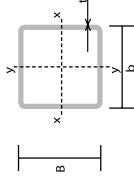


## SQUARE HOLLOW SECTIONS

| Size<br><b>B x B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per m<br><b>m</b><br>m <sup>2</sup> /m |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|---------------------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                                         |
| 40 x 40                    | 2.5                         | 2.89                     | 3.68                                          | 8.54                                             | 1.52                                 | 4.27                                                        | 5.14                                                        | 13.6                                    | 6.22                                    | 0.154                                                   |
|                            | 3.0                         | 3.41                     | 4.34                                          | 9.78                                             | 1.50                                 | 4.89                                                        | 5.97                                                        | 15.7                                    | 7.10                                    | 0.152                                                   |
|                            | 3.2                         | 3.61                     | 4.60                                          | 10.20                                            | 1.49                                 | 5.11                                                        | 6.28                                                        | 16.5                                    | 7.42                                    | 0.152                                                   |
|                            | 4.0                         | 4.39                     | 5.59                                          | 11.80                                            | 1.45                                 | 5.91                                                        | 7.44                                                        | 19.5                                    | 8.54                                    | 0.150                                                   |
|                            | 4.9                         | 5.20                     | 6.62                                          | 13.20                                            | 1.41                                 | 6.62                                                        | 8.55                                                        | 22.2                                    | 9.51                                    | 0.147                                                   |
| 50 x 50                    | 5.0                         | 5.28                     | 6.73                                          | 13.40                                            | 1.41                                 | 6.68                                                        | 8.66                                                        | 22.5                                    | 9.60                                    | 0.147                                                   |
|                            | 2.5                         | 3.68                     | 4.68                                          | 17.50                                            | 1.93                                 | 6.99                                                        | 8.29                                                        | 27.5                                    | 10.20                                   | 0.194                                                   |
|                            | 3.0                         | 4.35                     | 5.54                                          | 20.20                                            | 1.91                                 | 8.08                                                        | 9.70                                                        | 32.1                                    | 11.80                                   | 0.192                                                   |
|                            | 3.2                         | 4.62                     | 5.88                                          | 21.20                                            | 1.90                                 | 8.49                                                        | 10.20                                                       | 33.8                                    | 12.40                                   | 0.192                                                   |
|                            | 4.0                         | 5.64                     | 7.19                                          | 25.00                                            | 1.86                                 | 9.99                                                        | 12.30                                                       | 40.4                                    | 14.50                                   | 0.190                                                   |
| 60 x 60                    | 4.9                         | 6.74                     | 8.58                                          | 28.50                                            | 1.82                                 | 11.40                                                       | 14.30                                                       | 46.9                                    | 16.50                                   | 0.187                                                   |
|                            | 5.0                         | 6.85                     | 8.73                                          | 28.90                                            | 1.82                                 | 11.60                                                       | 14.50                                                       | 47.6                                    | 16.70                                   | 0.187                                                   |
|                            | 6.0                         | 7.99                     | 10.20                                         | 32.00                                            | 1.77                                 | 12.80                                                       | 16.50                                                       | 53.6                                    | 18.40                                   | 0.185                                                   |
|                            | 6.3                         | 8.31                     | 10.60                                         | 32.80                                            | 1.76                                 | 13.10                                                       | 17.00                                                       | 55.2                                    | 18.80                                   | 0.184                                                   |
|                            | 3.0                         | 5.29                     | 6.74                                          | 36.20                                            | 2.32                                 | 12.10                                                       | 14.30                                                       | 56.9                                    | 17.70                                   | 0.232                                                   |
| 60 x 60                    | 3.2                         | 5.62                     | 7.16                                          | 38.20                                            | 2.31                                 | 12.70                                                       | 15.20                                                       | 60.2                                    | 18.60                                   | 0.232                                                   |
|                            | 4.0                         | 6.90                     | 8.79                                          | 45.4                                             | 2.27                                 | 15.10                                                       | 18.30                                                       | 72.5                                    | 22.0                                    | 0.230                                                   |
|                            | 4.9                         | 8.28                     | 10.5                                          | 52.5                                             | 2.23                                 | 17.50                                                       | 21.60                                                       | 85.1                                    | 25.4                                    | 0.227                                                   |
|                            | 5.0                         | 8.42                     | 10.7                                          | 53.3                                             | 2.23                                 | 17.80                                                       | 21.90                                                       | 86.4                                    | 25.7                                    | 0.227                                                   |
|                            | 6.0                         | 9.87                     | 12.6                                          | 59.9                                             | 2.18                                 | 20.00                                                       | 25.10                                                       | 98.6                                    | 28.8                                    | 0.225                                                   |

