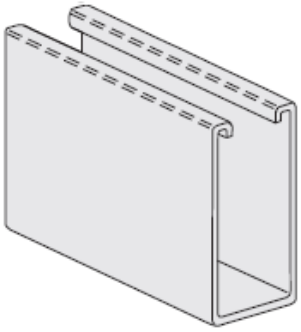
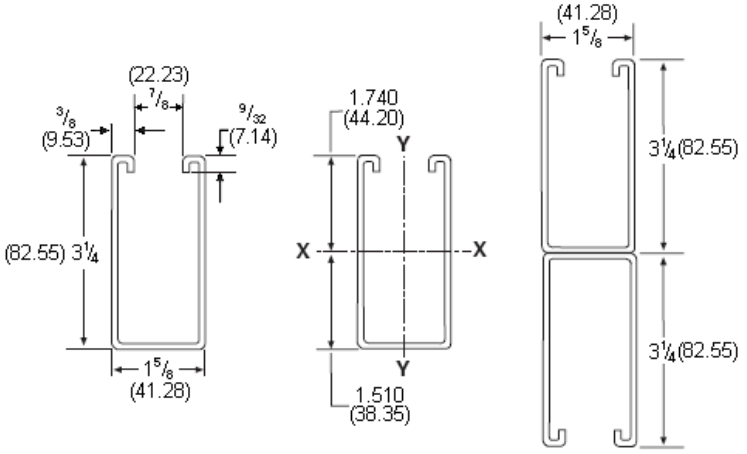
# 1501 - 1542

# 1⅝" X 3¼" X 12 Gauge



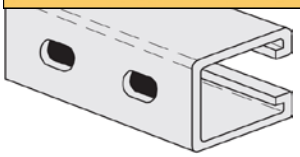


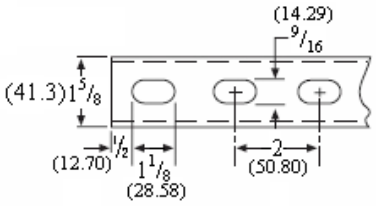

**ORDERING:**
Specify Figure No., finish and number of feet.

| Fig. Number | | | | Type - Description | Weight | | Bundle Qty. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10ft. | 3.05m | 20ft. | 6.10m | | lbs./ft. | kg/m | 10ft. | 3.05m | 20ft. | 6.10m |
| 1501 | | 1502 | | No Openings | 2.99 | (4.45) | 300 | (91.44) | 300 | (91.44) |
| 1501A | | 1502A | | Welded Back to Back | 5.98 | (8.90) | 100 | (30.48) | 200 | (60.96) |
| 1511 | | 1512 | | With 1¹/₈" X ⁹/₁₆" (28.58 X 14.29) slots on 2" (50.8) centers | 2.90 | (4.32) | 300 | (91.44) | 300 | (91.44) |
| 1511A | | 1512A | | Welded Back to Back | 5.80 | (8.63) | 100 | (30.48) | 200 | (60.96) |
| 1521 | | 1522 | | With ⁹/₁₆" (14.29) dia. holes on 1⁷/₈" (47.63) centers | 2.91 | (4.33) | 300 | (91.44) | 300 | (91.44) |
| 1521A | | 1522A | | Welded Back to Back | 6.02 | (8.96) | 100 | (30.48) | 200 | (60.96) |
| 1531 | | 1532 | | With 3" (76.20) slots | 2.89 | (4.30) | 300 | (91.44) | 300 | (91.44) |
| 1541 | | 1542 | | With ⅞" (22.23) Knockouts on 6" (152.40) centers | 2.99 | (4.45) | 300 | (91.44) | 300 | (91.44) |

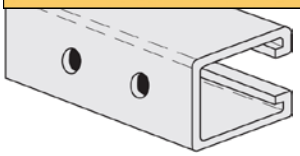
**Available in stainless steel. Price on request. To order stainless steel, specify 304 or 316 and add suffix SS to fig. number.**

