



| CARACTERÍSTICAS Y DENOMINACIÓN | | | | | | PROPIEDADES ESTÁTICAS | | | | | | | | | | UNIDADES DE MEDIDA | |
|--------------------------------|------------|--------|--------|--------------------|-------------|------------------------|------------------------------------|-----------------------------------|---------------------|------------------------------------|--|---------------------|--------------------|--------------------|-----------------------------------|-----------------------------------|----|
| | | | | | | FLEXION | | | | | Módulo plástico Zx=Zy cm ³ | | TORSION | | | | |
| TAMAÑO PERFIL | | REAL | | Espesor pared e mm | Peso P Kg/m | Area A cm ² | EJE X - X | | | EJE Y - Y | | | Zx cm ³ | Zy cm ³ | Momento inercia J cm ⁴ | Módulo elástico B cm ³ | |
| TAMAÑO NOMINAL | MILÍMETROS | d mm | b mm | | | | Momento inercia Ix cm ⁴ | Módulo sección Sx cm ³ | Radio de giro rx cm | Momento inercia Iy cm ⁴ | Módulo elástico Sy cm ³ | Radio de giro ry cm | | | | | |
| PULGADAS | MILÍMETROS | | | | | | | | | | | | | | | | |
| 2 X 1 1/2" | 50 x 13 | 50.00 | 13.00 | 1.50 | 1.35 | 1.72 | 4.54 | 1.81 | 1.62 | 0.50 | 0.77 | 0.54 | 2.46 | 0.90 | 1.61 | 1.45 | 30 |
| 2 X 1 1/16" | 50 x 30 | 51.59 | 27.44 | 1.50 | 1.73 | 2.20 | 7.66 | 2.97 | 1.87 | 2.67 | 2.09 | 1.14 | 3.68 | 2.38 | 6.83 | 3.59 | 25 |
| 2 X 1 1/16" | 50 x 30 | 51.59 | 27.44 | 2.50 | 2.78 | 3.54 | 11.46 | 4.44 | 1.80 | 4.21 | 3.07 | 1.09 | 5.67 | 3.63 | 10.60 | 5.37 | 25 |
| 2 3/8 X 1 1/2" | 60 x 40 | 60.00 | 37.85 | 1.50 | 2.16 | 2.75 | 13.84 | 4.61 | 2.24 | 6.81 | 3.60 | 1.57 | 5.59 | 4.07 | 14.59 | 5.99 | 20 |
| 2 3/8 X 1 1/2" | 60 x 40 | 60.00 | 37.85 | 2.00 | 2.87 | 3.65 | 17.69 | 5.90 | 2.20 | 8.66 | 4.57 | 1.54 | 7.22 | 5.26 | 18.95 | 7.66 | 20 |
| 2 3/8 X 1 1/2" | 60 x 40 | 60.00 | 37.85 | 2.50 | 3.52 | 4.48 | 21.18 | 7.06 | 2.17 | 10.32 | 5.45 | 1.52 | 8.75 | 6.35 | 23.07 | 9.18 | 20 |
| 2 3/8 X 1 1/2" | 60 x 40 | 60.00 | 37.85 | 3.00 | 4.25 | 5.41 | 24.33 | 8.11 | 2.12 | 11.79 | 6.23 | 1.48 | 10.16 | 7.37 | 26.96 | 10.56 | 20 |
| 2 3/8 X 1 1/2" | 60 x 40 | 60.00 | 37.85 | 4.00 | 5.45 | 6.94 | 29.63 | 9.88 | 2.07 | 14.23 | 7.52 | 1.43 | 12.68 | 9.16 | 34.12 | 12.96 | 20 |