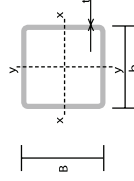
## SQUARE HOLLOW SECTIONS

| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus                          |                                          | Plastic Modulus | Torsional Constants                     |                                         | Superficial Area per meter |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|-----------------|-----------------------------------------|-----------------------------------------|----------------------------|
|                            |                             |                          |                                               |                                                  |                                      | <b>W<sub>el</sub></b><br>cm <sup>3</sup> | <b>W<sub>pl</sub></b><br>cm <sup>3</sup> |                 | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                            |
| 60 × 60                    | 6.3                         | 10.3                     | 13.1                                          | 61.6                                             | 2.17                                 | 20.50                                    | 26.0                                     | 29.6            | 102                                     | 29.6                                    | 0.224                      |
|                            | 8.0                         | 12.5                     | 16.0                                          | 69.7                                             | 2.09                                 | 23.20                                    | 30.4                                     | 33.4            | 118                                     | 33.4                                    | 0.219                      |
| 70 × 70                    | 3.0                         | 6.24                     | 7.94                                          | 59.0                                             | 2.73                                 | 16.90                                    | 19.9                                     | 24.8            | 92.2                                    | 24.8                                    | 0.272                      |
|                            | 3.2                         | 6.63                     | 8.44                                          | 62.3                                             | 2.72                                 | 17.80                                    | 21.0                                     | 26.1            | 97.6                                    | 26.1                                    | 0.272                      |
|                            | 3.6                         | 7.40                     | 9.42                                          | 68.6                                             | 2.70                                 | 19.60                                    | 23.3                                     | 28.7            | 108                                     | 28.7                                    | 0.271                      |
|                            | 4.0                         | 8.15                     | 10.4                                          | 74.7                                             | 2.68                                 | 21.30                                    | 25.5                                     | 31.2            | 118                                     | 31.2                                    | 0.270                      |
|                            | 4.9                         | 9.81                     | 12.5                                          | 87.2                                             | 2.64                                 | 24.90                                    | 30.3                                     | 36.2            | 140                                     | 36.2                                    | 0.267                      |
|                            | 5.0                         | 9.99                     | 12.7                                          | 88.5                                             | 2.64                                 | 25.30                                    | 30.8                                     | 36.8            | 142                                     | 36.8                                    | 0.267                      |
|                            | 6.0                         | 11.8                     | 15.0                                          | 101.0                                            | 2.59                                 | 28.70                                    | 35.5                                     | 41.6            | 163                                     | 41.6                                    | 0.265                      |
|                            | 6.3                         | 12.3                     | 15.6                                          | 104.0                                            | 2.58                                 | 29.70                                    | 36.9                                     | 42.9            | 169                                     | 42.9                                    | 0.264                      |
|                            | 7.1                         | 13.6                     | 17.3                                          | 112.0                                            | 2.54                                 | 32.00                                    | 40.3                                     | 46.1            | 185                                     | 46.1                                    | 0.262                      |
|                            | 8.0                         | 15.0                     | 19.2                                          | 120.0                                            | 2.50                                 | 34.20                                    | 43.8                                     | 49.2            | 200                                     | 49.2                                    | 0.259                      |
|                            | 8.4                         |                          |                                               |                                                  |                                      |                                          |                                          |                 |                                         |                                         |                            |
|                            | 10.38                       |                          |                                               |                                                  |                                      |                                          |                                          |                 |                                         |                                         |                            |
|                            | 12.31                       |                          |                                               |                                                  |                                      |                                          |                                          |                 |                                         |                                         |                            |



