - | - | - | - | - | - | - | | 500 | 0,44 | 0,79 | 1,23 | 1,77 | 2,77 | 3,99 | 5,44 | 7,10 | - | - | - | - | - | - | - | - | - | | 600 | 0,53 | 0,95 | 1,48 | 2,13 | 3,33 | 4,79 | 6,52 | 8,52 | - | - | - | - | - | - | - | - | - | | 710 | - | 1,12 | 1,75 | 2,52 | 3,94 | 5,67 | 7,72 | 10,08 | - | - | - | - | - | - | - | - | - | | 800 | - | 1,26 | 1,97 | 2,84 | 4,44 | 6,39 | 8,70 | 11,36 | 16,03 | - | - | - | - | - | - | - | - | | 900 | - | 1,42 | 2,22 | 3,19 | 4,99 | 7,19 | 9,78 | 12,79 | 18,25 | - | - | - | - | - | - | - | - | | 1000 | - | 1,58 | 2,46 | 3,55 | 5,55 | 7,98 | 10,87 | 14,20 | 20,47 | 26,63 | 33,33 | - | - | - | - | - | - | | 1120 | - | 1,77 | 2,76 | 3,98 | 6,22 | 8,94 | 12,17 | 15,92 | 23,13 | 30,67 | 37,49 | - | - | - | - | - | - | | 1250 | - | 1,97 | 3,08 | 4,44 | 6,94 | 9,99 | 13,59 | 17,76 | 26,02 | 33,35 | 41,99 | 51,23 | - | - | - | - | - | | 1320 | - | - | 3,25 | 4,69 | 7,33 | 10,55 | 14,35 | 18,76 | 27,57 | 36,71 | 43,75 | 54,35 | - | - | - | - | - | | 1400 | - | - | 3,45 | 4,97 | 7,76 | 11,18 | 15,22 | 19,88 | 29,34 | 38,71 | 46,52 | 57,91 | 71,5 | - | - | - | - | | 1500 | - | - | 3,70 | 5,32 | 8,32 | 11,98 | 16,31 | 21,30 | 31,56 | 41,73 | 49,99 | 62,36 | 77,1 | - | - | - | - | | 1600 | - | - | - | 5,68 | 8,87 | 12,78 | 17,39 | 22,72 | 33,78 | 44,74 | 53,45 | 66,81 | 82,7 | 100,7 | 123,8 | - | - | | 1700 | - | - | - | 6,03 | 9,43 | 13,57 | 18,48 | 24,13 | 36,00 | 47,76 | 56,91 | 71,26 | 88,3 | 107,5 | 132,7 | - | - | | 1800 | - | - | - | - | 9,98 | 14,37 | 19,57 | 25,55 | 38,22 | 50,78 | 60,38 | 75,72 | 93,8 | 114,3 | 141,6 | 177,3 | 221,8 | | 1900 | - | - | - | - | 10,54 | 15,17 | 20,65 | 26,97 | 40,44 | 53,80 | 63,84 | 80,17 | 99,3 | 121,1 | 150,5 | 187,8 | 234,8 | | 2000 | - | - | - | - | - | 15,97 | 21,74 | 28,39 | 42,65 | 56,82 | 67,31 | 84,62 | 104,9 | 127,9 | 159,3 | 198,2 | 247,7 | | 2120 | - | - | - | - | - | 16,93 | 23,04 | 30,10 | 45,31 | 60,44 | 71,47 | 89,96 | 111,6 | 136,0 | 169,9 | 210,7 | 263,2 | | 2240 | - | - | - | - | - | 17,89 | 24,35 | 31,80 | 47,98 | 64,07 | 75,63 | 95,30 | 118,3 | 144,2 | 180,5 | 223,3 | 278,8 | | 2500 | - | - | - | - | - | - | 27,17 | 35,49 | 53,75 | 71,92 | 84,64 | 106,90 | 132,8 | 161,9 | 203,7 | 250,2 | 312,5 | | 2800 | - | - | - | - | - | - | - | 39,75 | 60,40 | 80,98 | 95,04 | 120,20 | 149,5 | 182,3 | 230,3 | 281,5 | 351,4 | | 3150 | - | - | - | - | - | - | - | - | 68,22 | 91,70 | 107,20 | 135,80 | 171,7 | 206;1 | 261,3 | 318,1 | 396,7 | | 3550 | - | - | - | - | - | - | - | - | - | - | 121,15 | 153,60 | 191,1 | 233,3 | 296,7 | 359,9 | 448,5 | | 4000 | - | - | - | - | - | - | - | - | - | - | - | - | 216,2 | 263,8 | 336,8 | 406,4 | 506,9 | | 4500 | - | - | - | - | - | - | - | - | - | - | - | - | - | 297,8 | 381,2 | 458,5 | 571,6 | | 5000 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 