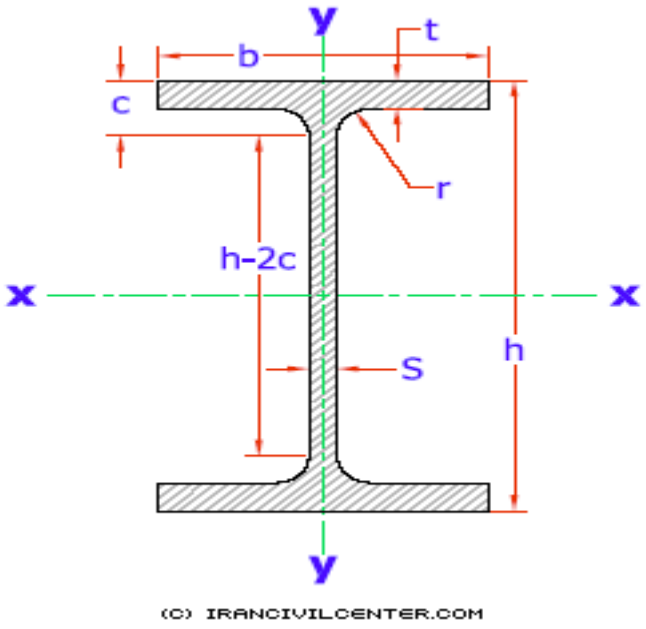
| $J_y$ | $i_x$ | $W_x$ | $J_x$ | G | A | h-2c | c | r | t | s | b | h | IPE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $cm^4$ | cm | $cm^3$ | $cm^4$ | kg/m | $cm^2$ | mm | mm | mm | mm | **mm** | mm | mm | |
| 8.49 | 3.24 | 20 | 80.1 | 6 | 7.64 | 59 | 10.2 | 5 | 5.2 | 3.8 | 46 | 80 | 80 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.49 | 3.24 | 20 | 80.1 | 6 | 7.64 | 59 | 10.2 | 5 | 5.2 | 3.8 | 46 | 80 | 80 |
| 15.9 | 4.07 | 34.2 | 171 | 8.1 | 10.3 | 74 | 12.7 | 7 | 5.7 | 4.1 | 55 | 100 | 100 |
| 27.7 | 4.9 | 53 | 318 | 10.4 | 13.2 | 93 | 13.3 | 7 | 6.3 | 4.4 | 64 | 120 | 120 |
| 44.9 | 5.74 | 77.3 | 541 | 12.9 | 16.4 | 112 | 13.9 | 7 | 6.9 | 4.7 | 73 | 140 | 140 |
| 68.3 | 6.58 | 109 | 869 | 15.8 | 20.1 | 127 | 16.4 | 9 | 7.4 | 5 | 82 | 160 | 160 |
| 101 | 7.42 | 146 | 1320 | 18.8 | 23.9 | 146 | 17 | 9 | 8 | 5.3 | 91 | 180 | 180 |
| 142 | 8.26 | 194 | 1940 | 22.4 | 28.5 | 159 | 20.5 | 12 | 8.5 | 5.6 | 100 | 200 | 200 |
| 205 | 9.11 | 252 | 2770 | 26.2 | 33.4 | 177 | 21.2 | 12 | 9.2 | 5.9 | 110 | 220 | 220 |
| 284 | 9.97 | 324 | 3890 | 30.7 | 39.1 | 190 | 24.8 | 15 | 9.8 | 6.2 | 120 | 240 | 240 |
| 420 | 11.2 | 429 | 5790 | 36.1 | 45.9 | 219 | 25.2 | 15 | 10.2 | 6.6 | 135 | 270 | 270 |
| 604 | 12.5 | 557 | 8360 | 42.2 | 53.8 | 248 | 25.7 | 15 | 10.7 | 7.1 | 150 | 300 | 300 |
| 788 | 13.7 | 713 | 11770 | 49.1 | 62.6 | 271 | 29.5 | 18 | 11.5 | 7.5 | 160 | 330 | 330 |
| 1040 | 15 | 904 | 16270 | 57.1 | 72.7 | 298 | 30.7 | 18 | 12.7 | 8 | 170 | 360 | 360 |
| 1320 | 16.5 | 1160 | 23130 | 66.3 | 84.5 | 331 | 34.5 | 21 | 13.5 | 8.6 | 180 | 400 | 400 |
| 1680 | 18.5 | 1500 | 33740 | 77.6 | 98.8 | 378 | 35.6 | 21 | 14.6 | 9.4 | 190 | 450 | 450 |
| 2140 | 20.4 | 1930 | 48200 | 90.7 | 116 | 426 | 37 | 21 | 16 | 10.2 | 200 | 500 | 500 |
| 2670 | 22.3 | 2440 | 67120 | 106 | 134 | 467 | 41.2 | 24 | 17.2 | 11.1 | 210 | 550 | 550 |
| 3390 | 24.3 | 3070 | 92080 | 122 | 156 | 514 | 43 | 24 | 19 | 12 | 220 | 600 | 600 |

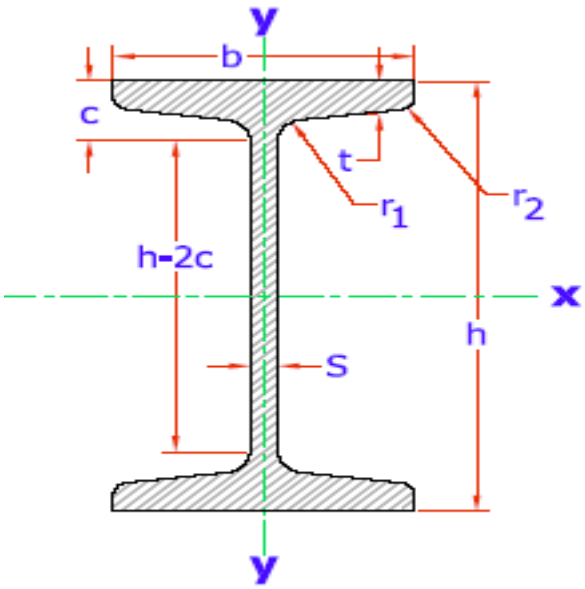
| $r_T$ | $a_1$ | $i_y$ | $W_y$ |
|---|---|---|---|
| mm | mm | cm | $cm^3$ |
| 12.2 | 63 | 1.05 | 3.69 |



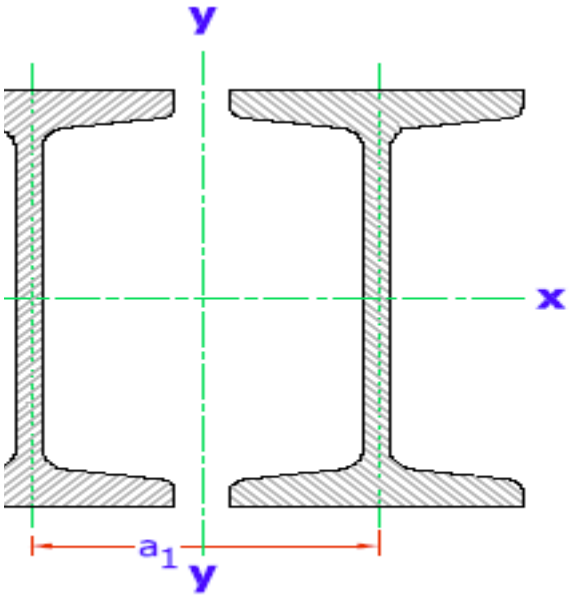

| | | | |
|---|---|---|---|
| 12.2 | 63 | 1.05 | 3.69 |
| 14.6 | 79 | 1.24 | 5.79 |
| 16.9 | 96 | 1.45 | 8.65 |
| 19.3 | 112 | 1.65 | 12.3 |
| 21.7 | 129 | 1.84 | 16.7 |
| 24 | 145 | 2.06 | 22.2 |
| 26.4 | 162 | 2.24 | 28.5 |
| 29.1 | 179 | 2.48 | 37.3 |
| 31.8 | 196 | 2.6 | 47.3 |
| 35.6 | 220 | 3.02 | 62.2 |
| 39.5 | 245 | 3.35 | 80.5 |
| 42.1 | 270 | 3.55 | 98.5 |
| 44.7 | 294 | 3.79 | 123 |
| 47.1 | 326 | 3.95 | 146 |
| 49.4 | 365 | 4.12 | 176 |
| 51.8 | 404 | 4.31 | 214 |
| 54 | 442 | 4.45 | 254 |
| 56.5 | 481 | 4.66 | 308 |

| $W_x$ | $J_x$ | G | A | h-2c | c | $r_2$ | t | $s=r_1$ | b | h | INP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $cm^3$ | $cm^4$ | kg/m | $cm^2$ | mm | mm | mm | mm | mm | mm | mm | |
| 19.5 | 77.8 | 5.94 | 7.57 | 59 | 10.5 | 2.3 | 5.9 | 3.9 | 42 | 80 | 80 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19.5 | 77.8 | 5.94 | 7.57 | 59 | 10.5 | 2.3 | 5.9 | 3.9 | 42 | 80 | 80 |
| 34.2 | 171 | 8.34 | 10.6 | 75 | 12.5 | 2.7 | 6.8 | 4.5 | 50 | 100 | 100 |
| 54.7 | 328 | 11.1 | 14.2 | 92 | 14 | 3.1 | 7.7 | 5.1 | 58 | 120 | 120 |
| 81.9 | 573 | 14.3 | 18.2 | 109 | 15.5 | 3.4 | 8.6 | 5.7 | 66 | 140 | 140 |
| 117 | 935 | 17.9 | 22.8 | 125 | 17.5 | 3.8 | 9.5 | 6.3 | 74 | 160 | 160 |
| 161 | 1450 | 21.9 | 27.9 | 142 | 19 | 4.1 | 10.4 | 6.9 | 82 | 180 | 180 |
| 214 | 2140 | 26.2 | 33.4 | 159 | 20.5 | 4.5 | 11.3 | 7.5 | 90 | 200 | 200 |
| 278 | 3060 | 31.1 | 39.5 | 176 | 22 | 4.9 | 12.2 | 8.1 | 98 | 220 | 220 |
| 354 | 4250 | 36.2 | 46.1 | 192 | 24 | 5.2 | 13.1 | 8.7 | 106 | 240 | 240 |
| 442 | 5740 | 41.9 | 53.3 | 208 | 26 | 5.6 | 14.1 | 9.4 | 113 | 260 | 260 |
| 542 | 7590 | 47.9 | 61 | 225 | 27.5 | 6.1 | 15.2 | 10.1 | 119 | 280 | 280 |
| 653 | 9800 | 54.2 | 69 | 241 | 29.5 | 6.5 | 16.2 | 10.8 | 125 | 300 | 300 |
| 782 | 12510 | 61 | 77.7 | 258 | 31 | 6.9 | 17.3 | 11.5 | 131 | 320 | 320 |
| 923 | 15700 | 68 | 86.7 | 274 | 33 | 7.3 | 18.3 | 12.2 | 137 | 340 | 340 |
| 1090 | 19610 | 76.1 | 97 | 290 | 35 | 7.8 | 19.5 | 13 | 143 | 360 | 360 |
| 1260 | 24010 | 84 | 107 | 306 | 37 | 8.2 | 20.5 | 13.7 | 149 | 380 | 380 |
| 1460 | 29210 | 92.4 | 118 | 323 | 38.5 | 8.6 | 21.6 | 14.4 | 155 | 400 | 400 |
| 1740 | 36970 | 104 | 132 | 343 | 41 | 9.2 | 23 | 15.3 | 163 | 425 | 425 |
| 2040 | 45850 | 115 | 147 | 363 | 43.5 | 9.7 | 24.3 | 16.2 | 170 | 450 | 450 |
| 2380 | 56480 | 128 | 163 | 384 | 45.5 | 10.3 | 25.6 | 17.1 | 178 | 475 | 475 |
| 2750 | 68740 | 141 | 179 | 404 | 48 | 10.8 | 27 | 18 | 185 | 500 | 500 |
| 3610 | 99180 | 166 | 212 | 445 | 52.5 | 11.9 | 30 | 19 | 200 | 550 | 550 |
| 4630 | 139000 | 199 | 254 | 485 | 57.5 | 13 | 32.4 | 21.6 | 215 | 600 | 600 |