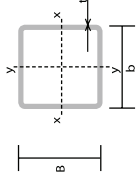
## SQUARE HOLLOW SECTIONS

| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus                          |                                          | Plastic Modulus | Torsional Constants                     |                                         | Superficial Area per meter |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|-----------------|-----------------------------------------|-----------------------------------------|----------------------------|
|                            |                             |                          |                                               |                                                  |                                      | <b>W<sub>el</sub></b><br>cm <sup>3</sup> | <b>W<sub>pl</sub></b><br>cm <sup>3</sup> |                 | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                            |
| 76.2 × 76.2                | 3.2                         | 7.25                     | 9.23                                          | 81.5                                             | 2.97                                 | 21.40                                    | 25.2                                     | 31.4            | 127                                     | 31.4                                    | 0.297                      |
|                            | 3.6                         | 8.10                     | 10.3                                          | 89.9                                             | 2.95                                 | 23.60                                    | 27.9                                     | 34.6            | 141                                     | 34.6                                    | 0.296                      |
|                            | 4.0                         | 8.93                     | 11.4                                          | 98.0                                             | 2.93                                 | 25.70                                    | 30.6                                     | 37.6            | 154                                     | 37.6                                    | 0.294                      |
|                            | 4.9                         | 10.8                     | 13.7                                          | 115.0                                            | 2.89                                 | 30.20                                    | 36.4                                     | 43.9            | 183                                     | 43.9                                    | 0.292                      |
|                            | 5.0                         | 11.0                     | 14.0                                          | 117.0                                            | 2.89                                 | 30.60                                    | 37.0                                     | 44.6            | 186                                     | 44.6                                    | 0.292                      |
|                            | 6.0                         | 12.9                     | 16.5                                          | 133.0                                            | 2.85                                 | 35.00                                    | 42.9                                     | 50.7            | 215                                     | 50.7                                    | 0.289                      |
|                            | 6.3                         | 13.5                     | 17.2                                          | 138.0                                            | 2.83                                 | 36.20                                    | 44.6                                     | 52.4            | 223                                     | 52.4                                    | 0.289                      |
|                            | 7.1                         | 15.0                     | 19.1                                          | 149.0                                            | 2.80                                 | 39.10                                    | 48.8                                     | 56.6            | 244                                     | 56.6                                    | 0.287                      |
|                            | 8.0                         | 16.6                     | 21.1                                          | 160.0                                            | 2.75                                 | 42.10                                    | 53.2                                     | 60.7            | 265                                     | 60.7                                    | 0.284                      |
|                            |                             |                          |                                               |                                                  |                                      |                                          |                                          |                 |                                         |                                         |                            |
|                            |                             |                          |                                               |                                                  |                                      |                                          |                                          |                 |                                         |                                         |                            |
| 80 × 80                    | 3.2                         | 7.63                     | 9.72                                          | 95.0                                             | 3.13                                 | 23.7                                     | 27.9                                     | 34.9            | 148                                     | 34.9                                    | 0.312                      |
|                            | 3.6                         | 8.53                     | 10.9                                          | 105                                              | 3.11                                 | 26.2                                     | 31.0                                     | 38.5            | 164                                     | 38.5                                    | 0.311                      |
|                            | 4.0                         | 9.41                     | 12.0                                          | 114                                              | 3.09                                 | 28.6                                     | 34.0                                     | 41.9            | 180                                     | 41.9                                    | 0.310                      |
|                            | 4.9                         | 11.4                     | 14.5                                          | 135                                              | 3.05                                 | 33.6                                     | 40.4                                     | 49.0            | 214                                     | 49.0                                    | 0.307                      |
|                            | 5.0                         | 11.6                     | 14.7                                          | 137                                              | 3.05                                 | 34.2                                     | 41.1                                     | 49.8            | 217                                     | 49.8                                    | 0.307                      |
|                            | 5.6                         | 12.8                     | 16.3                                          | 149                                              | 3.02                                 | 37.2                                     | 45.2                                     | 54.1            | 238                                     | 54.1                                    | 0.306                      |
|                            | 6.0                         | 13.6                     | 17.4                                          | 156                                              | 3.00                                 | 39.1                                     | 47.8                                     | 56.8            | 252                                     | 56.8                                    | 0.305                      |
|                            | 6.3                         | 14.1                     | 18.1                                          | 162                                              | 2.99                                 | 40.5                                     | 49.7                                     | 58.7            | 262                                     | 58.7                                    | 0.304                      |
|                            | 7.1                         | 15.8                     | 20.2                                          | 176                                              | 2.95                                 | 43.9                                     | 54.5                                     | 63.5            | 286                                     | 63.5                                    | 0.302                      |
|                            | 8.0                         | 17.5                     | 22.4                                          | 189                                              | 2.91                                 | 47.3                                     | 59.5                                     | 68.3            | 312                                     | 68.3                                    | 0.299                      |
|                            |                             |                          |                                               |                                                  |                                      |                                          |                                          |                 |                                         |                                         |                            |



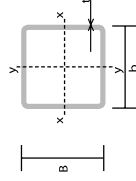
## SQUARE HOLLOW SECTIONS

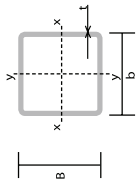
| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per meter<br><b>m</b><br>m <sup>2</sup> /m |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                                             |
| 90 × 90                    | 3.6                         | 9.66                     | 12.3                                          | 152                                              | 3.52                                 | 33.8                                                        | 39.7                                                        | 237                                     | 49.7                                    | 0.351                                                       |
|                            | 4.0                         | 10.7                     | 13.6                                          | 166                                              | 3.50                                 | 37.0                                                        | 43.6                                                        | 260                                     | 54.2                                    | 0.350                                                       |
|                            | 4.9                         | 12.9                     | 16.4                                          | 196                                              | 3.46                                 | 43.6                                                        | 52.1                                                        | 310                                     | 63.8                                    | 0.347                                                       |
|                            | 5.0                         | 13.1                     | 16.7                                          | 200                                              | 3.45                                 | 44.4                                                        | 53.0                                                        | 316                                     | 64.8                                    | 0.347                                                       |
|                            | 5.6                         | 14.6                     | 18.6                                          | 218                                              | 3.43                                 | 48.5                                                        | 58.3                                                        | 347                                     | 70.7                                    | 0.346                                                       |
|                            | 6.0                         | 15.5                     | 19.8                                          | 230                                              | 3.41                                 | 51.1                                                        | 61.8                                                        | 367                                     | 74.3                                    | 0.345                                                       |
| 100 × 100                  | 6.3                         | 16.2                     | 20.7                                          | 238                                              | 3.40                                 | 53.0                                                        | 64.3                                                        | 382                                     | 77.0                                    | 0.344                                                       |
|                            | 7.1                         | 18.1                     | 23.0                                          | 260                                              | 3.36                                 | 57.7                                                        | 70.8                                                        | 419                                     | 83.7                                    | 0.342                                                       |
|                            | 8.0                         | 20.1                     | 25.6                                          | 281                                              | 3.32                                 | 62.6                                                        | 77.6                                                        | 459                                     | 90.5                                    | 0.339                                                       |
|                            | 3.6                         | 10.8                     | 13.7                                          | 212                                              | 3.92                                 | 42.3                                                        | 49.5                                                        | 328                                     | 62.3                                    | 0.391                                                       |
|                            | 4.0                         | 11.9                     | 15.2                                          | 232                                              | 3.91                                 | 46.4                                                        | 54.4                                                        | 361                                     | 68.2                                    | 0.390                                                       |
|                            | 4.9                         | 14.4                     | 18.4                                          | 275                                              | 3.87                                 | 55.0                                                        | 65.2                                                        | 432                                     | 80.5                                    | 0.387                                                       |
| 100 × 100                  | 5.0                         | 14.7                     | 18.7                                          | 279                                              | 3.86                                 | 55.9                                                        | 66.4                                                        | 439                                     | 81.8                                    | 0.387                                                       |
|                            | 5.6                         | 16.3                     | 20.8                                          | 306                                              | 3.84                                 | 61.2                                                        | 73.2                                                        | 484                                     | 89.5                                    | 0.386                                                       |
|                            | 6.0                         | 17.4                     | 22.2                                          | 323                                              | 3.82                                 | 64.6                                                        | 77.6                                                        | 513                                     | 94.3                                    | 0.385                                                       |
|                            | 6.3                         | 18.2                     | 23.2                                          | 336                                              | 3.80                                 | 67.1                                                        | 80.9                                                        | 534                                     | 97.8                                    | 0.384                                                       |
|                            | 7.1                         | 20.3                     | 25.8                                          | 367                                              | 3.77                                 | 73.4                                                        | 89.2                                                        | 589                                     | 107                                     | 0.382                                                       |
|                            | 8.0                         | 22.6                     | 28.8                                          | 400                                              | 3.73                                 | 79.9                                                        | 98.2                                                        | 646                                     | 116                                     | 0.379                                                       |
| 100 × 100                  | 10.0                        | 27.4                     | 34.9                                          | 462                                              | 3.64                                 | 92.4                                                        | 116                                                         | 761                                     | 133                                     | 0.374                                                       |