510,6 | 636,4 |      |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* | Теоретическая масса шпильки (поз. *8* и *10*), кг, при номинальном диаметре резьбы *d*, мм | | | | | | | | | шпильки *L*, мм | 12 | 16 | 20 | 24 | 30 | 36 | 42 | 48 | | 150 | 0,15 | 0,27 | - | - | - | - | - | - | | 200 | 0,19 | 0,35 | 0,55 | - | - | - | - | - | | 250 | 0,24 | 0,43 | 0,67 | 0,99 | 1,58 | - | - | - | | 300 | 0,28 | 0,51 | 0,80 | 1,17 | 1,86 | 2,74 | - | - | | 350 | 0,32 | 0,58 | 0,92 | 1,35 | 2,14 | 3,14 | 4,35 | - | | 400 | 0,37 | 0,66 | 1,04 | 1,53 | 2,41 | 3,53 | 4,90 | 6,53 | | 450 | 0,41 | 0,74 | 1,17 | 1,70 | 2,69 | 3,93 | 5,44 | 7,24 | | 500 | 0,46 | 0,82 | 1,29 | 1,88 | 2,97 | 4,33 | 5,98 | 7,90 | | 600 | 0,55 | 0,98 | 1,54 | 2,24 | 3,53 | 5,12 | 7,07 | 9,37 | | 710 | - | 1,15 | 1,81 | 2,63 | 4,14 | 6,01 | 8,26 | 10,93 | | 800 | - | - | 2,03 | 2,95 | 4,63 | 6,72 | 9,25 | 12,21 | | 900 | - | - | - | 3,30 | 5,19 | 7,52 | 10,33 | 13,63 | | 1000 | - | - | - | - | 5,74 | 8,32 | 11,42 | 15,05 | | 1120 | - | - | - | - | 6,40 | 9,28 | 12,72 | 16,75 | | 1250 | - | - | - | - | - | 10,32 | 14,14 | 18,60 | | 1320 | - | - | - | - | - | - | 14,90 | 19,59 | | 1400 | - | - | - | - | - | - | - | 20,73 |   \_\_\_\_\_\_\_\_\_\_\_  \* Длина принята в соответствии с ГОСТ 6636-69.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* | Теоретическая масса анкерной арматуры, кг, исполнений | | | | | | | | | | | | | | | | | | | | анкерной | 1 | | | | | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | | | арматуры *L1*, | Номинальный диаметр резьбы *d*, мм | | | | | | | | | | | | | | | | | | | | мм | 24 | 30 | 36 | 42 | 48 | 56 | | 64 | | 72 | | 80 | | 90 | | 100 | | 110 | 125 | | 400 | 4,76 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 500 | 5,24 | 6,02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 600 | 5,73 | 6,51 | 10,57 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 710 | 6,27 | 7,05 | 11,48 | 14,41 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 800 | 6,70 | 7,48 | 12,25 | 15,18 | 19,94 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 900 | 7,19 | 7,97 | 13,09 | 16,02 | 20,90 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1000 | 7,68 | 8,46 | 13,92 | 16,85 | 21,87 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1120 | 8,17 | 9,05 | 14,93 | 17,85 | 23,03 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1250 | 8,90 | 9,68 | 16,02 | 18,94 | 24,29 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1320 | 9,25 | 10,03 | 16,63 | 19,53 | 24,95 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1400 | - | 10,42 | 17,30 | 20,20 | 25,73 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1500 | - | - | 18,14 | 21,04 | 26,70 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1600 | - | - | - | 21,88 | 27,66 