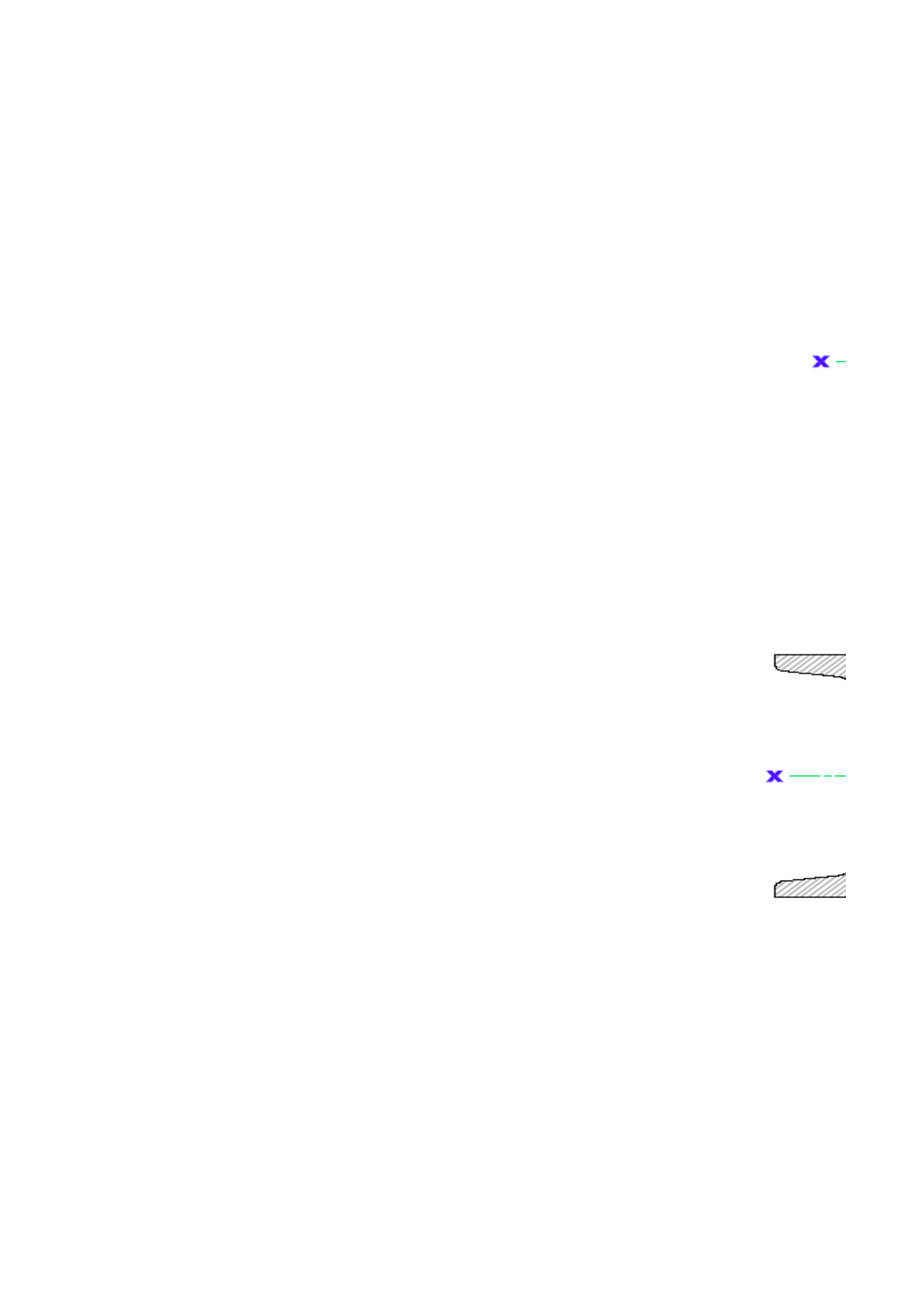

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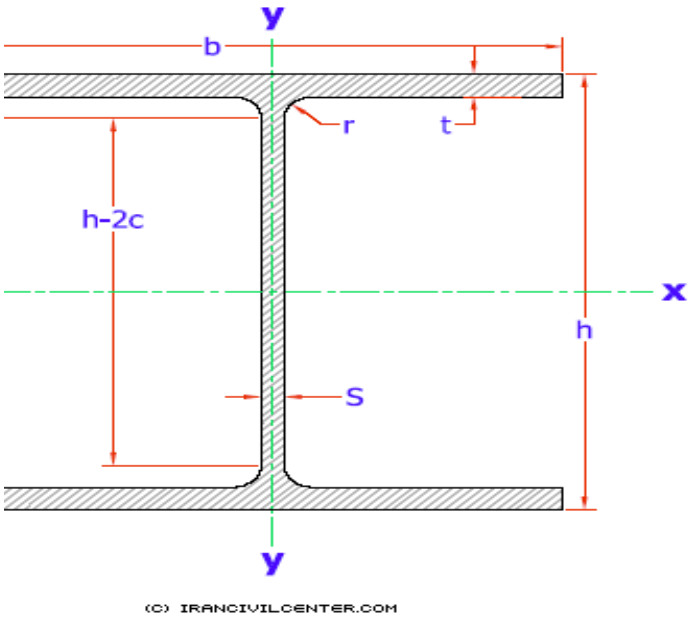
| $r_T$ | $a_1$ | $i_y$ | $W_y$ | $J_y$ | $i_x$ |
|---|---|---|---|---|---|
| mm | mm | cm | $cm^3$ | $cm^4$ | cm |
| 11.2 | 62 | 0.91 | 3 | 6.29 | 3.2 |

| | | | | | |
|---|---|---|---|---|---|
| 11.2 | 62 | 0.91 | 3 | 6.29 | 3.2 |
| 13.3 | 78 | 1.07 | 4.88 | 12.2 | 4.01 |
| 15.4 | 94 | 1.23 | 7.41 | 21.5 | 4.81 |
| 17.4 | 108 | 1.4 | 10.7 | 35.2 | 5.61 |
| 19.5 | 124 | 1.55 | 14.8 | 54.7 | 6.4 |
| 21.6 | 140 | 1.71 | 19.8 | 81.3 | 7.2 |
| 23.6 | 156 | 1.87 | 26 | 117 | 8 |
| 25.7 | 172 | 2.02 | 33.1 | 162 | 8.8 |
| 27.8 | 188 | 2.2 | 41.7 | 221 | 9.59 |
| 29.6 | 202 | 2.32 | 51 | 288 | 10.4 |
| 31.1 | 218 | 2.45 | 61.2 | 364 | 11.1 |
| 32.6 | 234 | 2.56 | 72.2 | 451 | 11.9 |
| 34.1 | 248 | 2.67 | 84.7 | 555 | 12.7 |
| 35.6 | 264 | 2.8 | 98.4 | 674 | 13.5 |
| 37.2 | 278 | 2.9 | 114 | 818 | 14.2 |
| 38.7 | 294 | 3.02 | 131 | 975 | 15 |
| 40.2 | 308 | 3.13 | 149 | 1160 | 15.7 |
| 42.2 | 328 | 3.3 | 176 | 1440 | 16.7 |
| 44 | 348 | 3.43 | 203 | 1730 | 17.7 |
| 46 | 366 | 3.6 | 235 | 2090 | 18.6 |
| 47.8 | 384 | 3.72 | 268 | 2480 | 19.6 |
| 51.8 | 424 | 4.02 | 349 | 3490 | 21.6 |
| 55.4 | 460 | 4.3 | 434 | 4670 | 23.6 |



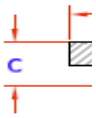
| $W_x$ | $J_x$ | G | A | h-2c | c | r | t | s | b | h | IPB |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $cm^3$ | $cm^4$ | kg/m | $cm^2$ | mm | mm | mm | mm | mm | mm | mm | |
| 4970 | 136700 | 199 | 254 | 438 | 56 | 27 | 29 | 15 | 300 | 550 | 550 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 89.9 | 450 | 20.4 | 26 | 56 | 22 | 12 | 10 | 6 | 100 | 100 | 100 |
| 144 | 864 | 26.7 | 34 | 74 | 23 | 12 | 11 | 6.5 | 120 | 120 | 120 |
| 216 | 1510 | 33.7 | 43 | 92 | 24 | 12 | 12 | 7 | 140 | 140 | 140 |
| 311 | 2490 | 42.6 | 54.3 | 104 | 28 | 15 | 13 | 8 | 160 | 160 | 160 |
| 426 | 3830 | 51.2 | 65.3 | 122 | 29 | 15 | 14 | 8.5 | 180 | 180 | 180 |
| 570 | 5700 | 61.3 | 78.1 | 134 | 33 | 18 | 15 | 9 | 200 | 200 | 200 |
| 736 | 8090 | 71.5 | 91 | 152 | 34 | 18 | 16 | 9.5 | 220 | 220 | 220 |
| 938 | 11260 | 83.2 | 106 | 164 | 38 | 21 | 17 | 10 | 240 | 240 | 240 |
| 1150 | 14920 | 93 | 118 | 177 | 41.5 | 24 | 17.5 | 10 | 260 | 260 | 260 |
| 1380 | 19270 | 103 | 131 | 196 | 42 | 24 | 18 | 10.5 | 280 | 280 | 280 |
| 1680 | 25170 | 117 | 149 | 208 | 46 | 27 | 19 | 11 | 300 | 300 | 300 |
| 1930 | 30820 | 127 | 161 | 225 | 47.5 | 27 | 20.5 | 11.5 | 300 | 320 | 320 |
| 2160 | 36660 | 134 | 171 | 243 | 48.5 | 27 | 21.5 | 12 | 300 | 340 | 340 |
| 2400 | 43190 | 142 | 181 | 261 | 49.5 | 27 | 22.5 | 12.5 | 300 | 360 | 360 |
| 2880 | 57680 | 155 | 198 | 298 | 51 | 27 | 24 | 13.5 | 300 | 400 | 400 |
| 3550 | 79890 | 171 | 218 | 344 | 53 | 27 | 26 | 14 | 300 | 450 | 450 |
| 4290 | 107200 | 187 | 239 | 390 | 55 | 27 | 28 | 14.5 | 300 | 500 | 500 |
| 4970 | 136700 | 199 | 254 | 438 | 56 | 27 | 29 | 15 | 300 | 550 | 550 |
| 5700 | 171000 | 212 | 270 | 486 | 57 | 27 | 30 | 15.5 | 300 | 600 | 600 |
| 6480 | 210600 | 225 | 286 | 534 | 58 | 27 | 31 | 16 | 300 | 650 | 650 |
| 7340 | 256900 | 241 | 306 | 582 | 59 | 27 | 32 | 17 | 300 | 700 | 700 |
| 8980 | 359100 | 262 | 334 | 674 | 63 | 30 | 33 | 17.5 | 300 | 800 | 800 |
| 10980 | 494100 | 291 | 371 | 770 | 65 | 30 | 35 | 18.5 | 300 | 900 | 900 |
| 12890 | 644700 | 314 | 400 | 868 | 66 | 30 | 36 | 19 | 300 | 1000 | 1000 |




| $r_T$ | $i_y$ | $W_y$ | $J_y$ | $i_x$ |
|---|---|---|---|---|
| mm | cm | $cm^3$ | $cm^4$ | cm |
| 81.1 | 7.17 | 872 | 13080 | 23.2 |

| | | | | |
|---|---|---|---|---|
| 27.8 | 2.53 | 33.5 | 167 | 4.16 |
| 33.4 | 3.06 | 52.9 | 318 | 5.04 |
| 38.9 | 3.58 | 78.5 | 550 | 5.93 |
| 44.4 | 4.05 | 111 | 889 | 6.78 |
| 49.9 | 4.57 | 151 | 1360 | 7.66 |
| 55.5 | 5.07 | 200 | 2000 | 8.54 |
| 61 | 5.59 | 258 | 2840 | 9.43 |
| 66.6 | 6.08 | 327 | 3920 | 10.3 |
| 72.2 | 6.58 | 395 | 5130 | 11.2 |
| 77.6 | 7.09 | 471 | 6590 | 12.1 |
| 83.2 | 7.58 | 571 | 8560 | 13 |
| 83.1 | 7.57 | 616 | 9240 | 13.8 |
| 82.9 | 7.53 | 646 | 9690 | 14.6 |
| 82.7 | 7.49 | 676 | 10140 | 15.5 |
| 82.3 | 7.4 | 721 | 10820 | 17.1 |
| 81.9 | 7.33 | 781 | 11720 | 19.1 |
| 81.6 | 7.27 | 842 | 12620 | 21.2 |
| 81.1 | 7.17 | 872 | 13080 | 23.2 |
| 80.7 | 7.08 | 902 | 13530 | 25.2 |
| 80.2 | 6.99 | 932 | 13980 | 27.1 |
| 79.6 | 6.87 | 963 | 14440 | 29 |
| 78.7 | 6.68 | 994 | 14900 | 32.8 |
| 77.9 | 6.53 | 1050 | 15820 | 36.5 |
| 77 | 6.38 | 1090 | 16280 | 40.1 |


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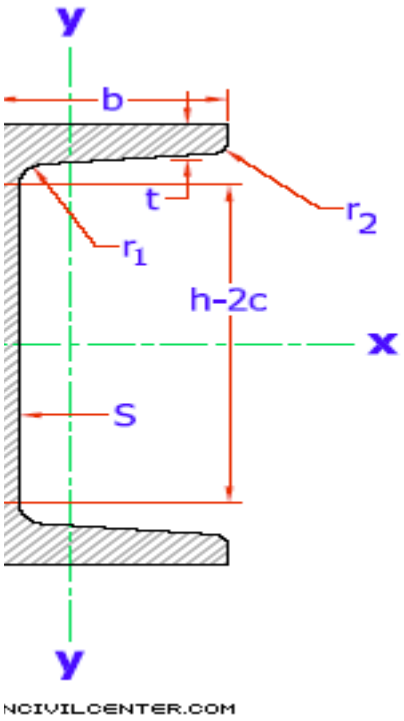




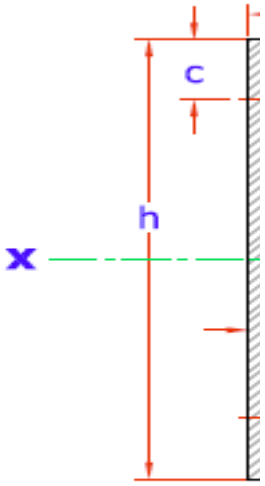
| $W_x$ | $J_x$ | G | A | h-2c | c | $r_2$ | $t=r_1$ | s | b | h | UNP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $cm^3$ | $cm^4$ | kg/m | $cm^2$ | mm | mm | mm | mm | mm | mm | mm | |
| 1020 | 20350 | 71.8 | 91.5 | 325 | 38 | 9 | 18 | 14 | 110 | 400 | 400 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.69 | 2.53 | 1.74 | 2.21 | 12 | 9 | 2 | 4.5 | 4 | 15 | 30 | 30x15 |
| 4.26 | 6.39 | 4.27 | 5.44 | 1 | 14.5 | 3.5 | 7 | 5 | 33 | 30 | 30 |
| 3.79 | 7.58 | 2.87 | 3.66 | 18 | 11 | 2.5 | 5.5 | 5 | 20 | 40 | 40x20 |
| 7.05 | 14.1 | 4.87 | 6.21 | 11 | 14.5 | 3.5 | 7 | 5 | 35 | 40 | 40 |
| 6.73 | 16.8 | 3.86 | 4.92 | 25 | 12.5 | 3 | 6 | 5 | 25 | 50 | 50x25 |
| 10.6 | 26.4 | 5.59 | 7.12 | 20 | 15 | 3.5 | 7 | 5 | 38 | 50 | 50 |
| 10.5 | 31.6 | 5.07 | 6.46 | 35 | 12.5 | 3 | 6 | 6 | 30 | 60 | 60 |
| 17.7 | 57.5 | 7.09 | 9.03 | 33 | 16 | 4 | 7.5 | 5.5 | 42 | 65 | 65 |
| 26.5 | 106 | 8.64 | 11 | 47 | 17 | 4 | 8 | 6 | 45 | 80 | 80 |
| 41.2 | 206 | 10.6 | 13.5 | 64 | 18 | 4.5 | 8.5 | 6 | 50 | 100 | 100 |
| 60.7 | 364 | 13.4 | 17 | 82 | 19 | 4.5 | 9 | 7 | 55 | 120 | 120 |
| 86.4 | 605 | 16 | 20.4 | 97 | 21 | 5 | 10 | 7 | 60 | 140 | 140 |
| 116 | 925 | 18.8 | 24 | 116 | 22.5 | 5.5 | 10.5 | 7.5 | 65 | 160 | 160 |
| 150 | 1350 | 22 | 28 | 133 | 23.5 | 5.5 | 11 | 8 | 70 | 180 | 180 |
| 191 | 1910 | 25.3 | 32.2 | 151 | 24.5 | 6 | 11.5 | 8.5 | 75 | 200 | 200 |
| 245 | 26900 | 29.4 | 37.4 | 166 | 26.5 | 6.5 | 12.5 | 9 | 80 | 220 | 220 |
| 300 | 3600 | 33.2 | 42.3 | 185 | 28 | 6.5 | 13 | 9.5 | 85 | 240 | 240 |
| 371 | 4820 | 37.9 | 48.3 | 201 | 30 | 7 | 14 | 10 | 90 | 260 | 260 |
| 448 | 6280 | 41.8 | 53.3 | 216 | 32 | 7.5 | 15 | 10 | 95 | 280 | 280 |
| 535 | 8030 | 46.2 | 58.8 | 232 | 34 | 8 | 16 | 10 | 100 | 300 | 300 |
| 679 | 10870 | 59.5 | 75.8 | 247 | 37 | 8.75 | 17.5 | 14 | 100 | 320 | 320 |
| 734 | 12840 | 60.6 | 77.3 | 283 | 34 | 8 | 16 | 14 | 100 | 350 | 350 |
| 829 | 15760 | 63.1 | 80.4 | 313 | 33.5 | 8 | 16 | 13.5 | 102 | 380 | 380 |
| 1020 | 20350 | 71.8 | 91.5 | 325 | 38 | 9 | 18 | 14 | 110 | 400 | 400 |