## SQUARE HOLLOW SECTIONS

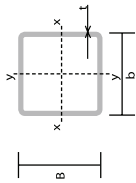
| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per meter<br><b>m</b><br>m <sup>2</sup> /m |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|-------------------------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                                             |
| 120 × 120                  | 4.0                         | 14.4                     | 18.4                                          | 410                                              | 4.72                                 | 68.4                                                        | 79.7                                                        | 635                                     | 101                                     | 0.470                                                       |
|                            | 4.9                         | 17.5                     | 22.3                                          | 489                                              | 4.68                                 | 81.5                                                        | 95.8                                                        | 763                                     | 120                                     | 0.467                                                       |
|                            | 5.0                         | 17.8                     | 22.7                                          | 498                                              | 4.68                                 | 83.0                                                        | 97.6                                                        | 777                                     | 122                                     | 0.467                                                       |
|                            | 5.6                         | 19.9                     | 25.3                                          | 547                                              | 4.65                                 | 91.2                                                        | 108                                                         | 858                                     | 134                                     | 0.466                                                       |
|                            | 6.0                         | 21.2                     | 27.0                                          | 579                                              | 4.63                                 | 96.6                                                        | 115                                                         | 911                                     | 141                                     | 0.465                                                       |
|                            | 6.3                         | 22.2                     | 28.2                                          | 603                                              | 4.62                                 | 100                                                         | 120                                                         | 950                                     | 147                                     | 0.464                                                       |
| 120 × 120                  | 7.1                         | 24.7                     | 31.5                                          | 663                                              | 4.59                                 | 110                                                         | 133                                                         | 1051                                    | 161                                     | 0.462                                                       |
|                            | 8.0                         | 27.6                     | 35.2                                          | 726                                              | 4.55                                 | 121                                                         | 146                                                         | 1160                                    | 176                                     | 0.459                                                       |
|                            | 8.8                         | 30.1                     | 38.3                                          | 779                                              | 4.51                                 | 130                                                         | 158                                                         | 1252                                    | 189                                     | 0.457                                                       |
|                            | 10.0                        | 33.7                     | 42.9                                          | 852                                              | 4.46                                 | 142                                                         | 175                                                         | 1382                                    | 206                                     | 0.454                                                       |
|                            | 12.0                        | 39.5                     | 50.3                                          | 958                                              | 4.36                                 | 160                                                         | 201                                                         | 1578                                    | 230                                     | 0.449                                                       |
|                            | 12.5                        | 40.9                     | 52.1                                          | 982                                              | 4.34                                 | 164                                                         | 207                                                         | 1623                                    | 236                                     | 0.448                                                       |
| 140 × 140                  | 4.9                         | 20.6                     | 26.2                                          | 793                                              | 5.50                                 | 113                                                         | 132                                                         | 1230                                    | 167                                     | 0.547                                                       |
|                            | 5.0                         | 21.0                     | 26.7                                          | 807                                              | 5.50                                 | 115                                                         | 135                                                         | 1253                                    | 170                                     | 0.547                                                       |
|                            | 5.6                         | 23.4                     | 29.8                                          | 891                                              | 5.47                                 | 127                                                         | 149                                                         | 1387                                    | 187                                     | 0.546                                                       |
|                            | 6.0                         | 24.9                     | 31.8                                          | 944                                              | 5.45                                 | 135                                                         | 159                                                         | 1475                                    | 198                                     | 0.545                                                       |
|                            | 6.3                         | 26.1                     | 33.3                                          | 984                                              | 5.44                                 | 141                                                         | 166                                                         | 1540                                    | 206                                     | 0.544                                                       |
|                            | 7.1                         | 29.2                     | 37.2                                          | 1086                                             | 5.40                                 | 155                                                         | 184                                                         | 1709                                    | 227                                     | 0.542                                                       |
| 140 × 140                  | 8.0                         | 32.6                     | 41.6                                          | 1195                                             | 5.36                                 | 171                                                         | 204                                                         | 1892                                    | 249                                     | 0.539                                                       |
|                            | 8.8                         | 35.6                     | 45.4                                          | 1287                                             | 5.33                                 | 184                                                         | 221                                                         | 2048                                    | 268                                     | 0.537                                                       |
|                            | 10.0                        | 40.0                     | 50.9                                          | 1416                                             | 5.27                                 | 202                                                         | 246                                                         | 2272                                    | 294                                     | 0.534                                                       |
|                            | 12.0                        | 47.0                     | 59.9                                          | 1609                                             | 5.18                                 | 230                                                         | 284                                                         | 2616                                    | 333                                     | 0.529                                                       |
|                            | 12.5                        | 48.7                     | 62.1                                          | 1653                                             | 5.16                                 | 236                                                         | 293                                                         | 2696                                    | 342                                     | 0.528                                                       |





