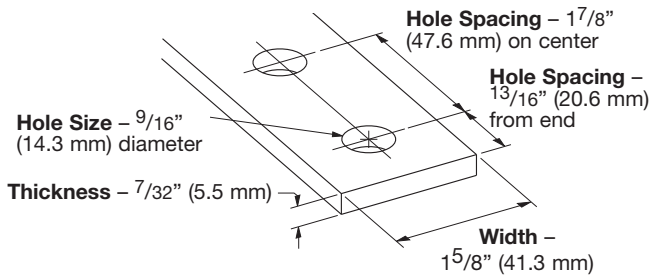


# Fittings

This section offers a full selection of fittings and accessories to complete our strut system. Fittings are made from hot rolled, pickled and oiled plate or strip steel in accordance with ASTM A1018 33,000 PSI min. yield, unless noted.

## Dimensions

The following dimensions apply to all fittings except as noted:



## Materials & Finishes (Unless otherwise noted)

| Finish Code | Finish                   | Specification                          |
|-------------|--------------------------|--|
| PLN         | Plain                    | ASTM A1018<br>33,000 PSI min. yield    |
| ZN          | Electro-Plated Zinc      | ASTM B633 SC3 Type III<br>or ASTM A653 |
| GRN         | DURA-GREEN™              |  |
| HDG         | Hot-Dipped Galvanized    | ASTM A123                              |
| SS4         | Stainless Steel Type 304 | ASTM A240                              |
| SS6         | Stainless Steel Type 316 | ASTM A240                              |
| AL          | Aluminum                 | ASTM B209                              |

Note: A minimum order may apply on special material and finishes.

## Load Data

The load data published includes safety factor of 2.5 when used with 12 ga. (2.6) channel (safety factor = ratio of ultimate load to the design load).

Use  $\frac{1}{2}$ "-13 x  $\frac{7}{8}$ " hex head cap screws and  $\frac{1}{2}$ "-13 (N225 or TN225) channel nuts for the rated results.

## Recommended Bolt Torque

| Bolt Size | $\frac{1}{4}$ "-20 | $\frac{5}{16}$ "-18 | $\frac{3}{8}$ "-16 | $\frac{1}{2}$ "-13 |
|-----------|--------------------|---------------------|--------------------|--------------------|
| Foot/Lbs. | 6                  | 11                  | 19                 | 50                 |
| Nm        | 8                  | 15                  | 26                 | 68                 |

See chart on page 112 for setscrew torque.

## Hardware

Nuts and bolts are not included with the fittings and must be ordered separately, unless noted.

## Pre-Assembled Fittings

Some fittings are available with hex head cap screws and channel nuts pre-assembled. These fittings and finishes will be flagged using the following symbol.



## Metric

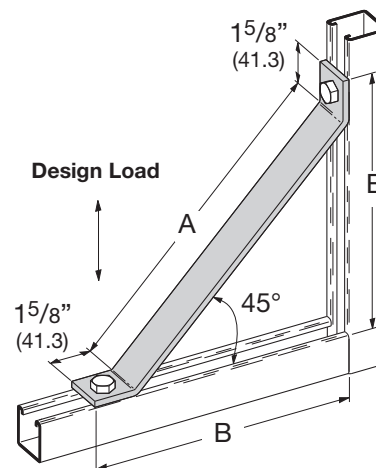
Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.



## B261 - TWO HOLE 45° KNEE BRACE

- Standard finishes: ZN, GRN
- Design load determined by testing using a B335 hinged corner connection.
- Load ratings are for brace members only. Do not exceed allowable beam or column loads for strut channels.
- Safety Factor of 3

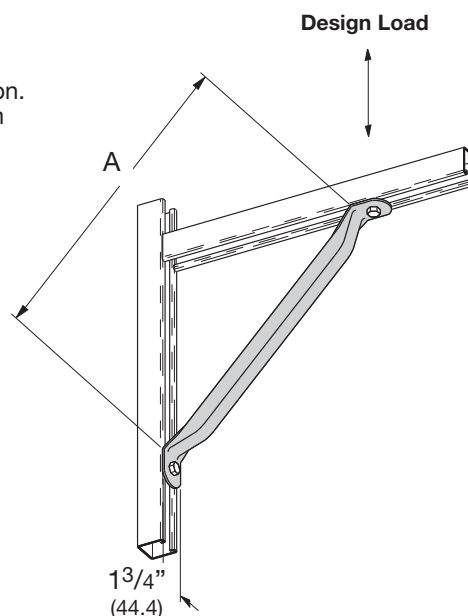
| Part No. | A                                | (A)     | B                                  | (B)     | Design Load |        | Wt./C |         |
|----------|----------------------------------|---------|------------------------------------|---------|-------------|--------|-------|---------|
|          |                                  |         |                                    |         | Lbs.        | kN     | Lbs.  | kg      |
| B261-8   | 8"                               | (203.2) | 7 <sup>3</sup> / <sub>8</sub> "    | (187.3) | 1500        | (6.67) | 119   | (54.0)  |
| B261-12  | 12"                              | (304.8) | 10 <sup>1</sup> / <sub>8</sub> "   | (257.2) | 1020        | (4.54) | 165   | (74.8)  |
| B261-16  | 16 <sup>5</sup> / <sub>8</sub> " | (422.3) | 13 <sup>3</sup> / <sub>8</sub> "   | (339.7) | 530         | (2.36) | 218   | (98.9)  |
| B261-18  | 18"                              | (457.2) | 14 <sup>7</sup> / <sub>16</sub> "  | (366.7) | 450         | (2.00) | 234   | (106.1) |
| B261-24  | 24"                              | (609.6) | 18 <sup>11</sup> / <sub>16</sub> " | (474.7) | 250         | (1.11) | 303   | (137.4) |
| B261-36  | 36"                              | (914.4) | 27 <sup>3</sup> / <sub>16</sub> "  | (690.6) | 110         | (.49)  | 441   | (200.0) |



## B631 - TWO HOLE 45° TUBING KNEE BRACE

- 1" (25.4) Square steel tubing
- Material: ASTM A513
- Standard finishes: ZN, GRN
- Design load determined by testing using a B335 hinged corner connection.
- Load ratings are for brace members only. Do not exceed allowable beam or column loads for strut channels.
- Safety Factor of 3

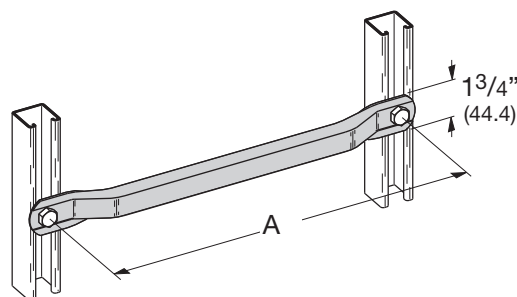
| