



## CARBON STEEL PIPE

Dimensions and Properties



TIS 107-2553



| Nominal Dimensions (in.) | Outside Diameter (mm.) | Thickness (mm.) | Calculate Weight (kg/m.) | Calculate Weight (kg/6m.) | Informative Reference                   |  |                                       |                          |
|--------------------------|------------------------|-----------------|--------------------------|---------------------------|---|--|---------------------------------------|--------------------------|
|                          |                        |                 |                          |                           | Cross Sectional Area (cm <sup>2</sup> ) | Geometrical Moment of Inertia (cm <sup>4</sup> ) | Modulus of Section (cm <sup>3</sup> ) | Radius of Gyration (cm.) |
| DN                       | D                      | T               | W                        | A                         | I                                       | Z  | i                                     |                          |
| 1/2 (15)                 | 21.70                  | 1.20            | 0.61                     | 3.66                      | 0.77                                    | 0.41   | 0.38                                  | 0.73                     |
|                          |                        | 1.40            | 0.70                     | 4.20                      | 0.89                                    | 0.46   | 0.43                                  | 0.72                     |
| 3/4 (20)                 | 27.20                  | 1.20            | 0.77                     | 4.62                      | 0.98                                    | 0.83   | 0.61                                  | 0.92                     |
|                          |                        | 1.40            | 0.89                     | 5.34                      | 1.13                                    | 0.95   | 0.70                                  | 0.91                     |
| 1 (25)                   | 34.00                  | 1.40            | 1.13                     | 6.78                      | 1.43                                    | 1.91   | 1.12                                  | 1.15                     |
|                          |                        | 1.70            | 1.35                     | 8.10                      | 1.73                                    | 2.26   | 1.33                                  | 1.14                     |
|                          |                        | 2.00            | 1.58                     | 9.48                      | 2.01                                    | 2.58   | 1.52                                  | 1.13                     |
|                          |                        | 2.30            | 1.80                     | 10.80                     | 2.29                                    | 2.89   | 1.70                                  | 1.12                     |
|                          |                        | 2.50            | 1.94                     | 11.64                     | 2.47                                    | 3.09   | 1.82                                  | 1.12                     |
|                          |                        | 2.80            | 2.15                     | 12.90                     | 2.74                                    | 3.37   | 1.98                                  | 1.11                     |
|                          |                        | 3.00            | 2.29                     | 13.74                     | 2.92                                    | 3.54   | 2.08                                  | 1.10                     |
| 1 1/4 (32)               | 42.7                   | 3.20            | 2.43                     | 14.58                     | 3.10                                    | 3.71   | 2.18                                  | 1.09                     |
|                          |                        | 1.40            | 1.43                     | 8.58                      | 1.82                                    | 3.88   | 1.82                                  | 1.46                     |
|                          |                        | 1.70            | 1.72                     | 10.32                     | 2.19                                    | 4.61   | 2.16                                  | 1.45                     |
|                          |                        | 2.00            | 2.01                     | 12.06                     | 2.56                                    | 5.31   | 2.49                                  | 1.44                     |
|                          |                        | 2.30            | 2.29                     | 13.74                     | 2.92                                    | 5.97   | 2.80                                  | 1.43                     |
|                          |                        | 2.50            | 2.48                     | 14.88                     | 3.16                                    | 6.40   | 3.00                                  | 1.42                     |
|                          |                        | 2.80            | 2.76                     | 16.56                     | 3.51                                    | 7.02   | 3.29                                  | 1.41                     |
| 1 1/2 (40)               | 48.60                  | 3.00            | 2.94                     | 17.64                     | 3.74                                    | 7.41   | 3.47                                  | 1.41                     |
|                          |                        | 3.20            | 3.12                     | 18.72                     | 3.97                                    | 7.80   | 3.65                                  | 1.40                     |
|                          |                        | 1.40            | 1.63                     | 9.78                      | 2.08                                    | 5.79   | 2.38                                  | 1.67                     |
|                          |                        | 1.70            | 1.97                     | 11.82                     | 2.50                                    | 6.90   | 2.84                                  | 1.66                     |
|                          |                        | 2.00            | 2.30                     | 13.80                     | 2.93                                    | 7.96   | 3.28                                  | 1.65                     |
|                          |                        | 2.30            | 2.63                     | 15.78                     | 3.35                                    | 8.99   | 3.70                                  | 1.64                     |
|                          |                        | 2.50            | 2.84                     | 17.04                     | 3.62                                    | 9.65   | 3.97                                  | 1.63                     |
| 2 (50)                   | 60.50                  | 2.80            | 3.16                     | 18.96                     | 4.03                                    | 10.60  | 4.36                                  | 1.62                     |