## SQUARE HOLLOW SECTIONS

| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per m<br>m <sup>2</sup> /m |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|---------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                             |
| 150 x 150                  | 4.9                         | 22.1                     | 28.2                                          | 984                                              | 5.91                                 | 131                                                         | 153                                                         | 1522                                    | 193                                     | 0.587                                       |
|                            | 5.0                         | 22.6                     | 28.7                                          | 1002                                             | 5.90                                 | 134                                                         | 156                                                         | 1550                                    | 197                                     | 0.587                                       |
|                            | 5.6                         | 25.1                     | 32.0                                          | 1106                                             | 5.88                                 | 147                                                         | 173                                                         | 1718                                    | 217                                     | 0.586                                       |
|                            | 6.0                         | 26.8                     | 34.2                                          | 1174                                             | 5.86                                 | 156                                                         | 184                                                         | 1828                                    | 230                                     | 0.585                                       |
|                            | 6.3                         | 28.1                     | 35.8                                          | 1223                                             | 5.85                                 | 163                                                         | 192                                                         | 1909                                    | 240                                     | 0.584                                       |
| 160 x 160                  | 7.1                         | 31.4                     | 40.0                                          | 1352                                             | 5.81                                 | 180                                                         | 213                                                         | 2121                                    | 264                                     | 0.582                                       |
|                            | 8.0                         | 35.1                     | 44.8                                          | 1491                                             | 5.77                                 | 199                                                         | 237                                                         | 2351                                    | 291                                     | 0.579                                       |
|                            | 8.8                         | 38.4                     | 48.9                                          | 1608                                             | 5.74                                 | 214                                                         | 257                                                         | 2549                                    | 313                                     | 0.577                                       |
| 160 x 160                  | 10.0                        | 43.1                     | 54.9                                          | 1773                                             | 5.68                                 | 236                                                         | 286                                                         | 2832                                    | 344                                     | 0.574                                       |
|                            | 12.0                        | 50.8                     | 64.7                                          | 2023                                             | 5.59                                 | 270                                                         | 331                                                         | 3272                                    | 391                                     | 0.569                                       |
|                            | 12.5                        | 52.7                     | 67.1                                          | 2080                                             | 5.57                                 | 277                                                         | 342                                                         | 3375                                    | 402                                     | 0.568                                       |
|                            | 16.0                        | 65.2                     | 83.0                                          | 2430                                             | 5.41                                 | 324                                                         | 411                                                         | 4026                                    | 467                                     | 0.559                                       |
|                            | 5.0                         | 24.1                     | 30.7                                          | 1225                                             | 6.31                                 | 153                                                         | 178                                                         | 1892                                    | 226                                     | 0.627                                       |
| 160 x 160                  | 5.6                         | 26.9                     | 34.2                                          | 1353                                             | 6.29                                 | 169                                                         | 198                                                         | 2098                                    | 249                                     | 0.626                                       |
|                            | 6.0                         | 28.7                     | 36.6                                          | 1437                                             | 6.27                                 | 180                                                         | 210                                                         | 2233                                    | 264                                     | 0.625                                       |
|                            | 6.3                         | 30.1                     | 38.3                                          | 1499                                             | 6.26                                 | 187                                                         | 220                                                         | 2333                                    | 275                                     | 0.624                                       |