| 3 X 1 1/2" | 76 x 38 | 76.20 | 38.10 | 1.50 | 2.61 | 3.33 | 24.92 | 6.54 | 2.74 | 8.54 | 4.48 | 1.80 | 8.07 | 5.00 | 20.50 | 7.74 | 16 |
| 3 X 1 1/2" | 76 x 38 | 76.20 | 38.10 | 2.00 | 3.53 | 4.50 | 32.06 | 8.42 | 2.67 | 10.90 | 5.72 | 1.56 | 10.48 | 6.47 | 26.65 | 9.93 | 16 |
| 3 X 1 1/2" | 76 x 38 | 76.20 | 38.10 | 2.50 | 4.29 | 5.46 | 38.64 | 10.14 | 2.66 | 13.05 | 6.85 | 1.55 | 12.75 | 7.85 | 32.48 | 11.94 | 16 |
| 3 3/16 X 1 1/2" | 80 x 40 | 80.00 | 40.00 | 2.00 | 3.56 | 4.54 | 37.36 | 9.34 | 2.87 | 12.72 | 6.36 | 1.67 | 11.61 | 7.17 | 30.99 | 11.02 | 16 |
| 3 3/16 X 1 1/2" | 80 x 40 | 80.00 | 40.00 | 3.00 | 5.19 | 6.61 | 52.25 | 13.06 | 2.81 | 17.56 | 8.78 | 1.63 | 16.54 | 10.16 | 44.30 | 15.36 | 16 |
| 3 1/2 X 2 | 90 x 50 | 90.17 | 50.00 | 2.00 | 4.32 | 5.50 | 58.15 | 12.90 | 3.25 | 23.41 | 9.36 | 2.06 | 15.78 | 10.52 | 53.63 | 15.93 | 16 |
| 3 1/2 X 2 | 90 x 50 | 90.17 | 50.00 | 2.50 | 5.26 | 6.70 | 70.59 | 15.66 | 3.25 | 28.28 | 11.31 | 2.05 | 19.31 | 12.84 | 65.67 | 19.32 | 16 |
| 4 X 1 1/2" | 100 x 40 | 99.99 | 39.98 | 1.50 | 3.20 | 4.08 | 50.47 | 10.09 | 3.52 | 12.15 | 6.08 | 1.73 | 12.67 | 6.88 | 31.91 | 10.80 | 16 |
| 4 X 1 1/2" | 100 x 40 | 99.99 | 39.98 | 2.00 | 4.32 | 5.50 | 65.34 | 13.07 | 3.45 | 15.59 | 7.80 | 1.68 | 16.54 | 8.89 | 41.55 | 13.90 | 16 |
| 4 X 1 1/2" | 100 x 40 | 99.99 | 39.98 | 2.50 | 5.26 | 6.70 | 79.27 | 15.86 | 3.44 | 18.75 | 9.38 | 1.67 | 20.23 | 10.58 | 50.72 | 16.79 | 16 |
| 4 X 2 | 100 x 50 | 100.00 | 50.00 | 2.00 | 4.50 | 5.74 | 74.98 | 15.00 | 3.62 | 25.67 | 10.27 | 2.12 | 18.50 | 11.46 | 61.72 | 17.75 | 16 |
| 4 X 2 | 100 x 50 | 100.00 | 50.00 | 3.00 | 6.60 | 8.41 | 106.46 | 21.29 | 3.56 | 36.06 | 14.42 | 2.07 | 26.66 | 16.44 | 89.09 | 25.09 | 16 |
| 4 X 2 | 100 x 50 | 100.00 | 50.00 | 4.00 | 8.59 | 10.95 | 134.14 | 26.83 | 3.50 | 44.95 | 17.98 | 2.03 | 34.10 | 20.93 | 114.32 | 31.55 | 16 |
| 4 X 2 | 100 x 50 | 100.00 | 50.00 | 5.00 | 10.48 | 13.38 | 158.19 | 31.64 | 3.44 | 52.45 | 20.98 | 1.98 | 40.84 | 24.95 | 137.53 | 37.21 | 16 |
| 4 3/4 X 2 3/8" | 120 x 60 | 121.78 | 59.90 | 2.00 | 5.58 | 7.11 | 136.64 | 22.44 | 4.38 | 45.76 | 15.28 | 2.54 | 27.60 | 16.92 | 109.88 | 26.42 | 16 |