| $a_1$ | $x_M$ | $e_y$ | $i_y$ | $W_y$ | $J_y$ | $i_x$ |
|---|---|---|---|---|---|---|
| mm | cm | cm | cm | $cm^3$ | $cm^4$ | cm |
| 240 | 5.11 | 2.65 | 3.04 | 102 | 846 | 14.9 |




| | | | | | | |
|---|---|---|---|---|---|---|
| -- | 0.74 | 0.52 | 0.42 | 0.39 | 0.38 | 1.07 |
| -- | 2.22 | 1.31 | 0.99 | 2.68 | 5.33 | 1.08 |
| -- | 1.01 | 0.67 | 0.56 | 0.86 | 1.14 | 1.44 |
| -- | 2.32 | 1.33 | 1.04 | 3.08 | 6.68 | 1.5 |
| -- | 1.34 | 0.81 | 0.71 | 1.48 | 2.49 | 1.85 |
| 4 | 2.47 | 1.37 | 1.13 | 3.75 | 9.12 | 1.92 |
| -- | 1.5 | 0.91 | 0.84 | 2.16 | 4.51 | 2.21 |
| 16 | 2.6 | 1.42 | 1.25 | 5.07 | 14.1 | 2.52 |
| 28 | 2.67 | 1.45 | 1.33 | 6.36 | 19.4 | 3.1 |
| 42 | 2.93 | 1.55 | 1.47 | 8.49 | 29.3 | 3.91 |
| 56 | 3.03 | 1.6 | 1.59 | 11.1 | 43.2 | 4.62 |
| 70 | 3.37 | 1.75 | 1.75 | 14.8 | 62.7 | 5.45 |
| 82 | 3.56 | 1.84 | 1.89 | 18.3 | 85.3 | 6.21 |
| 96 | 3.75 | 1.92 | 2.02 | 22.4 | 114 | 6.95 |
| 108 | 3.94 | 2.01 | 2.14 | 27 | 148 | 7.7 |
| 122 | 4.2 | 2.14 | 2.3 | 33.6 | 197 | 8.48 |
| 134 | 4.39 | 2.23 | 2.42 | 39.6 | 248 | 9.22 |
| 146 | 4.66 | 2.36 | 2.56 | 47.7 | 317 | 9.99 |
| 160 | 5.02 | 2.53 | 2.74 | 57.2 | 399 | 10.9 |
| 174 | 5.41 | 2.7 | 2.9 | 67.8 | 495 | 11.7 |
| 182 | 4.82 | 2.6 | 2.81 | 80.6 | 597 | 12.1 |
| 204 | 4.45 | 2.4 | 2.72 | 75 | 570 | 12.9 |
| 227 | 4.58 | 2.38 | 2.77 | 78.7 | 615 | 14 |
| 240 | 5.11 | 2.65 | 3.04 | 102 | 846 | 14.9 |




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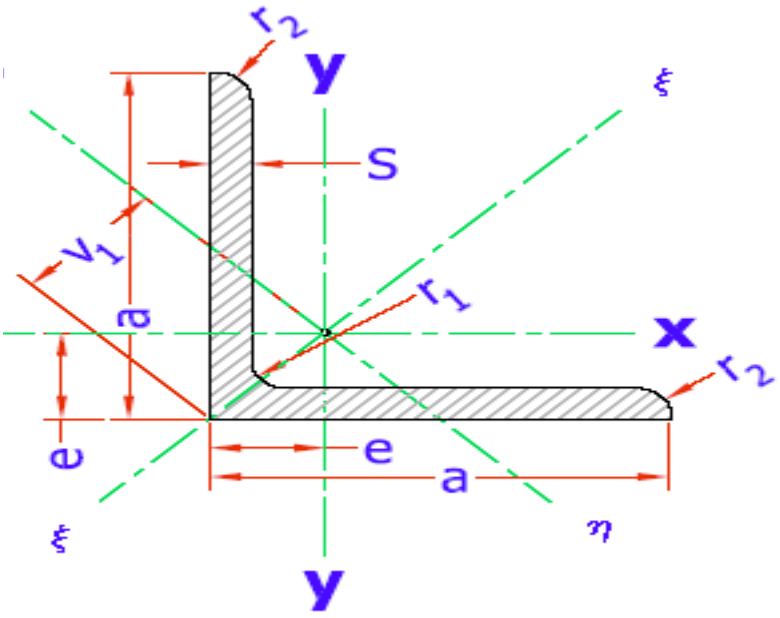
| $J_\xi$ | $i_x=i_y$ | $W_x=W_y$ | $J_x=J_y$ | $v_1$ | w | e | G | F | $r_2$ | $r_1$ | a X s |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $cm^4$ | cm | $cm^3$ | $cm^4$ | cm | cm | cm | kg/m | $cm^2$ | mm | mm | mm |
| 5990 | 6.02 | 270 | 3780 | 8.47 | 14.1 | 5.99 | 82 | 105 | 9 | 18 | 200 X 28 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.62 | 0.59 | 0.28 | 0.39 | 0.85 | 1.41 | 0.6 | 0.88 | 1.12 | 2 | 3.5 | 20 X 3 |
| 0.77 | 0.58 | 0.35 | 0.48 | 0.9 | 1.41 | 0.64 | 1.14 | 1.45 | 2 | 3.5 | 20 X 4 |
| 1.27 | 0.75 | 0.45 | 0.79 | 1.03 | 1.77 | 0.73 | 1.12 | 1.42 | 2 | 3.5 | 25 X 3 |
| 1.61 | 0.74 | 0.58 | 1.01 | 1.08 | 1.77 | 0.76 | 1.45 | 1.85 | 2 | 3.5 | 25 X 4 |
| 1.87 | 0.72 | 0.69 | 1.18 | 1.13 | 1.77 | 0.8 | 1.77 | 2.26 | 2 | 3.5 | 25 X 5 |
| 2.24 | 0.9 | 0.65 | 1.41 | 1.18 | 2.12 | 0.84 | 1.36 | 1.74 | 2.5 | 5 | 30 X 3 |
| 2.85 | 0.89 | 0.86 | 1.81 | 1.24 | 2.12 | 0.89 | 1.78 | 2.27 | 2.5 | 5 | 30 X 4 |
| 3.41 | 0.88 | 1.04 | 2.16 | 1.3 | 2.12 | 0.92 | 2.18 | 2.78 | 2.5 | 5 | 30 X 5 |
| 3.63 | 1.06 | 0.9 | 2.29 | 1.36 | 2.47 | 0.96 | 1.6 | 2.04 | 2.5 | 5 | 35 X 3 |
| 4.68 | 1.05 | 1.18 | 2.96 | 1.41 | 2.47 | 1 | 2.1 | 2.67 | 2.5 | 5 | 35 X 4 |
| 5.63 | 1.04 | 1.45 | 3.56 | 1.47 | 2.47 | 1.04 | 2.57 | 3.28 | 2.5 | 5 | 35 X 5 |
| 6.5 | 1.04 | 1.71 | 4.14 | 1.53 | 2.47 | 1.08 | 3.04 | 3.87 | 2.5 | 5 | 35 X 6 |
| 5.45 | 1.21 | 1.18 | 3.45 | 1.52 | 2.83 | 1.07 | 1.84 | 2.35 | 3 | 6 | 40 X 3 |
| 7.09 | 1.21 | 1.56 | 4.48 | 1.58 | 2.83 | 1.12 | 2.42 | 3.08 | 3 | 6 | 40 X 4 |
| 8.64 | 1.2 | 1.91 | 5.43 | 1.64 | 2.83 | 1.16 | 2.97 | 3.79 | 3 | 6 | 40 X 5 |
| 9.98 | 1.19 | 2.26 | 6.33 | 1.7 | 2.83 | 1.2 | 3.52 | 4.48 | 3 | 6 | 40 X 6 |
| 10.2 | 1.36 | 1.97 | 6.43 | 1.75 | 3.18 | 1.23 | 2.74 | 3.49 | 3.5 | 7 | 45 X 4 |
| 12.4 | 1.35 | 2.43 | 7.83 | 1.81 | 3.18 | 1.28 | 3.38 | 4.3 | 3.5 | 7 | 45 X 5 |
| 14.5 | 1.34 | 2.88 | 9.16 | 1.87 | 3.18 | 1.32 | 4 | 5.09 | 3.5 | 7 | 45 X 6 |
| 16.4 | 1.33 | 3.31 | 10.4 | 1.92 | 3.18 | 1.36 | 4.6 | 5.86 | 3.5 | 7 | 45 X 7 |
| 14.2 | 1.52 | 2.46 | 8.97 | 1.92 | 3.54 | 1.36 | 3.06 | 3.89 | 3.5 | 7 | 50 X 4 |
| 17.4 | 1.51 | 3.05 | 11 | 1.98 | 3.54 | 1.4 | 3.77 | 4.8 | 3.5 | 7 | 50 X 5 |
| 20.4 | 1.5 | 3.61 | 12.8 | 2.04 | 3.54 | 1.45 | 4.47 | 5.69 | 3.5 | 7 | 50 X 6 |
| 23.1 | 1.49 | 4.15 | 14.6 | 2.11 | 3.54 | 1.49 | 5.15 | 6.56 | 3.5 | 7 | 50 X 7 |
| 25.7 | 1.48 | 4.68 | 16.3 | 2.16 | 3.54 | 1.52 | 5.82 | 7.41 | 3.5 | 7 | 50 X 8 |
| 28.1 | 1.47 | 5.2 | 17.9 | 2.21 | 3.54 | 1.56 | 6.47 | 8.24 | 3.5 | 7 | 50 X 9 |
| 23.3 | 1.66 | 3.7 | 14.7 | 2.15 | 3.89 | 1.52 | 4.18 | 5.32 | 4 | 8 | 55 X 5 |
| 27.4 | 1.66 | 4.4 | 17.3 | 2.21 | 3.89 | 1.56 | 4.95 | 6.31 | 4 | 8 | 55 X 6 |
| 34.8 | 1.64 | 5.72 | 22.1 | 2.32 | 3.89 | 1.64 | 6.46 | 8.23 | 4 | 8 | 55 X 8 |
| 41.4 | 1.62 | 6.97 | 26.3 | 2.43 | 3.89 | 1.72 | 7.9 | 10.1 | 4 | 8 | 55 X 10 |
| 30.7 | 1.82 | 4.45 | 19.4 | 2.32 | 4.24 | 1.64 | 4.57 | 5.82 | 4 | 8 | 60 X 5 |
| 36.1 | 1.82 | 5.29 | 22.8 | 2.39 | 4.24 | 1.69 | 5.42 | 6.91 | 4 | 8 | 60 X 6 |
| 46.1 | 1.8 | 6.88 | 29.1 | 2.5 | 4.24 | 1.77 | 7.09 | 9.03 | 4 | 8 | 60 X 8 |
| 55.1 | 1.78 | 8.41 | 34.9 | 2.62 | 4.24 | 1.85 | 8.69 | 11.1 | 4 | 8 | 60 X 10 |
| 46.3 | 1.97 | 6.21 | 29.2 | 2.55 | 4.6 | 1.8 | 5.91 | 7.53 | 4.5 | 9 | 65 X 6 |
| 53 | 1.96 | 7.18 | 33.4 | 2.62 | 4.6 | 1.85 | 6.83 | 8.7 | 4.5 | 9 | 65 X 7 |
| 59.4 | 1.95 | 8.13 | 37.5 | 2.67 | 4.6 | 1.89 | 7.73 | 9.85 | 4.5 | 9 | 65 X 8 |
| 65.4 | 1.94 | 9.04 | 41.3 | 2.73 | 4.6 | 1.93 | 8.62 | 11 | 4.5 | 9 | 65 X 9 |
| 76.8 | 1.91 | 10.8 | 48.8 | 2.83 | 4.6 | 2 | 10.3 | 13.2 | 4.5 | 9 | 65 X 11 |
| 58.5 | 2.13 | 7.27 | 36.9 | 2.73 | 4.95 | 1.93 | 6.38 | 8.13 | 4.5 | 9 | 70 X 6 |
| 67.1 | 2.12 | 8.43 | 42.4 | 2.79 | 4.95 | 1.97 | 7.38 | 9.4 | 4.5 | 9 | 70 X 7 |
| 83.1 | 2.1 | 10.6 | 52.6 | 2.9 | 4.95 | 2.05 | 9.34 | 11.9 | 4.5 | 9 | 70 X 9 |
| 97.6 | 2.08 | 12.7 | 61.8 | 3.01 | 4.95 | 2.13 | 11.2 | 14.3 | 4.5 | 9 | 70 X 11 |