## SQUARE HOLLOW SECTIONS

| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per m<br>m <sup>2</sup> /m |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|---------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                             |
| 160 x 160                  | 7.1                         | 33.7                     | 42.9                                          | 1659                                             | 6.22                                 | 207                                                         | 245                                                         | 2595                                    | 304                                     | 0.622                                       |
|                            | 8.0                         | 37.6                     | 48.0                                          | 1831                                             | 6.18                                 | 229                                                         | 272                                                         | 2880                                    | 335                                     | 0.619                                       |
|                            | 8.8                         | 41.1                     | 52.4                                          | 1978                                             | 6.14                                 | 247                                                         | 295                                                         | 3125                                    | 361                                     | 0.617                                       |
|                            | 10.0                        | 46.3                     | 58.9                                          | 2186                                             | 6.09                                 | 273                                                         | 329                                                         | 3478                                    | 398                                     | 0.614                                       |
|                            | 12.0                        | 54.6                     | 69.5                                          | 2502                                             | 6.00                                 | 313                                                         | 382                                                         | 4028                                    | 454                                     | 0.609                                       |
| 160 x 160                  | 12.5                        | 56.6                     | 72.1                                          | 2576                                             | 5.98                                 | 322                                                         | 395                                                         | 4158                                    | 467                                     | 0.608                                       |
|                            | 14.2                        | 63.3                     | 80.7                                          | 2809                                             | 5.90                                 | 351                                                         | 436                                                         | 4579                                    | 508                                     | 0.603                                       |
|                            | 16.0                        | 70.2                     | 89.4                                          | 3028                                             | 5.82                                 | 379                                                         | 476                                                         | 4988                                    | 546                                     | 0.599                                       |
| 180 x 180                  | 5.0                         | 27.3                     | 34.7                                          | 1765                                             | 7.13                                 | 196                                                         | 227                                                         | 2718                                    | 290                                     | 0.707                                       |
|                            | 5.6                         | 30.4                     | 38.7                                          | 1954                                             | 7.10                                 | 217                                                         | 252                                                         | 3018                                    | 320                                     | 0.706                                       |
|                            | 6.0                         | 32.5                     | 41.4                                          | 2077                                             | 7.09                                 | 231                                                         | 269                                                         | 3215                                    | 340                                     | 0.705                                       |
|                            | 6.3                         | 34.0                     | 43.3                                          | 2168                                             | 7.07                                 | 241                                                         | 281                                                         | 3361                                    | 355                                     | 0.704                                       |
|                            | 7.1                         | 38.1                     | 48.6                                          | 2404                                             | 7.04                                 | 267                                                         | 314                                                         | 3744                                    | 393                                     | 0.702                                       |
| 180 x 180                  | 8.0                         | 42.7                     | 54.4                                          | 2661                                             | 7.00                                 | 296                                                         | 349                                                         | 4162                                    | 434                                     | 0.699                                       |
|                            | 8.8                         | 46.7                     | 59.4                                          | 2880                                             | 6.96                                 | 320                                                         | 379                                                         | 4524                                    | 469                                     | 0.697                                       |
|                            | 10.0                        | 52.5                     | 66.9                                          | 3193                                             | 6.91                                 | 355                                                         | 424                                                         | 5048                                    | 518                                     | 0.694                                       |
| 180 x 180                  | 12.0                        | 62.1                     | 79.1                                          | 3677                                             | 6.82                                 | 409                                                         | 494                                                         | 5873                                    | 595                                     | 0.689                                       |
|                            | 12.5                        | 64.4                     | 82.1                                          | 3790                                             | 6.80                                 | 421                                                         | 511                                                         | 6070                                    | 613                                     | 0.688                                       |
|                            | 14.2                        | 72.2                     | 92.9                                          | 4154                                             | 6.72                                 | 462                                                         | 566                                                         | 6711                                    | 670                                     | 0.683                                       |
|                            | 16.0                        | 80.2                     | 102                                           | 4504                                             | 6.64                                 | 500                                                         | 621                                                         | 7343                                    | 724                                     | 0.679                                       |

## SQUARE HOLLOW SECTIONS

| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per m<br><b>m<sup>2</sup>/m</b> |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|--------------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                                  |
| 200 x 200                  | 5.0                         | 30.4                     | 38.7                                          | 2445                                             | 7.95                                 | 245                                                         | 283                                                         | 3756                                    | 362                                     | 0.787                                            |
|                            | 5.6                         | 33.9                     | 43.2                                          | 2710                                             | 7.92                                 | 271                                                         | 314                                                         | 4174                                    | 401                                     | 0.786                                            |
|                            | 6.0                         | 36.2                     | 46.2                                          | 2883                                             | 7.90                                 | 288                                                         | 335                                                         | 4449                                    | 426                                     | 0.785                                            |
|                            | 6.3                         | 38.0                     | 48.4                                          | 3011                                             | 7.89                                 | 301                                                         | 350                                                         | 4653                                    | 444                                     | 0.784                                            |
|                            | 7.1                         | 42.6                     | 54.2                                          | 3345                                             | 7.85                                 | 335                                                         | 391                                                         | 5189                                    | 493                                     | 0.782                                            |
|                            | 8.0                         | 47.7                     | 60.8                                          | 3709                                             | 7.81                                 | 371                                                         | 436                                                         | 5778                                    | 545                                     | 0.779                                            |
| 200 x 200                  | 8.8                         | 52.2                     | 66.5                                          | 4021                                             | 7.78                                 | 402                                                         | 474                                                         | 6288                                    | 590                                     | 0.777                                            |
|                            | 10.0                        | 58.8                     | 74.9                                          | 4471                                             | 7.72                                 | 447                                                         | 531                                                         | 7031                                    | 655                                     | 0.774                                            |
|                            | 12.0                        | 69.6                     | 88.7                                          | 5171                                             | 7.64                                 | 517                                                         | 621                                                         | 8208                                    | 754                                     | 0.769                                            |
|                            | 12.5                        | 72.3                     | 92.1                                          | 5336                                             | 7.61                                 | 534                                                         | 643                                                         | 8491                                    | 778                                     | 0.768                                            |
|                            | 14.2                        | 81.1                     | 103                                           | 5872                                             | 7.54                                 | 587                                                         | 714                                                         | 9417                                    | 854                                     | 0.763                                            |
|                            | 16.0                        | 90.3                     | 115                                           | 6394                                             | 7.46                                 | 639                                                         | 785                                                         | 10340                                   | 927                                     | 0.759                                            |