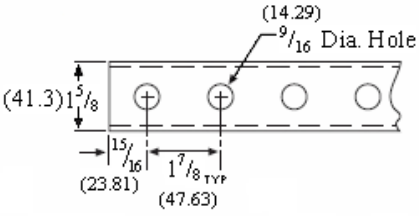
## 1511 - 1512



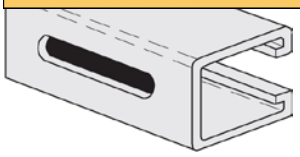


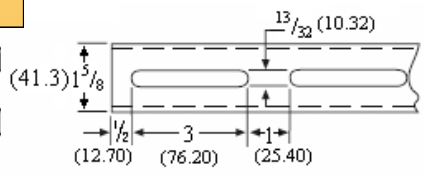

## 1521 - 1522



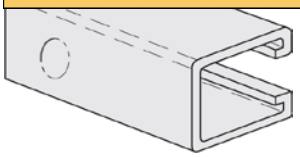


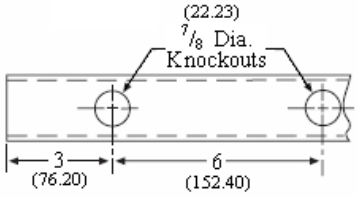

## 1531 - 1532






## 1541 - 1542






Unless otherwise specified, all dimensions on drawings and in charts are in inches and dimensions shown in parentheses are in millimeters.

# CHANNEL

# 1501 - 1542

## Elements of Selection

| Figure Number | X-X Axis | | | | | | | | Y-Y Axis | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area of Section | | Moment Of Inertia | | Section Modulus | | Radius of Gyration | | Moment Of Inertia | | Section Modulus | | Radius of Gyration | |
| | $in.^2$ | $cm^2$ | $in.^4$ | $cm^4$ | $in.^3$ | $cm^3$ | in. | cm | $in.^4$ | $cm^4$ | $in.^3$ | $cm^3$ | in. | cm |
| 1501 | 0.902 | (5.819) | 1.115 | (46.423) | 0.641 | (10.504) | 1.112 | (2.824) | 0.436 | (18.153) | 0.537 | (8.800) | 0.695 | (1.765) |
| 1501A | 1.804 | (11.639) | 6.349 | (264.341) | 1.953 | (32.004) | 1.876 | (4.765) | 0.873 | (36.347) | 1.074 | (17.600) | 0.695 | (1.765) |

Modules of Elasticity: 29,500,000 PSI (203,395.3mPa)