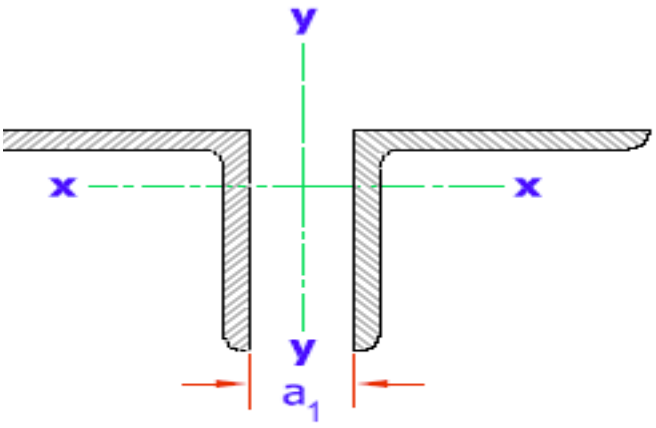
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|---|---|---|---|---|---|---|---|---|---|---|---|
| 72.2 | 2.28 | 8.35 | 45.6 | 2.89 | 5.3 | 2.04 | 6.87 | 8.75 | 5 | 10 | 75 X 6 |
| 83.6 | 2.28 | 9.67 | 52.4 | 2.95 | 5.3 | 2.09 | 7.94 | 10.1 | 5 | 10 | 75 X 7 |
| 93.3 | 2.26 | 11 | 58.9 | 3.01 | 5.3 | 2.13 | 9.03 | 11.5 | 5 | 10 | 75 X 8 |
| 113 | 2.25 | 13.5 | 71.4 | 3.12 | 5.3 | 2.21 | 11.1 | 14.1 | 5 | 10 | 75 X 10 |
| 130 | 2.22 | 15.8 | 82.4 | 3.24 | 5.3 | 2.29 | 13.1 | 16.7 | 5 | 10 | 75 X 12 |
| 102 | 2.44 | 11.1 | 64.2 | 3.13 | 5.66 | 2.21 | 8.49 | 10.8 | 5 | 10 | 80 X 7 |
| 115 | 2.42 | 12.6 | 72.3 | 3.2 | 5.66 | 2.26 | 9.66 | 12.3 | 5 | 10 | 80 X 8 |
| 139 | 2.41 | 15.5 | 87.5 | 3.31 | 5.66 | 2.34 | 11.9 | 15.1 | 5 | 10 | 80 X 10 |
| 161 | 2.39 | 18.2 | 102 | 3.41 | 5.66 | 2.41 | 14.1 | 17.9 | 5 | 10 | 80 X 12 |
| 181 | 2.36 | 20.8 | 115 | 3.51 | 5.66 | 2.48 | 16.1 | 20.6 | 5 | 10 | 80 X 14 |
| 165 | 2.74 | 16.1 | 104 | 3.53 | 6.36 | 2.5 | 10.9 | 13.9 | 5.5 | 11 | 90 X 8 |
| 184 | 2.74 | 18 | 116 | 3.59 | 6.36 | 2.54 | 12.2 | 15.5 | 5.5 | 11 | 90 X 9 |
| 218 | 2.72 | 21.6 | 138 | 3.7 | 6.36 | 2.62 | 14.7 | 18.7 | 5.5 | 11 | 90 X 11 |
| 250 | 2.69 | 25.1 | 158 | 3.81 | 6.36 | 2.7 | 17.1 | 21.8 | 5.5 | 11 | 90 X 13 |
| 294 | 2.66 | 30.1 | 186 | 3.97 | 6.36 | 2.81 | 20.7 | 26.4 | 5.5 | 11 | 90 X 16 |
| 230 | 3.06 | 19.9 | 145 | 3.87 | 7.07 | 2.74 | 12.2 | 15.5 | 6 | 12 | 100 X 8 |
| 280 | 3.04 | 24.7 | 177 | 3.99 | 7.07 | 2.82 | 15.1 | 19.2 | 6 | 12 | 100 X 10 |
| 328 | 3.02 | 29.2 | 207 | 4.1 | 7.07 | 2.9 | 17.8 | 22.7 | 6 | 12 | 100 X 12 |
| 372 | 3 | 33.5 | 235 | 4.21 | 7.07 | 2.98 | 20.6 | 26.2 | 6 | 12 | 100 X 14 |
| 413 | 2.97 | 37.7 | 262 | 4.32 | 7.07 | 3.06 | 23.2 | 29.6 | 6 | 12 | 100 X 16 |
| 487 | 2.93 | 45.7 | 311 | 4.53 | 7.07 | 3.2 | 28.4 | 36.2 | 6 | 12 | 100 X 20 |
| 379 | 3.36 | 30.1 | 239 | 4.34 | 7.78 | 3.07 | 16.6 | 21.2 | 6 | 12 | 110 X 10 |
| 444 | 3.34 | 35.7 | 280 | 4.45 | 7.78 | 3.15 | 19.7 | 25.1 | 6 | 12 | 110 X 12 |
| 505 | 3.32 | 41 | 319 | 4.54 | 7.78 | 3.21 | 22.8 | 29 | 6 | 12 | 110 X 14 |
| 541 | 3.66 | 39.5 | 341 | 4.75 | 8.49 | 3.36 | 19.9 | 25.4 | 6.5 | 13 | 120 X 11 |
| 584 | 3.65 | 42.7 | 368 | 4.8 | 8.49 | 3.4 | 21.6 | 27.5 | 6.5 | 13 | 120 X 12 |
| 625 | 3.64 | 46 | 394 | 4.86 | 8.49 | 3.44 | 23.3 | 29.7 | 6.5 | 13 | 120 X 13 |
| 705 | 3.63 | 52.5 | 446 | 4.96 | 8.49 | 3.51 | 26.6 | 33.9 | 6.5 | 13 | 120 X 15 |
| 750 | 3.97 | 50.4 | 472 | 5.15 | 9.19 | 3.64 | 23.6 | 30 | 7 | 14 | 130 X 12 |
| 857 | 3.94 | 58.2 | 540 | 5.26 | 9.19 | 3.72 | 27.2 | 34.7 | 7 | 14 | 130 X 14 |
| 959 | 3.92 | 65.8 | 605 | 5.37 | 9.19 | 3.8 | 30.9 | 39.3 | 7 | 14 | 130 X 16 |
| 1010 | 4.27 | 63.3 | 638 | 5.54 | 9.9 | 3.92 | 27.5 | 35 | 7.5 | 15 | 140 X 13 |
| 1150 | 4.25 | 72.3 | 723 | 5.66 | 9.9 | 4 | 31.4 | 40 | 7.5 | 15 | 140 X 15 |
| 1170 | 4.6 | 67.7 | 737 | 5.38 | 10.6 | 4.12 | 27.3 | 34.8 | 8 | 16 | 150 X 12 |
| 1340 | 4.58 | 78.2 | 845 | 5.95 | 10.6 | 4.21 | 31.6 | 40.3 | 8 | 16 | 150 X 14 |
| 1430 | 4.57 | 83.5 | 898 | 6.01 | 10.6 | 4.25 | 33.8 | 43 | 8 | 16 | 150 X 15 |
| 1510 | 4.56 | 88.7 | 949 | 6.07 | 10.6 | 4.29 | 35.9 | 45.7 | 8 | 16 | 150 X 16 |
| 1670 | 4.54 | 99.3 | 1050 | 6.17 | 10.6 | 4.36 | 40.1 | 51 | 8 | 16 | 150 X 18 |
| 1820 | 4.51 | 109 | 1150 | 6.28 | 10.6 | 4.44 | 44.2 | 56.3 | 8 | 16 | 150 X 20 |
| 1750 | 4.88 | 95.6 | 1100 | 6.35 | 11.3 | 4.49 | 36.2 | 46.1 | 8.5 | 17 | 160 X 15 |
| 1950 | 4.86 | 108 | 1230 | 6.46 | 11.3 | 4.57 | 40.7 | 51.8 | 8.5 | 17 | 160 X 17 |
| 2140 | 4.84 | 118 | 1350 | 6.58 | 11.3 | 4.65 | 45.1 | 57.5 | 8.5 | 17 | 160 X 19 |
| 2690 | 5.51 | 130 | 1680 | 7.11 | 12.7 | 5.02 | 43.5 | 55.4 | 9 | 18 | 180 X 16 |
| 2970 | 5.49 | 145 | 1870 | 7.22 | 12.7 | 5.1 | 48.6 | 61.9 | 9 | 18 | 180 X 18 |
| 3260 | 5.47 | 160 | 2040 | 7.33 | 12.7 | 5.18 | 53.7 | 68.4 | 9 | 18 | 180 X 20 |
| 3510 | 5.44 | 174 | 2210 | 7.44 | 12.7 | 5.26 | 58.6 | 74.7 | 9 | 18 | 180 X 22 |
| 3740 | 6.15 | 162 | 2340 | 7.8 | 14.1 | 5.52 | 48.5 | 61.8 | 9 | 18 | 200 X 16 |
| 4150 | 6.13 | 181 | 2600 | 7.92 | 14.1 | 5.6 | 54.3 | 69.1 | 9 | 18 | 200 X 18 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4540 | 6.11 | 199 | 2850 | 8.04 | 14.1 | 5.68 | 59.9 | 76.4 | 9 | 18 | 200 X 20 |
| 5280 | 6.06 | 235 | 3330 | 8.26 | 14.1 | 5.84 | 71.1 | 90.6 | 9 | 18 | 200 X 24 |
| 5990 | 6.02 | 270 | 3780 | 8.47 | 14.1 | 5.99 | 82 | 105 | 9 | 18 | 200 X 28 |

| $i_\eta$ | $W_\eta$ | $J_\eta$ | $i_\xi$ |
|---|---|---|---|
| cm | $cm^3$ | cm | cm |
| 3.89 | 186 | 1580 | 7.57 |




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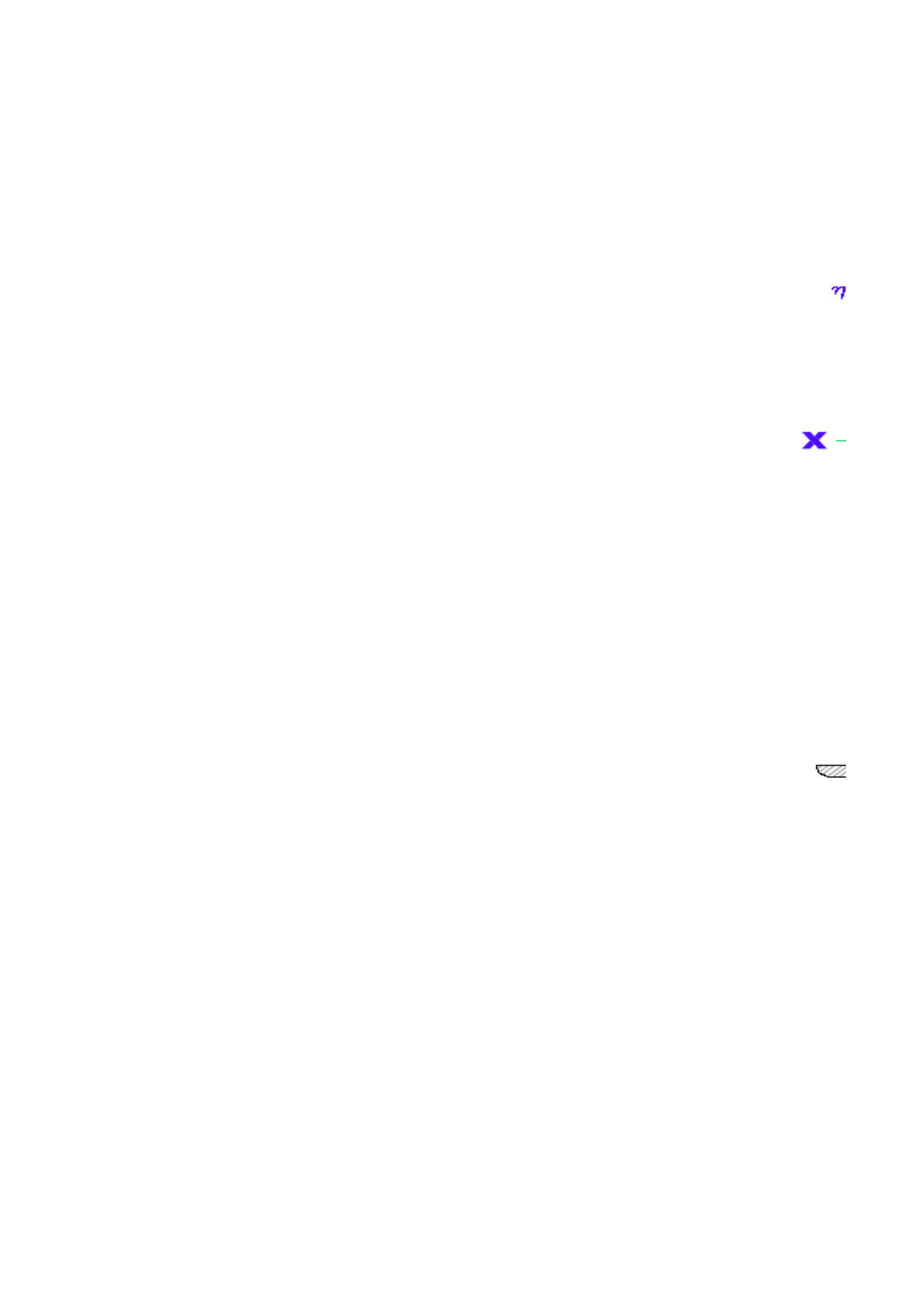

For any value of $a_1$: $J_y > J_x$

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| | | | |
|---|---|---|---|
| 0.37 | 0.18 | 0.15 | 0.74 |
| 0.36 | 0.21 | 0.19 | 0.73 |
| 0.47 | 0.3 | 0.31 | 0.95 |
| 0.47 | 0.37 | 0.4 | 0.93 |
| 0.47 | 0.44 | 0.5 | 0.91 |
| 0.57 | 0.48 | 0.57 | 1.14 |
| 0.58 | 0.61 | 0.76 | 1.12 |
| 0.57 | 0.7 | 0.91 | 1.11 |
| 0.68 | 0.7 | 0.95 | 1.34 |
| 0.68 | 0.88 | 1.24 | 1.33 |
| 0.67 | 1.01 | 1.49 | 1.31 |
| 0.68 | 1.16 | 1.77 | 1.3 |
| 0.78 | 0.95 | 1.44 | 1.52 |
| 0.78 | 1.18 | 1.86 | 1.52 |
| 0.77 | 1.35 | 2.22 | 1.51 |
| 0.77 | 1.57 | 2.67 | 1.49 |
| 0.88 | 1.53 | 2.68 | 1.71 |
| 0.87 | 1.8 | 3.25 | 1.7 |
| 0.87 | 2.05 | 3.83 | 1.69 |
| 0.87 | 2.29 | 4.39 | 1.67 |
| 0.98 | 1.94 | 3.73 | 1.91 |
| 0.98 | 2.32 | 4.59 | 1.9 |
| 0.96 | 2.57 | 5.24 | 1.89 |
| 0.96 | 2.85 | 6.02 | 1.88 |
| 0.96 | 3.19 | 6.87 | 1.86 |
| 0.97 | 3.47 | 7.67 | 1.85 |
| 1.07 | 2.84 | 6.11 | 2.09 |
| 1.07 | 3.28 | 7.24 | 2.08 |
| 1.07 | 4.03 | 9.35 | 2.06 |
| 1.06 | 4.65 | 11.3 | 2.02 |
| 1.17 | 3.46 | 8.03 | 2.3 |
| 1.17 | 3.95 | 9.43 | 2.29 |
| 1.16 | 4.84 | 12.1 | 2.26 |
| 1.15 | 5.57 | 14.6 | 2.23 |
| 1.27 | 4.74 | 12.1 | 2.48 |
| 1.26 | 5.27 | 13.8 | 2.47 |
| 1.26 | 5.84 | 15.6 | 2.46 |
| 1.25 | 6.3 | 17.2 | 2.44 |
| 1.25 | 7.31 | 20.7 | 2.42 |
| 1.37 | 5.6 | 15.3 | 2.68 |
| 1.37 | 6.31 | 17.6 | 2.67 |
| 1.36 | 7.59 | 22 | 2.64 |
| 1.35 | 8.64 | 26 | 2.61 |

| | | | |
|---|---|---|---|
| 1.47 | 6.54 | 18.9 | 2.87 |
| 1.45 | 7.15 | 21.1 | 2.88 |
| 1.46 | 8.11 | 24.4 | 2.85 |
| 1.45 | 9.55 | 29.8 | 2.83 |
| 1.44 | 10.7 | 34.7 | 2.79 |
| 1.57 | 8.48 | 26.5 | 3.07 |
| 1.55 | 9.25 | 29.6 | 3.06 |
| 1.54 | 10.9 | 35.9 | 3.03 |
| 1.53 | 12.6 | 43 | 3 |
| 1.54 | 13.9 | 48.6 | 2.96 |
| 1.77 | 12.3 | 43.5 | 3.45 |
| 1.76 | 13.3 | 47.8 | 3.45 |
| 1.75 | 15.4 | 57.1 | 3.41 |
| 1.74 | 17.3 | 65.9 | 3.39 |
| 1.73 | 19.9 | 79.1 | 3.34 |
| 1.96 | 15.5 | 59.9 | 3.85 |
| 1.95 | 18.4 | 73.3 | 3.82 |
| 1.95 | 21 | 86.2 | 3.8 |
| 1.94 | 23.4 | 98.3 | 3.77 |
| 1.93 | 25.6 | 111 | 3.74 |
| 1.93 | 29.8 | 135 | 3.67 |
| 2.16 | 22.7 | 98.6 | 4.23 |
| 2.15 | 26.1 | 116 | 4.21 |
| 2.14 | 29.3 | 133 | 4.18 |
| 2.35 | 29.5 | 140 | 4.62 |
| 2.35 | 31.6 | 152 | 4.6 |
| 2.34 | 33.3 | 162 | 4.59 |
| 2.34 | 37.5 | 186 | 4.56 |
| 2.54 | 37.7 | 194 | 5 |
| 2.53 | 42.4 | 223 | 4.97 |
| 2.52 | 46.7 | 251 | 4.94 |
| 2.74 | 47.3 | 262 | 5.38 |
| 2.73 | 52.7 | 298 | 5.36 |
| 2.95 | 52 | 303 | 5.8 |
| 2.94 | 58.3 | 347 | 5.77 |
| 2.93 | 61.6 | 370 | 5.76 |
| 2.93 | 64.4 | 391 | 5.74 |
| 2.93 | 71 | 438 | 5.7 |
| 2.91 | 76 | 477 | 5.68 |
| 3.14 | 71.3 | 453 | 6.15 |
| 3.13 | 78.3 | 506 | 6.13 |
| 3.12 | 84.8 | 558 | 6.1 |
| 3.5 | 95.5 | 679 | 6.96 |
| 3.49 | 105 | 757 | 6.93 |
| 3.49 | 113 | 830 | 6.9 |
| 3.5 | 123 | 918 | 6.86 |
| 3.91 | 121 | 943 | 7.78 |
| 3.9 | 133 | 1050 | 7.75 |