## SQUARE HOLLOW SECTIONS

| Size<br><b>B × B</b><br>mm | Thickness<br><b>T</b><br>mm | Mass<br><b>M</b><br>kg/m | Sectional Area<br><b>A</b><br>cm <sup>2</sup> | Moment of Inertia<br><b>I</b><br>cm <sup>4</sup> | Radius of Gyration<br><b>i</b><br>cm | Elastic Modulus<br><b>W<sub>el</sub></b><br>cm <sup>3</sup> | Plastic Modulus<br><b>W<sub>pl</sub></b><br>cm <sup>3</sup> | Torsional Constants                     |                                         | Superficial Area per m<br><b>m<sup>2</sup>/m</b> |
|----------------------------|-----------------------------|--------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------|--------------------------------------------------|
|                            |                             |                          |                                               |                                                  |                                      |                                                             |                                                             | <b>I<sub>t</sub></b><br>cm <sup>4</sup> | <b>C<sub>t</sub></b><br>cm <sup>3</sup> |                                                  |
| 250 x 250                  | 5.0                         | 38.3                     | 48.7                                          | 4861                                             | 9.99                                 | 389                                                         | 447                                                         | 7430                                    | 577                                     | 0.987                                            |
|                            | 5.6                         | 42.7                     | 54.4                                          | 5399                                             | 9.96                                 | 432                                                         | 498                                                         | 8271                                    | 640                                     | 0.986                                            |
|                            | 6.0                         | 45.7                     | 58.2                                          | 5752                                             | 9.94                                 | 460                                                         | 531                                                         | 8825                                    | 681                                     | 0.985                                            |
|                            | 6.3                         | 47.9                     | 61.0                                          | 6014                                             | 9.93                                 | 481                                                         | 556                                                         | 9238                                    | 712                                     | 0.984                                            |
|                            | 7.1                         | 53.7                     | 68.4                                          | 6701                                             | 9.90                                 | 536                                                         | 622                                                         | 10325                                   | 792                                     | 0.982                                            |
|                            | 8.0                         | 60.3                     | 76.8                                          | 7455                                             | 9.86                                 | 596                                                         | 694                                                         | 11525                                   | 880                                     | 0.979                                            |
| 300 x 300                  | 8.8                         | 66.0                     | 84.1                                          | 8107                                             | 9.82                                 | 649                                                         | 758                                                         | 12572                                   | 955                                     | 0.977                                            |
|                            | 10.0                        | 74.5                     | 94.9                                          | 9055                                             | 9.77                                 | 724                                                         | 851                                                         | 14106                                   | 1065                                    | 0.974                                            |
|                            | 12.0                        | 88.5                     | 113                                           | 10556                                            | 9.68                                 | 844                                                         | 1000                                                        | 16567                                   | 1237                                    | 0.969                                            |
|                            | 12.5                        | 91.9                     | 117                                           | 10915                                            | 9.66                                 | 873                                                         | 1037                                                        | 17164                                   | 1279                                    | 0.968                                            |
|                            | 14.2                        | 103                      | 132                                           | 12094                                            | 9.58                                 | 967                                                         | 1158                                                        | 19139                                   | 1413                                    | 0.963                                            |
|                            | 16.0                        | 115                      | 147                                           | 13267                                            | 9.50                                 | 1061                                                        | 1280                                                        | 21138                                   | 1546                                    | 0.959                                            |
| 350 x 350                  | 8.0                         | 72.8                     | 92.8                                          | 13128                                            | 11.9                                 | 875                                                         | 1013                                                        | 20194                                   | 1294                                    | 1.18                                             |
|                            | 16.0                        | 141                      | 179                                           | 23884                                            | 11.5                                 | 1590                                                        | 1895                                                        | 37622                                   | 1325                                    | 1.16                                             |
| 350 x 350                  | 10.0                        | 106                      | 135                                           | 25541                                            | 13.9                                 | 1479                                                        | 1715                                                        | 39886                                   | 2185                                    | 1.37                                             |
|                            | 12.5                        | 131                      | 167                                           | 31541                                            | 13.7                                 | 1802                                                        | 2107                                                        | 48934                                   | 2654                                    | 1.37                                             |