| 4 3/4 X 2 3/8" | 120 x 60 | 121.78 | 59.90 | 2.50 | 6.81 | 8.67 | 167.03 | 27.43 | 4.39 | 55.68 | 18.59 | 2.53 | 33.94 | 20.77 | 135.18 | 32.22 | 16 |
| 6 X 2 | 150 x 50 | 150.00 | 50.00 | 2.00 | 6.07 | 7.74 | 207.53 | 27.67 | 5.18 | 37.20 | 14.88 | 2.19 | 35.35 | 16.26 | 104.39 | 26.96 | 16 |
| 6 X 2 | 150 x 50 | 150.00 | 50.00 | 3.00 | 8.96 | 11.41 | 298.55 | 39.81 | 5.12 | 52.65 | 21.06 | 2.15 | 51.43 | 23.49 | 150.80 | 38.36 | 16 |
| 6 X 2 | 150 x 50 | 150.00 | 50.00 | 4.00 | 11.73 | 14.95 | 381.39 | 50.85 | 5.05 | 66.16 | 26.47 | 2.10 | 66.47 | 30.13 | 193.62 | 48.51 | 16 |
| 6 X 2 | 150 x 50 | 150.00 | 50.00 | 5.00 | 14.41 | 18.36 | 456.29 | 60.84 | 4.99 | 77.87 | 31.15 | 2.06 | 80.48 | 36.20 | 233.01 | 57.52 | 16 |
| 6 X 4 | 150 x 100 | 150.00 | 100.00 | 6.00 | 21.69 | 27.63 | 834.69 | 111.29 | 5.50 | 444.19 | 88.84 | 4.01 | 136.68 | 103.30 | 957.04 | 147.81 | 16 |
| | 200 x 70 | 200.00 | 70.00 | 4.00 | 16.13 | 20.55 | 969.18 | 96.92 | 6.87 | 185.51 | 53.00 | 3.00 | 124.52 | 59.08 | 521.89 | 96.03 | 9 |
| | 200 x 70 | 200.00 | 70.00 | 5.00 | 19.90 | 25.36 | 1174.00 | 117.40 | 6.80 | 222.21 | 63.49 | 2.96 | 152.12 | 71.81 | 635.06 | 115.55 | 9 |
| | 200 x 70 | 200.00 | 70.00 | 6.00 | 23.58 | 30.03 | 1364.48 | 136.45 | 6.74 | 255.38 | 72.97 | 2.92 | 178.35 | 83.75 | 741.83 | 133.47 | 9 |
| | 200 x 100 | 200.00 | 100.00 | 4.00 | 18.01 | 22.95 | 1199.71 | 119.97 | 7.23 | 410.78 | 82.16 | 4.23 | 148.04 | 91.70 | 988.08 | 142.01 | 9 |
| | 250 x 150 | 250.00 | 150.00 | 5.00 | 30.11 | 38.36 | 3304.18 | 264.33 | 9.28 | 1507.95 | 201.06 | 6.27 | 319.76 | 225.48 | 3282.28 | 337.32 | 9 |
| | 350 x 150 | 350.00 | 150.00 | 7.00 | 52.42 | 66.78 | 10222.35 | 584.13 | 12.37 | 2732.02 | 364.27 | 6.40 | 733.37 | 405.79 | 7069.57 | 643.79 | 6 |
| | 400 x 200 | 400.00 | 200.00 | 9.00 | 80.60 | 102.67 | 21903.00 | 1065.15 | 14.40 | 4274.28 | 727.43 | 8.42 | 1319.09 | 816.15 | 17621.93 | 1259.57 | 4 |

Los perfiles tubulares COLMENA cumplen con la norma ASTM A-500 grado C. Esfuerzo de fluencia Fy=3.500 kg/cm² (50.000 psi) (350 Mpa).
 *Estos tubos se suministran en grado B Esfuerzo de Fluencia Fy=3.220 kg/cm² (46.000 psi) (322MPa).

Largo de tubos más comerciales.