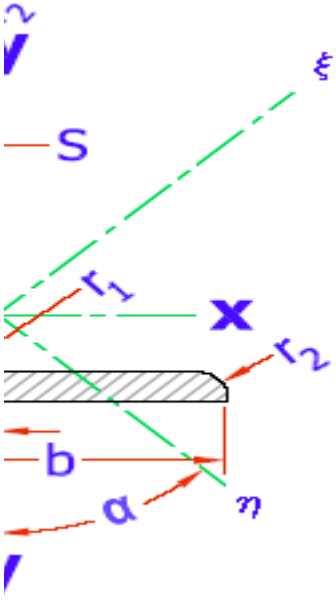
| | | | |
|---|---|---|---|
| 3.89 | 144 | 1160 | 7.72 |
| 3.9 | 167 | 1380 | 7.64 |
| 3.89 | 186 | 1580 | 7.57 |



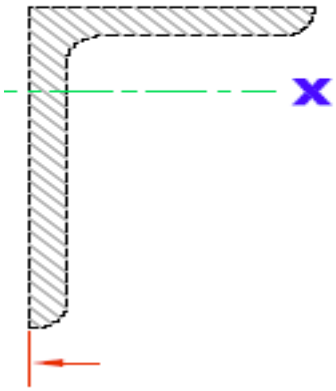
| $J_y$ | $i_x$ | $W_x$ | $J_x$ | | $e_y$ | $e_x$ | G | F | $r_2$ | $r_1$ | a X b X s |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $cm^4$ | cm | $cm^3$ | $cm^4$ | tan α | cm | cm | kg/m | $cm^2$ | mm | mm | mm |
| 242 | 8 | 218 | 3330 | 0.15 | 1.81 | 9.74 | 40.9 | 52.1 | 7.5 | 15 | 250 X 90 X 16 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.44 | 0.94 | 0.62 | 1.25 | 0.431 | 0.5 | 0.99 | 1.11 | 1.42 | 2 | 3.5 | 30 X 20 X 3 |
| 0.55 | 0.93 | 0.81 | 1.59 | 0.423 | 0.54 | 1.03 | 1.45 | 1.85 | 2 | 3.5 | 30 X 20 X 4 |
| 0.47 | 1.27 | 1.08 | 2.79 | 0.259 | 0.44 | 1.43 | 1.35 | 1.72 | 2 | 3.5 | 40 X 20 X 3 |
| 0.6 | 1.26 | 1.42 | 3.59 | 0.252 | 0.48 | 1.47 | 1.77 | 2.25 | 2 | 3.5 | 40 X 20 X 4 |
| 1.6 | 1.43 | 1.46 | 4.47 | 0.436 | 0.7 | 1.43 | 1.72 | 2.19 | 2 | 4.5 | 45 X 30 X 3 |
| 2.05 | 1.42 | 1.91 | 5.78 | 0.436 | 0.74 | 1.48 | 2.25 | 2.87 | 2 | 4.5 | 45 X 30 X 4 |
| 2.47 | 1.41 | 2.35 | 6.99 | 0.43 | 0.78 | 1.52 | 2.77 | 3.53 | 2 | 4.5 | 45 X 30 X 5 |
| 2.54 | 1.58 | 2.88 | 9.41 | 0.353 | 0.74 | 1.73 | 2.96 | 3.78 | 2 | 4.5 | 50 X 30 X 5 |
| 4.86 | 1.57 | 2.47 | 8.54 | 0.629 | 1.03 | 1.52 | 2.71 | 3.46 | 2 | 4 | 50 X 40 X 4 |
| 5.89 | 1.56 | 3.02 | 10.4 | 0.625 | 1.07 | 1.56 | 3.35 | 4.27 | 2 | 4 | 50 X 40 X 5 |
| 2.6 | 1.9 | 4.04 | 15.6 | 0.256 | 0.68 | 2.15 | 3.37 | 4.29 | 3 | 6 | 60 X 30 X 5 |
| 3.41 | 1.88 | 5.5 | 20.7 | 0.248 | 0.76 | 2.24 | 4.59 | 5.85 | 3 | 6 | 60 X 30 X 7 |
| 6.11 | 1.89 | 4.25 | 17.2 | 0.437 | 0.97 | 1.96 | 3.76 | 4.79 | 3 | 6 | 60 X 40 X 5 |
| 7.12 | 1.88 | 5.03 | 20.1 | 0.433 | 1.01 | 2 | 4.46 | 5.68 | 3 | 6 | 60 X 40 X 6 |
| 8.07 | 1.87 | 5.79 | 23 | 0.429 | 1.05 | 2.04 | 5.14 | 6.55 | 3 | 6 | 60 X 40 X 7 |
| 11.9 | 2.04 | 5.11 | 23.1 | 0.583 | 1.25 | 1.99 | 4.35 | 5.54 | 3.5 | 6.5 | 65 X 50 X 5 |
| 15.8 | 2.02 | 6.99 | 31 | 0.574 | 1.33 | 2.07 | 5.97 | 7.6 | 3.5 | 6.5 | 65 X 50 X 7 |
| 19.4 | 2 | 8.77 | 38.2 | 0.567 | 1.41 | 2.15 | 7.52 | 9.58 | 3.5 | 6.5 | 65 X 50 X 9 |
| 12.3 | 2.39 | 6.74 | 34.4 | 0.437 | 1.17 | 2.4 | 4.74 | 6.04 | 3.5 | 6.5 | 75 X 50 X 5 |
| 16.5 | 2.36 | 9.24 | 46.4 | 0.433 | 1.25 | 2.48 | 6.51 | 8.3 | 3.5 | 6.5 | 75 X 50 X 7 |
| 20.2 | 2.34 | 11.6 | 57.4 | 0.427 | 1.32 | 2.56 | 8.23 | 10.5 | 3.5 | 6.5 | 75 X 50 X 9 |
| 16.2 | 2.37 | 6.84 | 35.5 | 0.53 | 1.33 | 2.31 | 4.95 | 6.3 | 3.5 | 7 | 75 X 55 X 5 |
| 21.8 | 2.35 | 9.39 | 47.9 | 0.527 | 1.41 | 2.4 | 6.8 | 8.66 | 3.5 | 7 | 75 X 55 X 7 |
| 26.8 | 2.33 | 11.8 | 59.4 | 0.518 | 1.48 | 2.47 | 8.59 | 10.9 | 3.5 | 7 | 75 X 55 X 9 |
| 7.59 | 2.55 | 8.73 | 44.9 | 0.259 | 0.88 | 2.85 | 5.41 | 6.89 | 3.5 | 7 | 80 X 40 X 6 |
| 9.68 | 2.53 | 11.4 | 57.6 | 0.253 | 0.95 | 2.94 | 7.07 | 9.01 | 3.5 | 7 | 80 X 40 X 8 |
| 31.2 | 2.51 | 9.41 | 52.8 | 0.649 | 1.65 | 2.39 | 6.6 | 8.41 | 4 | 8 | 80 X 65 X 6 |
| 40.1 | 2.49 | 12.3 | 68.1 | 0.645 | 1.73 | 2.47 | 8.66 | 11 | 4 | 8 | 80 X 65 X 8 |
| 48.3 | 2.46 | 15.1 | 82.2 | 0.64 | 1.81 | 2.55 | 10.7 | 13.6 | 4 | 8 | 80 X 65 X 10 |
| 25.8 | 2.87 | 11.7 | 71.7 | 0.442 | 1.41 | 2.89 | 6.82 | 8.69 | 3.5 | 7 | 90 X 60 X 6 |
| 33 | 2.85 | 15.4 | 92.5 | 0.437 | 1.49 | 2.97 | 8.96 | 11.4 | 3.5 | 7 | 90 X 60 X 8 |
| 55.5 | 2.81 | 13.9 | 88.1 | 0.683 | 1.93 | 2.67 | 8.74 | 11.1 | 4.5 | 8.5 | 90 X 75 X 7 |
| 15.3 | 3.2 | 13.8 | 89.7 | 0.263 | 1.04 | 3.49 | 6.85 | 8.73 | 4.5 | 9 | 100 X 50 X 6 |
| 19.5 | 3.18 | 18 | 116 | 0.258 | 1.13 | 3.59 | 8.99 | 11.5 | 4.5 | 9 | 100 X 50 X 8 |
| 23.4 | 3.16 | 22.2 | 141 | 0.252 | 1.2 | 3.67 | 11.1 | 14.1 | 4.5 | 9 | 100 X 50 X 10 |
| 37.6 | 3.17 | 16.6 | 113 | 0.419 | 1.51 | 3.23 | 8.77 | 11.2 | 5 | 10 | 100 X 65 X 7 |
| 46.7 | 3.15 | 21 | 141 | 0.415 | 1.59 | 3.32 | 11.1 | 14.2 | 5 | 10 | 100 X 65 X 9 |
| 55.1 | 3.13 | 25.3 | 167 | 0.41 | 1.67 | 3.4 | 13.4 | 17.1 | 5 | 10 | 100 X 65 X 11 |
| 56.9 | 3.15 | 17 | 118 | 0.553 | 1.83 | 3.06 | 9.32 | 11.9 | 5 | 10 | 100 X 75 X 7 |
| 71 | 3.13 | 21.5 | 148 | 0.549 | 1.91 | 3.15 | 11.8 | 15.1 | 5 | 10 | 100 X 75 X 9 |
| 84 | 3.11 | 25.9 | 176 | 0.545 | 1.99 | 3.23 | 14.3 | 18.2 | 5 | 10 | 100 X 75 X 11 |
| 80.8 | 3.82 | 27.6 | 226 | 0.441 | 1.87 | 3.83 | 12.2 | 15.5 | 5.5 | 11 | 120 X 80 X 8 |
| 98.1 | 3.8 | 34.1 | 276 | 0.438 | 1.95 | 3.92 | 15 | 19.1 | 5.5 | 11 | 120 X 80 X 10 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 114 | 3.77 | 40.4 | 323 | 0.433 | 2.03 | 4 | 17.8 | 22.7 | 5.5 | 11 | 120 X 80 X 12 |
| 130 | 3.75 | 46.4 | 368 | 0.429 | 2.1 | 4.08 | 20.5 | 26.2 | 5.5 | 11 | 120 X 80 X 14 |
| 44.8 | 4.17 | 31.1 | 263 | 0.263 | 1.37 | 4.56 | 11.9 | 15.1 | 5.5 | 11 | 130 X 65 X 8 |
| 54.2 | 4.15 | 38.4 | 321 | 0.259 | 1.45 | 4.65 | 14.6 | 18.6 | 5.5 | 11 | 130 X 65 X 10 |
| 63 | 4.12 | 45.5 | 376 | 0.255 | 1.53 | 4.74 | 17.3 | 22.1 | 5.5 | 11 | 130 X 65 X 12 |
| 68.3 | 4.17 | 31.9 | 276 | 0.339 | 1.65 | 4.36 | 12.5 | 15.9 | 5.5 | 10.5 | 130 X 75 X 8 |
| 82.9 | 4.14 | 39.4 | 337 | 0.336 | 1.73 | 4.45 | 15.4 | 19.6 | 5.5 | 10.5 | 130 X 75 X 10 |
| 96.5 | 4.12 | 46.6 | 395 | 0.332 | 1.81 | 4.53 | 18.3 | 23.3 | 5.5 | 10.5 | 130 X 75 X 12 |
| 141 | 4.11 | 40.5 | 358 | 0.472 | 2.18 | 4.15 | 16.6 | 21.2 | 6 | 12 | 130 X 90 X 10 |
| 165 | 4.09 | 48 | 420 | 0.468 | 2.26 | 4.24 | 19.7 | 25.1 | 6 | 12 | 130 X 90 X 12 |
| 78.3 | 4.83 | 46.8 | 455 | 0.265 | 1.57 | 5.28 | 15.3 | 19.5 | 5.5 | 10.5 | 150 X 75 X 9 |
| 93 | 4.8 | 56.6 | 545 | 0.261 | 1.65 | 5.37 | 18.6 | 23.6 | 5.5 | 10.5 | 150 X 75 X 11 |
| 145 | 4.79 | 53.1 | 532 | 0.36 | 2.03 | 4.99 | 18.2 | 23.2 | 6.5 | 12.5 | 150 X 90 X 10 |
| 170 | 4.77 | 63.1 | 626 | 0.358 | 2.11 | 5.08 | 21.6 | 27.5 | 6.5 | 12.5 | 150 X 90 X 12 |
| 198 | 4.78 | 54.1 | 552 | 0.442 | 2.34 | 4.8 | 19 | 24.2 | 6.5 | 13 | 150 X 100 X 10 |
| 232 | 4.76 | 64.2 | 650 | 0.439 | 2.42 | 4.89 | 22.6 | 28.7 | 6.5 | 13 | 150 X 100 X 12 |
| 264 | 4.73 | 74.1 | 744 | 0.435 | 2.5 | 4.97 | 26.1 | 33.2 | 6.5 | 13 | 150 X 100 X 14 |
| 104 | 5.14 | 58.9 | 611 | 0.263 | 1.69 | 5.63 | 18.2 | 23.2 | 6.5 | 13 | 160 X 80 X 10 |
| 122 | 5.11 | 70 | 720 | 0.259 | 1.77 | 5.72 | 21.6 | 27.5 | 6.5 | 13 | 160 X 80 X 12 |
| 139 | 5.09 | 80.7 | 823 | 0.256 | 1.85 | 5.81 | 25 | 31.8 | 6.5 | 13 | 160 X 80 X 14 |
| 151 | 5.8 | 75.1 | 880 | 0.262 | 1.85 | 6.28 | 20.6 | 26.2 | 7 | 14 | 180 X 90 X 10 |
| 177 | 5.77 | 89.3 | 1040 | 0.261 | 1.93 | 6.37 | 24.5 | 31.2 | 7 | 14 | 180 X 90 X 12 |
| 202 | 5.75 | 103 | 1190 | 0.259 | 2.01 | 6.46 | 28.3 | 36.1 | 7 | 14 | 180 X 90 X 14 |
| 210 | 6.46 | 93.2 | 1220 | 0.266 | 2.01 | 6.93 | 23 | 29.2 | 7.5 | 15 | 200 X 100 X 10 |
| 247 | 6.43 | 111 | 1440 | 0.264 | 2.1 | 7.03 | 27.3 | 34.8 | 7.5 | 15 | 200 X 100 X 12 |
| 282 | 6.41 | 128 | 1650 | 0.262 | 2.18 | 7.12 | 31.6 | 40.3 | 7.5 | 15 | 200 X 100 X 14 |
| 316 | 6.38 | 145 | 1860 | 0.259 | 2.26 | 7.2 | 35.9 | 45.7 | 7.5 | 15 | 200 X 100 X 16 |
| 161 | 8.08 | 140 | 2170 | 0.154 | 1.56 | 9.45 | 26.1 | 33.2 | 7.5 | 15 | 250 X 90 X 10 |
| 189 | 8.05 | 166 | 2570 | 0.153 | 1.65 | 9.55 | 31.1 | 39.6 | 7.5 | 15 | 250 X 90 X 12 |
| 216 | 8.03 | 192 | 2960 | 0.152 | 1.73 | 9.65 | 36 | 45.9 | 7.5 | 15 | 250 X 90 X 14 |
| 242 | 8 | 218 | 3330 | 0.15 | 1.81 | 9.74 | 40.9 | 52.1 | 7.5 | 15 | 250 X 90 X 16 |




