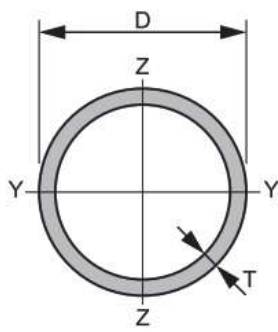


## مقاطع گرد



| قطر خارجی | ضخامت | جرم   | سطح مقطع        | ممان اینرسی     | شعاع ژیراسیون | مدول الاستیک    | مدول پلاستیک    | ثابت پیچشی      | سطح پیرامونی    | طول واحد          |      |
|-----------|-------|-------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|-----------------|-------------------|------|
| D         | T     | M     | A               | I               | i             | W <sub>el</sub> | W <sub>pl</sub> | I <sub>t</sub>  | C <sub>t</sub>  | A <sub>s</sub>    | تن   |
| mm        | mm    | kg/m  | cm <sup>2</sup> | cm <sup>4</sup> | cm            | cm <sup>3</sup> | cm <sup>3</sup> | cm <sup>4</sup> | cm <sup>3</sup> | m <sup>2</sup> /m | m/t  |
| 168.3     | 4.5   | 18.7  | 20.6            | 697             | 5.81          | 83              | 108             | 1394            | 166             | 0.529             | 53.6 |
| 168.3     | 5.0   | 20.7  | 25.7            | 856             | 5.78          | 102             | 133             | 1712            | 203             | 0.529             | 48.4 |
| 168.3     | 6.0   | 24.7  | 30.6            | 1009            | 5.74          | 120             | 158             | 2017            | 240             | 0.529             | 40.5 |
| 168.3     | 8.0   | 32.6  | 40.3            | 1297            | 5.67          | 154             | 206             | 2595            | 308             | 0.529             | 30.7 |
| 168.3     | 10.0  | 40.4  | 49.7            | 1564            | 5.61          | 186             | 251             | 3128            | 372             | 0.529             | 24.8 |
| 193.7     | 4.5   | 21.5  | 23.8            | 1073            | 6.71          | 111             | 144             | 2146            | 222             | 0.609             | 46.4 |
| 193.7     | 5.0   | 23.9  | 29.6            | 1320            | 6.67          | 136             | 178             | 2640            | 273             | 0.609             | 41.9 |
| 193.7     | 6.0   | 28.5  | 35.4            | 1560            | 6.64          | 161             | 211             | 3119            | 322             | 0.609             | 35.0 |
| 193.7     | 8.0   | 37.7  | 46.7            | 2016            | 6.57          | 208             | 276             | 4031            | 416             | 0.609             | 26.5 |
| 193.7     | 10.0  | 46.8  | 57.7            | 2442            | 6.50          | 252             | 338             | 4883            | 504             | 0.609             | 21.4 |
| 219.1     | 4.5   | 24.4  | 27.0            | 1564            | 7.61          | 143             | 185             | 3128            | 286             | 0.688             | 41.0 |
| 219.1     | 5.0   | 27.1  | 33.6            | 1928            | 7.57          | 176             | 229             | 3856            | 352             | 0.688             | 36.9 |
| 219.1     | 6.0   | 32.4  | 40.2            | 2282            | 7.54          | 208             | 273             | 4564            | 417             | 0.688             | 30.9 |
| 219.1     | 8.0   | 42.8  | 53.1            | 2960            | 7.47          | 270             | 357             | 5919            | 540             | 0.688             | 23.3 |
| 219.1     | 10.0  | 53.2  | 65.7            | 3598            | 7.40          | 328             | 438             | 7197            | 657             | 0.688             | 18.8 |
| 244.5     | 4.5   | 27.3  | 30.2            | 2186            | 8.50          | 179             | 231             | 4371            | 358             | 0.768             | 36.7 |
| 244.5     | 5.0   | 30.3  | 37.6            | 2699            | 8.47          | 221             | 287             | 5397            | 441             | 0.768             | 33.0 |
| 244.5     | 6.0   | 36.2  | 45.0            | 3199            | 8.43          | 262             | 341             | 6397            | 523             | 0.768             | 27.6 |
| 244.5     | 8.0   | 48.0  | 59.4            | 4160            | 8.37          | 340             | 448             | 8321            | 681             | 0.768             | 20.9 |
| 244.5     | 10.0  | 59.6  | 73.7            | 5073            | 8.30          | 415             | 550             | 10146           | 830             | 0.768             | 16.8 |
| 273.0     | 5.0   | 33.8  | 42.1            | 3781            | 9.48          | 277             | 359             | 7562            | 554             | 0.858             | 29.5 |
| 273.0     | 6.0   | 40.5  | 50.3            | 4487            | 9.44          | 329             | 428             | 8974            | 657             | 0.858             | 24.7 |
| 273.0     | 8.0   | 53.7  | 66.6            | 5852            | 9.37          | 429             | 562             | 11703           | 857             | 0.858             | 18.6 |