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1700 | - | - | - | - | 28,63 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 1800 | - | - | - | - | - | 43,85 | 34,14 | - | - | - | - | - | - | - | - | - | - | - | - | | 2000 | - | - | - | - | - | 45,78 | 36,07 | 62,82 | 44,13 | - | - | - | - | - | - | - | - | - | - | | 2240 | - | - | - | - | - | 48,10 | 38,39 | 65,72 | 47,05 | 87,01 | 61,8 | - | - | - | - | - | - | - | - | | 2500 | - | - | - | - | - | 50,62 | 40,91 | 68,90 | 50,21 | 90,66 | 65,33 | 94,37 | 80,73 | - | - | - | - | - | - | | 2800 | - | - | - | - | - | - | - | 72,54 | 53,85 | 94,32 | 69,41 | 99,88 | 85,24 | 140,7 | 110,0 | - | - | - | - | | 3150 | - | - | - | - | - | - | - | - | - | 98,90 | 74,17 | 104,15 | 90,51 | 147,0 | 116,4 | 181,5 | 134,6 | - | - | | 3550 | - | - | - | - | - | - | - | - | - | - | - | 110,16 | 96,52 | 154,3 | 123,6 | 189,5 | 142,6 | 236,0 |  | | 4000 | - | - | - | - | - | - | - | - | - | - | - | - | - | 162,4 | 131,8 | 198,6 | 151,7 | 245,7 | 313,20 | | 4500 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 208,6 | 161,7 | 256,4 | 337,7 |      |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Длина\* трубы *L1*, | Теоретическая масса трубы, кг при номинальном наружном диаметре D и толщине стенки *s* (*D*´*s*), мм | | | | | | | | | | | мм | 60´3,5 | 89´4 | 102´4 | 114´4,5 | 127´4,5 | 140´4,5 | 152´5 | 168´5 | 180´5 | 203´6 | | 400 | 1,95 | - | - | - | - | - | - | - | - | - | | 500 | 2,44 | - | - | - | - | - | - | - | - | - | | 600 | 2,93 | 5,03 | - | - | - | - | - | - | - | - | | 710 | 3,47 | 5,95 | - | - | - | - | - | - | - | - | | 800 | 3,90 | 6,71 | 7,74 | - | - | - | - | - | - | - | | 900 | 4,39 | 7,55 | 8,70 | - | - | - | - | - | - | - | | 1000 | 4,88 | 8,38 | 9,67 | - | - | - | - | - | - | - | | 1120 | 5,47 | 9,38 | 10,83 | - | - | - | - | - | - | - | | 1250 | 6,10 | 10,47 | 12,09 | - | - | - | - | - | - | - | | 1320 | 6,44 | 11,07 | 12,76 | - | - | - | - | - | - | - | | 1400 | 6,83 | 11,73 | 13,54 | - | - | - | - | - | - | - | | 1500 | - | 12,58 | 14,50 | - | - | - | - | - | - | - | | 1600 | - | 13,41 | 15,48 | - | - | - | - | - | - | - | | 1700 | - | - | 16,43 | - | - | - | - | - | - | - | | 1800 | - | - | 17,41 | - | - | - | - | - | - | - | | 2000 | - | - | 19,34 | 24,30 | - | - | - | - | - | - | | 2240 | - | - | 21,66 | 27,22 | 30,44 | - | - | - | - | - | | 2500 | - | - | 24,18 | 30,38 | 33,97 | 37,60 | - | - | - | - | | 2800 | - | - | - | 30,02 | 38,05 | 42,11 | 50,76 | - | - | - | | 3150 | - | - | - | - | 42,81 | 47,38 | 57,11 | 63,32 | - | - | | 3550 | - | - | - | - | - | 53,39 | 64,36 | 71,35 | 76,64 | - | | 4000 | - | - | - | - | - | - | 72,52 | 80,40 | 86,36 | 116,56 | | 4500 | - | - | - | - | - | - | - | 90,45 | 97,15 | 131,13 |     \_\_\_\_\_\_\_\_  \* Длина принята в соответствии с ГОСТ 6636-69. | |