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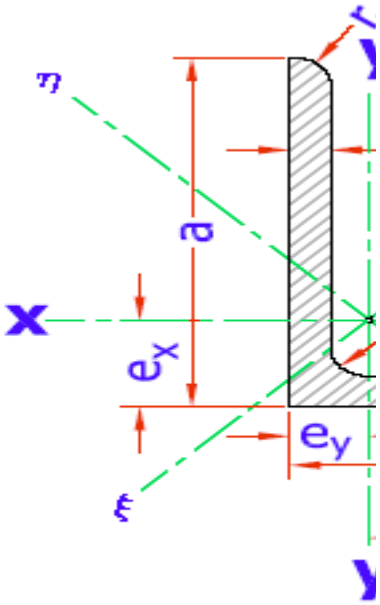



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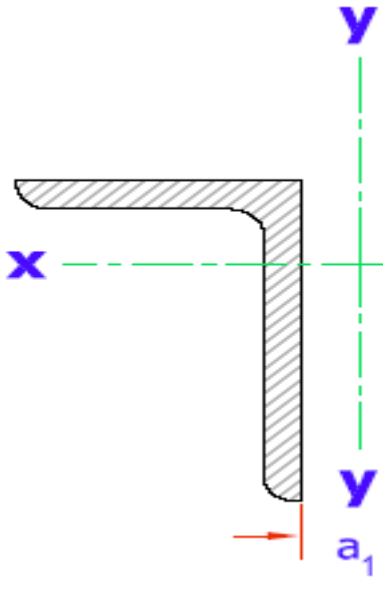
| $a_1$ | $i_\eta$ | $J_\eta$ | $i_\xi$ | $J_\xi$ | $i_y$ | $W_y$ |
|---|---|---|---|---|---|---|
| mm | cm | $cm^4$ | cm | $cm^4$ | cm | $cm^3$ |
| 118 | 1.81 | 171 | 8.08 | 3400 | 2.16 | 33.6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5.2 | 0.42 | 0.25 | 1 | 1.43 | 0.56 | 0.29 |
| 4.2 | 0.42 | 0.33 | 0.99 | 1.81 | 0.55 | 0.38 |
| 14.6 | 0.42 | 0.3 | 1.31 | 2.96 | 0.52 | 0.3 |
| 13.8 | 0.42 | 0.39 | 1.3 | 3.79 | 0.52 | 0.39 |
| 9 | 0.65 | 0.93 | 1.53 | 5.15 | 0.86 | 0.7 |
| 18 | 0.64 | 1.18 | 1.52 | 6.65 | 0.85 | 0.91 |
| 7.2 | 0.64 | 1.44 | 1.51 | 8.02 | 0.84 | 1.11 |
| 12.2 | 0.64 | 1.56 | 1.66 | 10.4 | 0.82 | 1.12 |
| __ | 0.84 | 2.46 | 1.78 | 10.9 | 1.19 | 1.64 |
| __ | 0.84 | 3.02 | 1.76 | 13.3 | 1.18 | 2.01 |
| 21.4 | 0.63 | 1.69 | 1.96 | 16.5 | 0.78 | 1.12 |
| 19.2 | 0.62 | 2.28 | 1.93 | 21.8 | 0.76 | 1.52 |
| 11.2 | 0.86 | 3.5 | 2.03 | 19.8 | 1.13 | 2.02 |
| 10.2 | 0.85 | 4.12 | 2.02 | 23.1 | 1.12 | 2.38 |
| 9.2 | 0.85 | 4.73 | 2 | 26.3 | 1.11 | 2.74 |
| 3.6 | 1.06 | 6.21 | 2.28 | 28.8 | 1.47 | 3.18 |
| 1.8 | 1.05 | 8.37 | 2.25 | 38.4 | 1.44 | 4.31 |
| __ | 1.05 | 10.5 | 2.22 | 47 | 1.42 | 5.39 |
| 15 | 1.08 | 7.1 | 2.56 | 39.6 | 1.43 | 3.21 |
| 13 | 1.07 | 9.56 | 2.53 | 53.3 | 1.41 | 4.39 |
| 11 | 1.07 | 11.9 | 2.5 | 65.7 | 1.39 | 5.49 |
| 8.4 | 1.17 | 8.68 | 2.61 | 43.1 | 1.6 | 3.89 |
| 6.6 | 1.17 | 11.8 | 2.59 | 57.9 | 1.59 | 5.32 |
| 5 | 1.16 | 14.8 | 2.55 | 71.3 | 1.57 | 6.66 |
| 29 | 0.84 | 4.9 | 2.63 | 47.6 | 1.05 | 2.44 |
| 27.2 | 0.84 | 6.41 | 2.6 | 60.9 | 1.04 | 3.18 |
| __ | 1.36 | 15.6 | 2.85 | 68.5 | 1.93 | 6.44 |
| __ | 1.36 | 20.3 | 2.82 | 88 | 1.91 | 8.41 |
| __ | 1.35 | 24.8 | 2.79 | 106 | 1.89 | 10.3 |
| 17.8 | 1.3 | 14.6 | 3.09 | 82.8 | 1.72 | 5.61 |
| 16 | 1.29 | 19 | 3.06 | 107 | 1.7 | 7.31 |
| __ | 1.56 | 27.1 | 3.24 | 117 | 2.23 | 9.98 |
| 37.6 | 1.06 | 9.78 | 3.3 | 95.2 | 1.32 | 3.86 |
| 35.4 | 1.05 | 12.6 | 3.28 | 123 | 1.31 | 5.04 |
| 33.8 | 1.04 | 15.5 | 3.25 | 149 | 1.29 | 6.17 |
| 21.8 | 1.39 | 21.6 | 3.39 | 128 | 1.84 | 7.54 |
| 19.8 | 1.39 | 27.2 | 3.36 | 160 | 1.82 | 9.52 |
| 17.8 | 1.38 | 32.6 | 3.34 | 190 | 1.8 | 11.4 |
| 8.8 | 1.59 | 30.1 | 3.49 | 145 | 2.19 | 10 |
| 7 | 1.59 | 37.8 | 3.47 | 181 | 2.17 | 12.7 |
| 5.2 | 1.58 | 45.4 | 3.44 | 214 | 2.15 | 15.3 |
| 24 | 1.72 | 45.8 | 4.1 | 261 | 2.29 | 13.2 |
| 22.2 | 1.71 | 56.1 | 4.07 | 318 | 2.27 | 16.2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 20.2 | 1.71 | 66.1 | 4.04 | 371 | 2.25 | 19.1 |
| 18.4 | 1.7 | 75.8 | 4.01 | 421 | 2.23 | 22 |
| 48.6 | 1.38 | 28.6 | 4.31 | 280 | 1.72 | 8.72 |
| 46.8 | 1.37 | 35 | 4.27 | 340 | 1.71 | 10.7 |
| 44.6 | 1.37 | 41.2 | 4.24 | 397 | 1.69 | 12.7 |
| 39.2 | 1.61 | 41.3 | 4.37 | 303 | 2.08 | 11.7 |
| 37.4 | 1.61 | 50.6 | 4.34 | 369 | 2.06 | 14.4 |
| 35.4 | 1.6 | 59.6 | 4.31 | 432 | 2.04 | 17 |
| 20.4 | 1.93 | 78.5 | 4.46 | 420 | 2.58 | 20.6 |
| 18.6 | 1.92 | 92.6 | 4.43 | 492 | 2.56 | 24.4 |
| 56.4 | 1.6 | 50 | 4.98 | 484 | 2 | 13.2 |
| 54.4 | 1.59 | 59.8 | 4.95 | 578 | 1.98 | 15.9 |
| 41 | 1.95 | 88 | 5.05 | 589 | 2.51 | 20.9 |
| 39.2 | 1.94 | 103 | 5.02 | 693 | 2.49 | 24.7 |
| 29.8 | 2.15 | 112 | 5.13 | 637 | 2.86 | 25.8 |
| 28 | 2.15 | 132 | 5.1 | 749 | 2.84 | 30.6 |
| 26.2 | 2.14 | 152 | 5.07 | 856 | 2.82 | 35.2 |
| 59.7 | 1.7 | 67 | 5.29 | 648 | 2.12 | 16.5 |
| 57.9 | 1.69 | 78.9 | 5.26 | 763 | 2.1 | 19.6 |
| 55.8 | 1.69 | 90.5 | 5.23 | 871 | 2.09 | 22.5 |
| 69 | 1.93 | 97.4 | 5.97 | 934 | 2.4 | 21.2 |
| 67 | 1.92 | 114 | 5.94 | 1100 | 2.38 | 25.1 |
| 65 | 1.91 | 131 | 5.92 | 1260 | 2.37 | 28.9 |
| 77.4 | 2.14 | 133 | 6.66 | 1300 | 2.68 | 26.3 |
| 75.2 | 2.13 | 158 | 6.63 | 1530 | 2.67 | 31.3 |
| 73 | 2.12 | 181 | 6.6 | 1760 | 2.65 | 36.1 |
| 71 | 2.11 | 204 | 6.57 | 1970 | 2.63 | 40.8 |
| 126 | 1.84 | 112 | 8.17 | 2220 | 2.2 | 21.7 |
| 124 | 1.83 | 132 | 8.14 | 2630 | 2.19 | 25.8 |
| 120 | 1.82 | 152 | 8.11 | 3020 | 2.17 | 29.7 |
| 118 | 1.81 | 171 | 8.08 | 3400 | 2.16 | 33.6 |




(C) IRANCIVILC

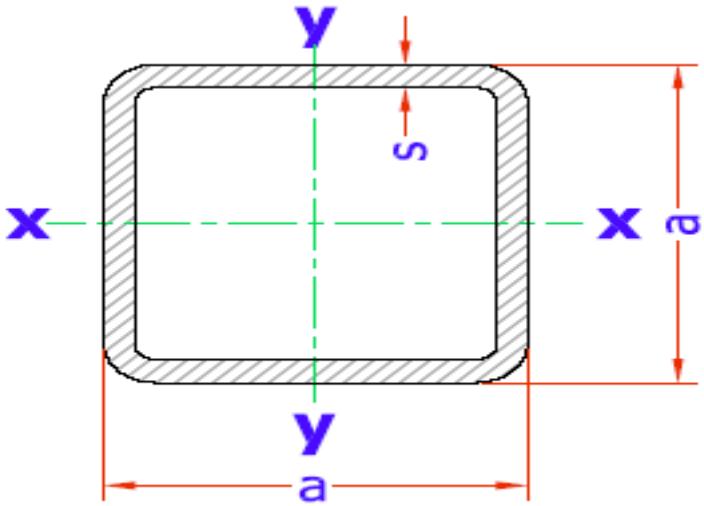



(C) IRANCIVILC

| i | W | J | G | F | a X s |
|---|---|---|---|---|---|
| cm | $cm^3$ | $cm^4$ | kg/m | $cm^2$ | mm |
| 15.4 | 3470 | 69400 | 231 | 294 | 400 X 20 |

| | | | | | |
|---|---|---|---|---|---|
| 1.51 | 4.83 | 9.66 | 3.32 | 4.23 | 40 X 2.9 |
| 1.47 | 6.05 | 12.1 | 4.41 | 5.62 | 40 X 4 |
| 1.92 | 7.94 | 19.8 | 4.23 | 5.39 | 50 X 2.9 |
| 1.87 | 10.1 | 25.4 | 5.67 | 7.22 | 50 X 4 |
| 2.33 | 11.8 | 35.5 | 5.14 | 6.55 | 60 X 2.9 |
| 2.28 | 15.3 | 45.9 | 6.93 | 8.82 | 60 X 4 |
| 2.24 | 18 | 54.1 | 8.47 | 10.8 | 60 X 5 |
| 2.72 | 17.9 | 62.7 | 6.64 | 8.46 | 70 X 3.2 |
| 2.69 | 21.5 | 75.3 | 8.18 | 10.4 | 70 X 4 |
| 2.65 | 25.6 | 89.6 | 10 | 12.8 | 70 X 5 |
| 3.11 | 26.4 | 106 | 8.55 | 10.9 | 80 X 3.6 |
| 3.08 | 31.7 | 127 | 10.5 | 13.4 | 80 X 4.5 |
| 3.03 | 37.6 | 151 | 12.9 | 16.4 | 80 X 5.6 |
| 3.52 | 34 | 153 | 9.68 | 12.3 | 90 X 3.6 |
| 3.48 | 41 | 185 | 11.9 | 15.2 | 90 X 4.5 |
| 3.44 | 49 | 220 | 14.6 | 18.6 | 90 X 5.6 |
| 3.91 | 46.6 | 233 | 12 | 15.2 | 100 X 4 |
| 3.87 | 56.3 | 281 | 14.7 | 18.8 | 100 X 5 |
| 3.82 | 67.8 | 339 | 18.3 | 23.3 | 100 X 6.3 |
| 4.7 | 75.3 | 452 | 16.1 | 20.5 | 120 X 4.5 |
| 4.65 | 90.6 | 544 | 19.7 | 25.1 | 120 X 5.6 |
| 4.62 | 99.7 | 598 | 22 | 28 | 120 X 6.3 |
| 5.47 | 126 | 885 | 23.3 | 29.6 | 140 X 5.6 |
| 5.4 | 154 | 1080 | 29 | 37 | 140 X 7.1 |
| 5.33 | 182 | 1280 | 35.3 | 45 | 140 X 8.8 |
| 6.23 | 183 | 1460 | 29.6 | 37.7 | 160 X 6.3 |
| 6.15 | 222 | 1780 | 36.9 | 47 | 160 X 8 |
| 6.05 | 263 | 2100 | 45.1 | 57.4 | 160 X 10 |
| 7.05 | 236 | 2120 | 33.6 | 42.8 | 180 X 6.3 |
| 6.97 | 288 | 2590 | 41.9 | 53.4 | 180 X 8 |
| 6.87 | 343 | 3090 | 51.4 | 65.4 | 180 X 10 |
| 7.86 | 296 | 2960 | 37.5 | 47.8 | 200 X 6.3 |
| 7.78 | 362 | 3620 | 46.9 | 59.8 | 200 X 8 |
| 7.69 | 434 | 4340 | 57.6 | 73.4 | 200 X 10 |
| 8.68 | 362 | 3980 | 41.5 | 52.8 | 220 X 6.3 |
| 8.6 | 445 | 4890 | 52 | 66.2 | 220 X 8 |
| 8.5 | 535 | 5890 | 63.9 | 81.4 | 220 X 10 |
| 10.3 | 573 | 7450 | 55.4 | 70.5 | 260 X 7.1 |
| 10.2 | 691 | 8980 | 67.8 | 86.4 | 260 X 8.8 |
| 10.1 | 833 | 10830 | 83.6 | 106 | 260 X 11 |
| 11 | 745 | 10430 | 67 | 85.4 | 280 X 8 |
| 11 | 903 | 12650 | 82.8 | 105 | 280 X 10 |
| 10.8 | 1090 | 15220 | 102 | 130 | 280 X 12.5 |
| 12.6 | 1200 | 19240 | 95.3 | 121 | 320 X 10 |

| | | | | | |
|---|---|---|---|---|---|
| 12.5 | 1450 | 23270 | 118 | 150 | 320 X 12.5 |
| 12.3 | 1780 | 28430 | 148 | 188 | 320 X 16 |
| 14.2 | 1540 | 27790 | 108 | 137 | 360 X 10 |
| 14.1 | 1870 | 33740 | 133 | 170 | 360 X 12.5 |
| 13.9 | 2300 | 41450 | 168 | 214 | 360 X 16 |
| 15.7 | 2350 | 46970 | 149 | 190 | 400 X 12.5 |
| 15.6 | 2900 | 57950 | 188 | 239 | 400 X 16 |
| 15.4 | 3470 | 69400 | 231 | 294 | 400 X 20 |