| 273.0     | 10.0  | 66.7  | 82.6            | 7154            | 9.31          | 524             | 692             | 14308           | 1048            | 0.858             | 15.0 |
| 273.0     | 12.0  | 79.6  | 98.4            | 8396            | 9.24          | 615             | 818             | 16792           | 1230            | 0.858             | 12.6 |
| 323.9     | 5.0   | 40.3  | 50.1            | 6369            | 11.28         | 393             | 509             | 12739           | 787             | 1.018             | 24.8 |
| 323.9     | 6.0   | 48.2  | 59.9            | 7572            | 11.24         | 468             | 606             | 15145           | 935             | 1.018             | 20.8 |
| 323.9     | 8.0   | 63.9  | 79.4            | 9910            | 11.17         | 612             | 799             | 19820           | 1224            | 1.018             | 15.6 |
| 323.9     | 10.0  | 79.5  | 98.6            | 12158           | 11.10         | 751             | 986             | 24317           | 1501            | 1.018             | 12.6 |
| 323.9     | 12.0  | 95.0  | 117.6           | 14320           | 11.04         | 884             | 1168            | 28639           | 1768            | 1.018             | 10.5 |
| 355.6     | 5.0   | 44.2  | 55.1            | 8464            | 12.40         | 476             | 615             | 16927           | 952             | 1.117             | 22.6 |
| 355.6     | 6.0   | 53.0  | 65.9            | 10071           | 12.36         | 566             | 733             | 20141           | 1133            | 1.117             | 18.9 |
| 355.6     | 8.0   | 70.3  | 87.4            | 13201           | 12.29         | 742             | 967             | 26403           | 1485            | 1.117             | 14.2 |
| 355.6     | 10.0  | 87.5  | 108.6           | 16223           | 12.22         | 912             | 1195            | 32447           | 1825            | 1.117             | 11.4 |
| 355.6     | 12.0  | 104.5 | 129.5           | 19139           | 12.16         | 1076            | 1417            | 38279           | 2153            | 1.117             | 9.6  |
| 355.6     | 14.0  | 121.4 | 150.2           | 21952           | 12.09         | 1235            | 1635            | 43904           | 2469            | 1.117             | 8.2  |
| 381.0     | 5.0   | 47.4  | 59.1            | 10439           | 13.29         | 548             | 707             | 20879           | 1096            | 1.197             | 21.1 |
| 381.0     | 6.0   | 56.8  | 70.7            | 12428           | 13.26         | 652             | 844             | 24857           | 1305            | 1.197             | 17.6 |
| 381.0     | 8.0   | 75.4  | 93.7            | 16311           | 13.19         | 856             | 1113            | 32622           | 1712            | 1.197             | 13.3 |
| 381.0     | 10.0  | 93.9  | 116.6           | 20068           | 13.12         | 1053            | 1377            | 40135           | 2107            | 1.197             | 10.7 |
| 381.0     | 12.0  | 112.2 | 139.1           | 23702           | 13.05         | 1244            | 1635            | 47403           | 2488            | 1.197             | 8.9  |
| 381.0     | 14.0  | 130.4 | 161.4           | 27216           | 12.98         | 1429            | 1887            | 54431           | 2857            | 1.197             | 7.7  |
| 381.0     | 16.0  | 148.4 | 183.5           | 30612           | 12.92         | 1607            | 2133            | 61224           | 3214            | 1.197             | 6.7  |
| 406.4     | 5.0   | 50.6  | 63.1            | 12701           | 14.19         | 625             | 806             | 25402           | 1250            | 1.277             | 19.8 |
| 406.4     | 6.0   | 60.6  | 75.5            | 15128           | 14.16         | 745             | 962             | 30257           | 1489            | 1.277             | 16.5 |
| 406.4     | 8.0   | 80.5  | 100.1           | 19874           | 14.09         | 978             | 1270            | 39748           | 1956            | 1.277             | 12.4 |
| 406.4     | 10.0  | 100.3 | 124.5           | 24476           | 14.02         | 1205            | 1572            | 48952           | 2409            | 1.277             | 10.0 |
| 406.4     | 12.0  | 119.9 | 148.7           | 28937           | 13.95         | 1424            | 1867            | 57874           | 2848            | 1.277             | 8.3  |
| 406.4     | 14.0  | 139.3 | 172.6           | 33260           | 13.88         | 1637            | 2157            | 66521           | 3274            | 1.277             | 7.2  |
| 406.4     | 16.0  | 158.6 | 196.2           | 37449           | 13.81         | 1843            | 2440            | 74898           | 3686            | 1.277             | 6.3  |