## Beam & Column Loads

| Figure Number | Beam Span or Unbraced Column Height | | Maximum Column Load | | Uniform Load | | Deflection | | Uniform Load @ 1/240 Span | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lbs. | kN | Lbs. | kN | In. | mm | Lbs. | kN |
| 1501 | 24 | (609.60) | 8190 | (36.43) | 5130 | (22.82) | .03 | (0.76) | 5130 | (22.82) |
| 1501A | | | 17701 | (78.74) | 5130 | (22.82) | .01 | (0.25) | 5130 | (22.82) |
| 1501 | 36 | (914.40) | 7311 | (32.52) | 3488 | (15.52) | .07 | (1.78) | 3488 | (15.52) |
| 1501A | | | 17416 | (77.47) | 5130 | (22.82) | .02 | (0.51) | 5130 | (22.82) |
| 1501 | 48 | (1219.20) | 6214 | (27.64) | 2616 | (11.64) | .12 | (3.05) | 2616 | (11.64) |
| 1501A | | | 17016 | (75.69) | 5130 | (22.82) | .04 | (1.02) | 5130 | (22.82) |
| 1501 | 60 | (1524.00) | 4988 | (22.19) | 2093 | (9.31) | .18 | (4.57) | 2093 | (9.31) |
| 1501A | | | 16503 | (73.41) | 5130 | (22.82) | .08 | (2.03) | 5130 | (22.82) |
| 1501 | 72 | (1828.80) | 3816 | (16.97) | 1744 | (7.76) | .26 | (6.60) | 1744 | (7.76) |
| 1501A | | | 15876 | (70.62) | 5130 | (22.82) | .14 | (3.56) | 5130 | (22.82) |
| 1501 | 84 | (2133.60) | 3063 | (13.62) | 1495 | (6.65) | .36 | (9.14) | 1460 | (6.49) |
| 1501A | | | 15135 | (67.32) | 4552 | (20.25) | .19 | (4.83) | 4552 | (20.25) |
| 1501 | 96 | (2438.40) | 2564 | (11.41) | 1308 | (5.82) | .47 | (11.94) | 1118 | (4.97) |
| 1501A | | | 14279 | (63.52) | 3983 | (17.72) | .25 | (6.35) | 3983 | (17.72) |
| 1501 | 108 | (2743.20) | 2213 | (9.84) | 1163 | (5.17) | .59 | (14.99) | 884 | (3.93) |
| 1501A | | | 12210 | (54.31) | 3541 | (15.75) | .32 | (8.13) | 3541 | (15.75) |
| 1501 | 120 | (3048.00) | 1953 | (8.69) | 1046 | (4.65) | .73 | (18.54) | 716 | (3.18) |
| 1501A | | | 12226 | (54.38) | 3187 | (14.18) | .39 | (9.91) | 3187 | (14.18) |
| 1501 | 144 | (3657.60) | -- | -- | 880 | (3.91) | 1.06 | (26.92) | 500 | (2.22) |
| 1501A | | | -- | -- | 2656 | (11.81) | .56 | (14.30) | 2656 | (11.81) |
| 1501 | 168 | (4267.20) | -- | -- | 750 | (3.34) | 1.43 | (36.32) | 370 | (1.65) |
| 1501A | | | -- | -- | 2276 | (10.12) | .77 | (19.45) | 2078 | (9.24) |
| 1501 | 192 | (4876.80) | -- | -- | 660 | (2.94) | 1.88 | (47.75) | 280 | (1.25) |
| 1501A | | | -- | -- | 1992 | (8.86) | 1.00 | (25.42) | 1591 | (7.08) |
| 1501 | 216 | (5486.40) | -- | -- | 580 | (2.58) | 2.35 | (59.69) | 220 | (0.98) |
| 1501A | | | -- | -- | 1770 | (7.87) | 1.27 | (32.18) | 1257 | (5.59) |
| 1501 | 240 | (6096.00) | -- | -- | 530 | (2.36) | 2.94 | (74.68) | 180 | (0.80) |
| 1501A | | | -- | -- | 1593 | (7.08) | 1.56 | (39.72) | 1018 | (4.53) |

**Beam Loads:** Loads listed are uniformly distributed, for loads concentrated at center of span multiply uniform load by .5 and multiply the deflection by .8. When deflection is not a factor use stress of 25,000 PSI (172.37 mPa). When deflection is a factor use deflection of 1/240 Span. *Failure determined by weld shear.

**Column Loads:** Column loadings are for allowable axial loads for the unsupported heights listed and include a K value of .80. If eccentric, loads should be reduced according to standard practice.

For Fabricated Channels, reduce beam load values as follows:

| | |
|---|---|
| 1511 & 1512 | 15% |
| 1521 & 1522 | 10% |
| 1531 & 1532 | 30% |
| 1541 & 1542 | 5% |

### TECHNICAL DATA

#### SPOT WELDING

Resistance welding of back to back strut channel is accomplished by way of an AC powered press type spot welder. This equipment produces a series of spot welds from 2" (50.8) to 4" (101.6) apart continuously down the length of the channel. Consistency is maintained by the use of a highly sophisticated constant current weld control. This processor is capable of maintaining weld sequence, duration and current control along with other variables. Any deviations in the programmed parameters will issue forth an alarm or shut down fault, which is then investigated. Weld quality is tested every 300-350 welds through the use of a destructive test method.

Through the use of modern technology, destructive and non-destructive testing, the quality of strut can be maintained. Spot weld strut is fabricated in accordance with the R.W.M.A. guidelines for resistance welding.

Unless otherwise specified, all dimensions on drawings and in charts are in inches and dimensions shown in parentheses are in millimeters.