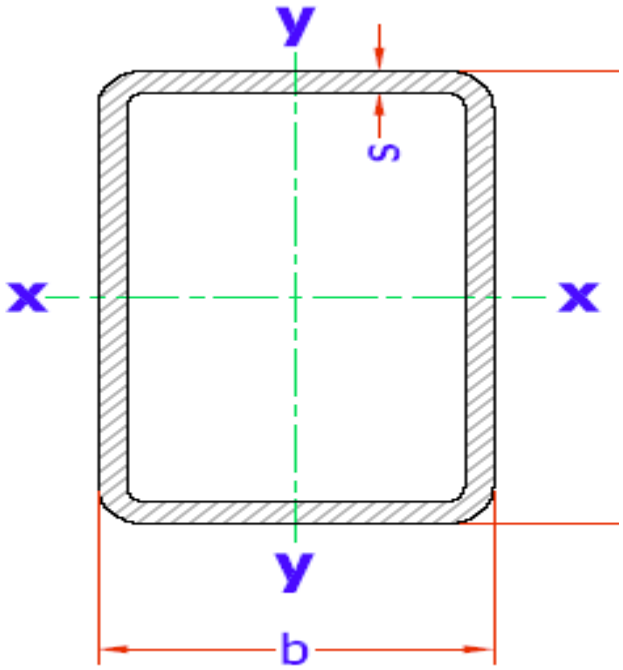


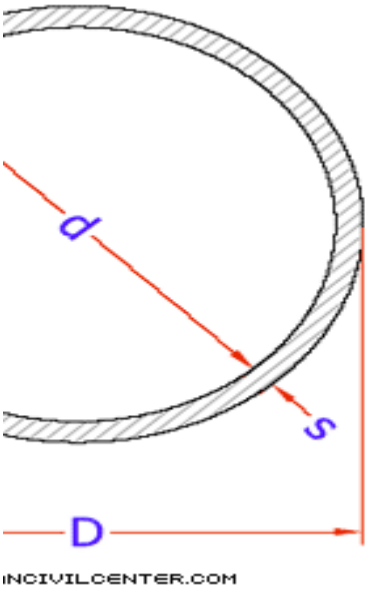

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| $i_y$ cm | $W_y$ $cm^3$ | $J_y$ $cm^4$ | $i_x$ cm | $W_x$ $cm^3$ | $J_x$ $cm^4$ | G kg/m | F $cm^2$ | a X b X s mm |
|---|---|---|---|---|---|---|---|---|
| 10.4 | 1740 | 22680 | 14.5 | 2220 | 44440 | 166 | 211 | 400 X 260 X 17.5 |
| 1.18 | 3.92 | 5.88 | 1.78 | 5.36 | 13.4 | 3.32 | 4.23 | 50 X 30 X 2.9 |
| 1.14 | 4.83 | 7.25 | 1.73 | 6.75 | 16.9 | 4.41 | 5.62 | 50 X 30 X 4 |
| 1.59 | 6.83 | 13.7 | 2.2 | 8.67 | 26 | 4.23 | 5.39 | 60 X 40 X 2.9 |
| 1.55 | 8.65 | 17.3 | 2.15 | 11.1 | 33.3 | 5.67 | 7.22 | 60 X 40 X 4 |
| 1.62 | 7.83 | 15.7 | 2.53 | 10.9 | 38.1 | 4.69 | 5.97 | 70 X 40 X 2.9 |
| 1.58 | 9.95 | 19.9 | 2.48 | 14.1 | 49.2 | 6.3 | 8.02 | 70 X 40 X 4 |
| 1.64 | 8.83 | 17.7 | 2.85 | 13.3 | 53.1 | 5.14 | 6.55 | 80 X 40 X 2.9 |
| 1.6 | 11.3 | 22.5 | 2.8 | 17.3 | 69 | 6.93 | 8.82 | 80 X 40 X 4 |
| 1.56 | 13.1 | 26.2 | 2.75 | 20.4 | 81.7 | 8.47 | 10.8 | 80 X 40 X 5 |
| 2.05 | 14.2 | 35.5 | 3.26 | 19.9 | 89.7 | 6.64 | 8.46 | 90 X 50 X 3.2 |
| 2.02 | 16.9 | 42.3 | 3.22 | 24 | 108 | 8.18 | 10.4 | 90 X 50 X 4 |
| 1.98 | 19.9 | 49.9 | 3.18 | 28.7 | 129 | 10 | 12.8 | 90 X 50 X 5 |
| 2.05 | 17.2 | 42.9 | 3.56 | 25.8 | 129 | 7.98 | 10.2 | 100 X 50 X 3.6 |
| 2.02 | 20.4 | 50.9 | 3.52 | 31 | 155 | 9.83 | 12.5 | 100 X 50 X 4.5 |
| 1.97 | 23.8 | 59.4 | 3.47 | 36.8 | 184 | 12 | 15.3 | 100 X 50 X 5.6 |
| 2.45 | 21.7 | 65.2 | 3.66 | 29.1 | 146 | 8.55 | 10.9 | 100 X 60 X 3.6 |
| 2.41 | 26 | 77.9 | 3.62 | 35.1 | 176 | 10.5 | 13.4 | 100 X 60 X 4.5 |
| 2.37 | 30.6 | 91.8 | 3.57 | 41.8 | 209 | 12.9 | 16.4 | 100 X 60 X 5.6 |
| 2.47 | 27.6 | 82.7 | 4.27 | 41.1 | 247 | 10.6 | 13.5 | 120 X 60 X 4 |
| 2.43 | 32.7 | 98.2 | 4.22 | 49.3 | 296 | 13 | 16.6 | 120 X 60 X 5 |
| 2.38 | 38.6 | 116 | 4.16 | 59 | 354 | 16.1 | 20.5 | 120 X 60 X 6.3 |
| 3.31 | 45.7 | 183 | 5.12 | 62.5 | 438 | 13.1 | 16.7 | 140 X 80 X 4 |
| 3.27 | 55 | 220 | 5.07 | 75.6 | 529 | 16.2 | 20.6 | 140 X 80 X 5 |
| 3.21 | 65.8 | 263 | 5.01 | 91.3 | 639 | 20 | 25.5 | 140 X 80 X 6.3 |
| 3.72 | 65.1 | 293 | 5.81 | 89.4 | 715 | 16.6 | 21.2 | 160 X 90 X 4.5 |
| 3.67 | 77.7 | 350 | 5.75 | 107 | 858 | 20.4 | 25.9 | 160 X 90 X 5.6 |
| 3.6 | 92.9 | 418 | 5.67 | 129 | 1030 | 25.3 | 32.2 | 160 X 90 X 7.1 |
| 4.11 | 99.1 | 496 | 6.5 | 137 | 1240 | 23 | 29.3 | 180 X 100 X 5.6 |
| 4.05 | 119 | 597 | 6.41 | 167 | 1500 | 28.6 | 36.4 | 180 X 100 X 7.1 |
| 3.97 | 139 | 696 | 6.32 | 196 | 1760 | 34.7 | 44.2 | 180 X 100 X 8.8 |
| 4.91 | 152 | 910 | 7.3 | 201 | 2010 | 29.6 | 37.7 | 200 X 120 X 6.3 |
| 4.84 | 183 | 1100 | 7.21 | 244 | 2440 | 36.9 | 47 | 200 X 120 X 8 |
| 4.75 | 216 | 1290 | 7.1 | 289 | 2890 | 45.1 | 57.4 | 200 X 120 X 10 |
| 4.97 | 165 | 992 | 7.95 | 231 | 2540 | 31.6 | 40.2 | 220 X 120 X 6.3 |
| 4.89 | 200 | 1200 | 7.85 | 281 | 3100 | 39.4 | 50.2 | 220 X 120 X 8 |
| 4.8 | 236 | 1410 | 7.74 | 335 | 3680 | 48.2 | 61.4 | 220 X 120 X 10 |
| 5.85 | 233 | 1630 | 9.44 | 328 | 4260 | 37.5 | 47.8 | 260 X 140 X 6.3 |
| 5.77 | 284 | 1990 | 9.35 | 402 | 5220 | 46.9 | 59.8 | 260 X 140 X 8 |
| 5.68 | 339 | 2370 | 9.23 | 481 | 6260 | 57.6 | 73.4 | 260 X 140 X 10 |
| 7.39 | 320 | 2880 | 9.8 | 390 | 5070 | 41.5 | 52.8 | 260 X 180 X 6.3 |
| 7.31 | 393 | 3540 | 9.71 | 480 | 6240 | 52 | 66.2 | 260 X 180 X 8 |
| 7.22 | 472 | 4240 | 9.6 | 578 | 7510 | 63.9 | 81.4 | 260 X 180 X 10 |
| 7.42 | 379 | 3410 | 10.4 | 481 | 6730 | 48.7 | 62 | 280 X 180 X 7.1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.34 | 454 | 4090 | 10.3 | 578 | 8100 | 59.6 | 75.9 | 280 | X | 180 | X 8.8 |
| 7.24 | 543 | 4890 | 10.2 | 695 | 9720 | 73.2 | 93.2 | 280 | X | 180 | X 11 |
| 8.88 | 543 | 5970 | 10.7 | 618 | 8650 | 59.5 | 75.8 | 280 | X | 220 | X 8 |
| 8.79 | 656 | 7210 | 10.6 | 747 | 10460 | 73.3 | 93.4 | 280 | X | 220 | X 10 |
| 8.67 | 784 | 8620 | 10.5 | 896 | 12540 | 90.1 | 115 | 280 | X | 220 | X 12.5 |
| 7.45 | 511 | 4600 | 11.6 | 702 | 11230 | 65.1 | 82.9 | 320 | X | 180 | X 8.8 |
| 7.4 | 568 | 5110 | 11.6 | 782 | 12510 | 73.3 | 93.4 | 320 | X | 180 | X 10 |
| 7.29 | 677 | 6090 | 11.4 | 937 | 14990 | 90 | 115 | 320 | X | 180 | X 12.5 |
| 8.99 | 661 | 7270 | 12 | 808 | 12930 | 70.6 | 89.9 | 320 | X | 220 | X 8.8 |
| 8.93 | 736 | 8090 | 11.9 | 902 | 14430 | 79.6 | 101 | 320 | X | 220 | X 10 |
| 8.82 | 882 | 9700 | 11.8 | 1080 | 17360 | 97.9 | 125 | 320 | X | 220 | X 12.5 |
| 9.06 | 816 | 8980 | 13.3 | 1070 | 19210 | 85.9 | 109 | 360 | X | 220 | X 10 |
| 8.94 | 980 | 10780 | 13.1 | 1290 | 23170 | 106 | 135 | 360 | X | 220 | X 12.5 |
| 8.79 | 1180 | 13030 | 12.9 | 1570 | 28190 | 132 | 169 | 360 | X | 220 | X 16 |
| 10.7 | 1200 | 15610 | 14.9 | 1520 | 30330 | 108 | 137 | 400 | X | 260 | X 11 |
| 10.5 | 1480 | 19280 | 14.7 | 1880 | 37610 | 137 | 174 | 400 | X | 260 | X 14.2 |
| 10.4 | 1740 | 22680 | 14.5 | 2220 | 44440 | 166 | 211 | 400 | X | 260 | X 17.5 |


y
s
x
x
y
b
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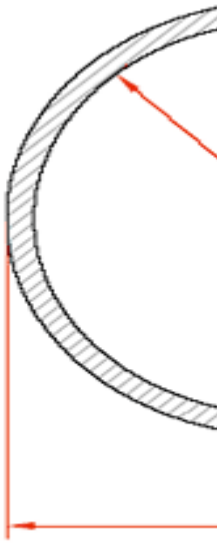



| $i_x$ | $W_x$ | $J_x$ | G | F | D X s |
|---|---|---|---|---|---|
| cm | $cm^3$ | $cm^4$ | kg/m | $cm^2$ | mm |
| 35 | 18820 | 956100 | 615 | 778 | 1016 X 25 |