|                          |                        | 3.00            | 3.37                     | 20.22                     | 4.30                                    | 11.22  | 4.62                                  | 1.62                     |
|                          |                        | 3.20            | 3.58                     | 21.48                     | 4.56                                    | 11.82  | 4.86                                  | 1.61                     |
|                          |                        | 1.70            | 2.47                     | 14.82                     | 3.14                                    | 13.58  | 4.49                                  | 2.08                     |
|                          |                        | 2.30            | 3.30                     | 19.80                     | 4.21                                    | 17.83  | 5.90                                  | 2.06                     |
|                          |                        | 2.50            | 3.58                     | 21.48                     | 4.56                                    | 19.19  | 6.34                                  | 2.05                     |
|                          |                        | 2.80            | 3.98                     | 23.88                     | 5.08                                    | 21.17  | 7.00                                  | 2.04                     |
| 2 1/2 (65)               | 76.30                  | 3.20            | 4.52                     | 27.12                     | 5.76                                    | 23.72  | 7.84                                  | 2.03                     |
|                          |                        | 4.00            | 5.57                     | 33.42                     | 7.10                                    | 28.47  | 9.41                                  | 2.00                     |
|                          |                        | 2.00            | 3.66                     | 21.96                     | 4.67                                    | 32.24  | 8.45                                  | 2.63                     |
|                          |                        | 2.50            | 4.55                     | 27.30                     | 5.80                                    | 39.51  | 10.36                                 | 2.61                     |
|                          |                        | 2.80            | 5.08                     | 30.48                     | 6.47                                    | 43.72  | 11.46                                 | 2.60                     |
|                          |                        | 3.00            | 5.42                     | 32.52                     | 6.91                                    | 46.48  | 12.18                                 | 2.59                     |
|                          |                        | 3.20            | 5.77                     | 34.62                     | 7.35                                    | 49.18  | 12.89                                 | 2.59                     |
| 3 (80)                   | 88.90                  | 4.00            | 7.13                     | 42.78                     | 9.09                                    | 59.55  | 15.61                                 | 2.56                     |
|                          |                        | 2.00            | 4.29                     | 25.74                     | 5.46                                    | 51.57  | 11.60                                 | 3.07                     |
|                          |                        | 2.50            | 5.33                     | 31.98                     | 6.79                                    | 63.37  | 14.26                                 | 3.06                     |
|                          |                        | 2.80            | 5.95                     | 35.70                     | 7.57                                    | 70.26  | 15.81                                 | 3.05                     |
|                          |                        | 3.00            | 6.36                     | 38.16                     | 8.10                                    | 74.76  | 16.82                                 | 3.04                     |
|                          |                        | 3.20            | 7.76                     | 46.56                     | 8.62                                    | 79.21  | 17.82                                 | 3.03                     |
|                          |                        | 4.00            | 8.38                     | 50.28                     | 10.67                                   | 96.34  | 21.67                                 | 3.00                     |
| 3 1/2 (90)               | 101.60                 | 2.80            | 6.82                     | 40.92                     | 8.69                                    | 106.13   | 20.89                                 | 3.49                     |
|                          |                        | 3.00            | 7.29                     | 43.74                     | 9.29                                    | 113.04   | 22.25                                 | 3.49                     |
|                          |                        | 3.20            | 7.77                     | 46.62                     | 9.89                                    | 119.85   | 23.59                                 | 3.48                     |
|                          |                        | 4.00            | 9.63                     | 57.78                     | 12.26                                   | 146.28   | 28.80                                 | 3.45                     |
| 4 (100)                  | 114.30                 | 2.50            | 6.89                     | 41.34                     | 8.78                                    | 137.26   | 24.02                                 | 3.95                     |
|                          |                        | 2.80            | 7.70                     | 46.20                     | 9.81                                    | 152.52   | 26.69                                 | 3.94                     |
|                          |                        | 3.00            | 8.23                     | 49.38                     | 10.49                                   | 162.55   | 28.44                                 | 3.94                     |
|                          |                        | 3.20            | 8.77                     | 52.62                     | 11.17                                   | 172.47   | 30.18                                 | 3.93                     |
|                          |                        | 4.00            | 10.88                    | 65.28                     | 13.86                                   | 211.07   | 36.93                                 | 3.90                     |
|                          |                        | 4.50            | 12.19                    | 73.14                     | 15.52                                   | 234.32   | 41.00                                 | 3.89                     |