| | | | | | |
|---|---|---|---|---|---|
| 0.686 | 0.536 | 0.571 | 0.962 | 1.21 | 21.3 X 2 |
| 0.668 | 0.639 | 0.681 | 1.21 | 1.53 | 21.3 X 2.6 |
| 0.65 | 0.722 | 0.768 | 1.44 | 1.82 | 21.3 X 3.2 |
| 0.883 | 0.907 | 1.22 | 1.24 | 1.56 | 26.9 X 2 |
| 0.864 | 1.1 | 1.48 | 1.57 | 1.98 | 26.9 X 2.6 |
| 0.846 | 1.27 | 1.7 | 1.89 | 2.38 | 26.9 X 3.2 |
| 1.1 | 1.84 | 3.09 | 2.01 | 2.54 | 33.7 X 2.6 |
| 1.08 | 2.14 | 3.6 | 2.42 | 3.07 | 33.7 X 3.2 |
| 1.06 | 2.49 | 4.19 | 2.95 | 3.73 | 33.7 X 4 |
| 1.41 | 3.05 | 6.46 | 2.57 | 3.25 | 42.4 X 2.6 |
| 1.39 | 3.59 | 7.62 | 3.11 | 3.94 | 42.4 X 3.2 |
| 1.36 | 4.24 | 8.99 | 3.81 | 4.83 | 42.4 X 4 |
| 1.62 | 4.05 | 9.78 | 2.95 | 3.73 | 48.3 X 2.6 |
| 1.6 | 4.8 | 11.6 | 3.59 | 4.53 | 48.3 X 3.2 |
| 1.57 | 5.7 | 13.8 | 4.41 | 5.57 | 48.3 X 4 |
| 2.03 | 7.16 | 21.6 | 4.14 | 5.23 | 60.3 X 2.9 |
| 2.01 | 8.58 | 25.9 | 5.07 | 6.41 | 60.3 X 3.6 |
| 2 | 9.34 | 28.2 | 5.59 | 7.07 | 60.3 X 4 |
| 1.96 | 11.1 | 33.5 | 6.82 | 8.69 | 60.3 X 5 |
| 2.59 | 11.8 | 44.7 | 5.82 | 6.67 | 76.1 X 2.9 |
| 2.57 | 14.2 | 54 | 6.49 | 8.2 | 76.1 X 3.6 |
| 2.55 | 15.5 | 59.1 | 7.17 | 9.06 | 76.1 X 4 |
| 2.52 | 18.6 | 70.9 | 8.77 | 11.2 | 76.1 X 5 |
| 3.03 | 17.8 | 79.2 | 6.81 | 8.62 | 88.9 X 3.2 |
| 3.02 | 19.8 | 87.9 | 7.57 | 9.65 | 88.9 X 3.6 |
| 3 | 21.7 | 96.3 | 8.43 | 10.7 | 88.9 X 4 |
| 2.97 | 26.2 | 116 | 10.3 | 13.2 | 88.9 X 5 |
| 2.93 | 31.5 | 140 | 12.9 | 16.3 | 88.9 X 6.3 |
| 3.47 | 26.2 | 133 | 8.76 | 11.1 | 101.6 X 3.6 |
| 3.44 | 31.9 | 162 | 10.7 | 13.7 | 101.6 X 4.5 |
| 3.4 | 38.4 | 195 | 13.2 | 16.9 | 101.6 X 5.6 |
| 3.35 | 46.6 | 237 | 16.6 | 21.1 | 101.6 X 7.1 |
| 3.69 | 29.8 | 161 | 9.27 | 11.8 | 108 X 3.6 |
| 3.66 | 36.4 | 196 | 11.5 | 14.6 | 108 X 4.5 |
| 3.63 | 43.9 | 237 | 14.1 | 18 | 108 X 5.6 |
| 3.92 | 33.6 | 192 | 9.9 | 12.5 | 114.3 X 3.6 |
| 3.89 | 41 | 234 | 12.1 | 15.5 | 114.3 X 4.5 |
| 3.85 | 49.6 | 283 | 15 | 19.1 | 114.3 X 5.6 |
| 3.8 | 60.4 | 345 | 18.8 | 23.9 | 114.3 X 7.1 |
| 4.56 | 50.8 | 337 | 12.7 | 16.2 | 133 X 4 |
| 4.51 | 68.5 | 456 | 17.6 | 22.4 | 133 X 5.6 |
| 4.49 | 75.9 | 504 | 19.7 | 25.1 | 133 X 6.3 |
| 4.8 | 56.2 | 393 | 13.5 | 17.1 | 139.7 X 4 |
| 4.75 | 76.1 | 531 | 18.5 | 23.6 | 139.7 X 5.6 |

| | | | | | |
|---|---|---|---|---|---|
| 4.72 | 84.3 | 589 | 20.8 | 26.4 | 139.7 X 6.3 |
| 4.69 | 93.3 | 652 | 23.3 | 29.6 | 139.7 X 7.1 |
| 5.46 | 82.1 | 652 | 17.2 | 21.8 | 159 X 4.5 |
| 5.43 | 100 | 795 | 21.2 | 27 | 159 X 5.6 |
| 5.4 | 111 | 882 | 23.7 | 30.2 | 159 X 6.3 |
| 5.79 | 92.4 | 777 | 18.1 | 23.2 | 168.3 X 4.5 |
| 5.76 | 113 | 948 | 22.4 | 28.6 | 168.3 X 5.6 |
| 5.73 | 125 | 1050 | 25.2 | 32.1 | 168.3 X 6.3 |
| 5.7 | 139 | 1170 | 28.3 | 36 | 168.3 X 7.1 |
| 5.65 | 167 | 1410 | 34.5 | 44.1 | 168.3 X 8.8 |
| 6.69 | 124 | 1200 | 21 | 26.7 | 193.7 X 4.5 |
| 6.67 | 136 | 1320 | 23.3 | 29.6 | 193.7 X 5 |
| 6.66 | 146 | 1420 | 25 | 31.9 | 193.7 X 5.4 |
| 6.63 | 168 | 1630 | 29.1 | 37.1 | 193.7 X 6.3 |
| 6.6 | 187 | 1810 | 32.8 | 41.6 | 193.7 X 7.1 |
| 6.57 | 208 | 2020 | 36.5 | 46.7 | 193.7 X 8 |
| 6.54 | 226 | 2190 | 40 | 51.1 | 193.7 X 8.8 |
| 7.59 | 159 | 1750 | 23.8 | 30.3 | 219.1 X 4.5 |
| 7.57 | 176 | 1930 | 26.4 | 33.6 | 219.1 X 5 |
| 7.54 | 205 | 2250 | 31 | 39.5 | 219.1 X 5.9 |
| 7.53 | 218 | 2390 | 33.1 | 42.1 | 219.1 X 6.3 |
| 7.5 | 243 | 2660 | 37.2 | 47.3 | 219.1 X 7.1 |
| 7.44 | 294 | 3220 | 45.4 | 58.1 | 219.1 X 8.8 |
| 7.4 | 328 | 3600 | 51.6 | 65.7 | 219.1 X 10 |
| 8.42 | 274 | 3350 | 37.1 | 47.1 | 244.5 X 6.3 |
| 8.37 | 340 | 4160 | 46.5 | 59.4 | 244.5 X 8 |
| 8.3 | 415 | 5070 | 57.8 | 73.3 | 244.5 X 10 |
| 8.26 | 451 | 5510 | 63.6 | 80.7 | 244.5 X 11 |
| 9.48 | 277 | 3780 | 33.1 | 42.1 | 273 X 5 |
| 9.46 | 308 | 4210 | 36.9 | 47 | 273 X 5.6 |
| 9.43 | 344 | 4700 | 41.4 | 52.8 | 273 X 6.3 |
| 9.4 | 384 | 5240 | 46.7 | 59.3 | 273 X 7.1 |
| 9.37 | 467 | 6380 | 57.1 | 73 | 273 X 8.8 |
| 9.27 | 570 | 7780 | 71.4 | 90.5 | 273 X 11 |
| 11.3 | 393 | 6370 | 39.3 | 50.1 | 323.9 X 5 |
| 11.3 | 438 | 7090 | 44 | 56 | 323.9 X 5.6 |
| 11.2 | 490 | 7930 | 49.3 | 62.9 | 323.9 X 6.3 |
| 11.2 | 548 | 8870 | 55.6 | 70.7 | 323.9 X 7.1 |
| 11.1 | 668 | 10820 | 68.1 | 87.1 | 323.9 X 8.8 |
| 11.1 | 818 | 13250 | 85.3 | 108 | 323.9 X 11 |
| 12.3 | 742 | 13200 | 68.3 | 87.4 | 355.6 X 8 |
| 12.2 | 912 | 16220 | 85.2 | 109 | 355.6 X 10 |
| 12.1 | 1120 | 19850 | 107 | 135 | 355.6 X 12.5 |
| 14.1 | 1070 | 21730 | 85.9 | 110 | 406.4 X 8.8 |
| 14 | 1320 | 26720 | 108 | 137 | 406.4 X 11 |
| 13.9 | 1660 | 33690 | 138 | 175 | 406.4 X 14.2 |
| 15.8 | 1540 | 35140 | 110 | 140 | 457.2 X 10 |
| 15.7 | 2120 | 48350 | 156 | 198 | 457.2 X 14.2 |

| | | | | | |
|---|---|---|---|---|---|
| 15.6 | 2560 | 58510 | 189 | 242 | 457.2 X 17.5 |
| 17.7 | 1690 | 43000 | 108 | 138 | 508 X 8.8 |
| 17.3 | 3600 | 91430 | 241 | 307 | 508 X 20 |
| 19.4 | 2060 | 57510 | 119 | 152 | 558.8 X 8.8 |
| 19.1 | 4400 | 123000 | 266 | 330 | 558.8 X 20 |
| 21.2 | 2780 | 84680 | 148 | 188 | 609.6 X 10 |
| 24.8 | 3810 | 135400 | 173 | 220 | 711.2 X 10 |
| 28.2 | 7820 | 318000 | 313 | 401 | 812.8 X 16 |
| 32 | 6350 | 290500 | 223 | 284 | 914.4 X 10 |
| 31.5 | 15120 | 691200 | 552 | 699 | 914.4 X 25 |
| 35.6 | 7870 | 399800 | 248 | 316 | 1016 X 10 |
| 35 | 18820 | 956100 | 615 | 778 | 1016 X 25 |

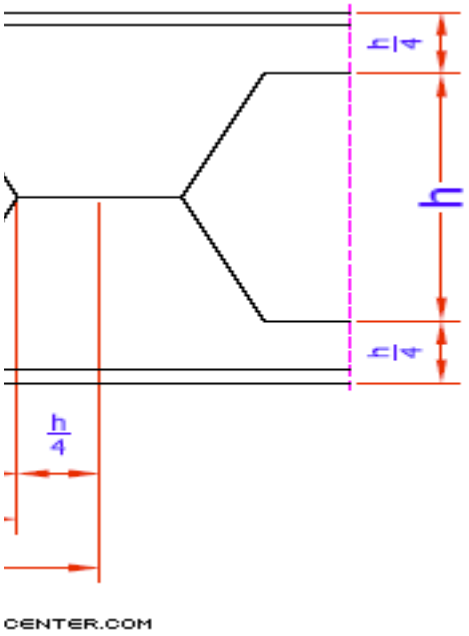


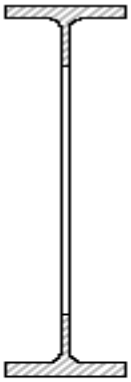
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| $F_b$ | $W_{xa}$ | $I_{xa}$ | G | $F_a$ | t | s | H | h | Cast IPE |
|---|---|---|---|---|---|---|---|---|---|
| $cm^2$ | $cm^3$ | $cm^4$ | kg/m (per 1.5h) | $cm^2$ | mm | mm | mm | mm | |
| 120 | 5230 | 235300 | 110 | 192 | 19 | 12 | 900 | 600 | 900 |

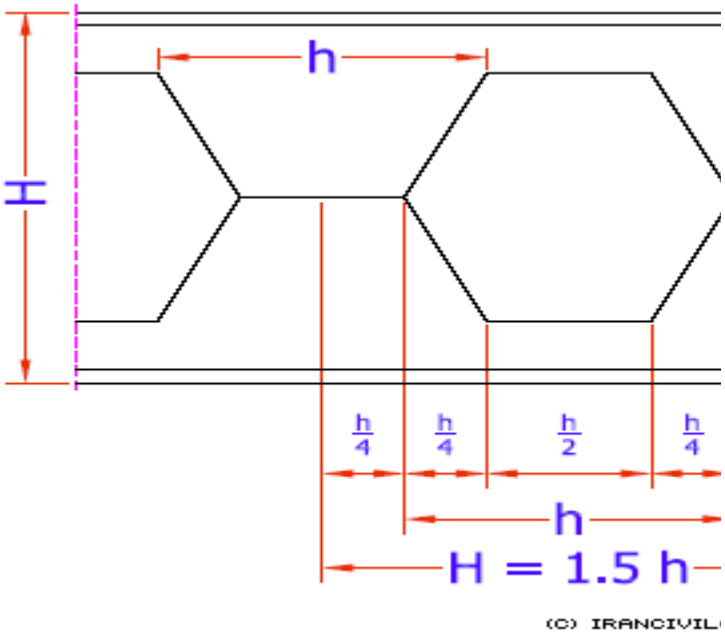
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6.12 | 34.3 | 206 | 0.718 | 9.16 | 5.2 | 3.8 | 120 | 80 | 120 |
| 8.25 | 58.2 | 437 | 1.21 | 12.4 | 5.7 | 4.1 | 150 | 100 | 150 |
| 10.6 | 89.9 | 809 | 1.86 | 15.8 | 6.3 | 4.4 | 180 | 120 | 180 |
| 13.1 | 131 | 1370 | 2.7 | 19.7 | 6.9 | 4.7 | 210 | 140 | 210 |
| 16.1 | 184 | 2200 | 3.78 | 24.1 | 7.4 | 5 | 240 | 160 | 240 |
| 19.1 | 247 | 3330 | 5.06 | 28.7 | 8 | 5.3 | 270 | 180 | 270 |
| 22.9 | 327 | 4910 | 6.7 | 34.1 | 8.5 | 5.6 | 300 | 200 | 300 |
| 26.9 | 423 | 6990 | 8.63 | 39.9 | 9.2 | 5.9 | 330 | 220 | 330 |
| 31.7 | 544 | 9790 | 11 | 46.5 | 9.8 | 6.2 | 360 | 240 | 360 |
| 37 | 719 | 14550 | 14.6 | 54.8 | 10.2 | 6.6 | 405 | 270 | 405 |
| 43.2 | 934 | 21010 | 19 | 64.5 | 10.7 | 7.1 | 450 | 300 | 450 |
| 50.2 | 1200 | 29580 | 24.3 | 75 | 11.5 | 7.5 | 495 | 330 | 495 |
| 58.3 | 1510 | 40890 | 30.8 | 87.1 | 12.7 | 8 | 540 | 360 | 540 |
| 67.3 | 1940 | 58290 | 39.7 | 102 | 13.5 | 8.6 | 600 | 400 | 600 |
| 77.7 | 2530 | 85430 | 52.2 | 120 | 14.6 | 9.4 | 675 | 450 | 675 |
| 90.5 | 3260 | 122400 | 68.2 | 142 | 16 | 10.2 | 750 | 500 | 750 |
| 103 | 4150 | 171100 | 86.6 | 165 | 17.2 | 11.1 | 825 | 550 | 825 |
| 120 | 5230 | 235300 | 110 | 192 | 19 | 12 | 900 | 600 | 900 |

| $W_{xb}$ | $I_{xb}$ |
|---|---|
| $cm^3$ | $cm^4$ |
| 4750 | 213700 |



| | |
|---|---|
| 31.6 | 189 |
| 53.7 | 403 |
| 82.8 | 746 |
| 121 | 1270 |
| 169 | 2030 |
| 228 | 3070 |
| 302 | 4540 |
| 392 | 6460 |
| 504 | 9070 |
| 665 | 13470 |
| 863 | 19410 |
| 1100 | 27330 |
| 1400 | 37780 |
| 1790 | 53700 |
| 2320 | 78290 |
| 2980 | 111800 |
| 3770 | 155700 |
| 4750 | 213700 |



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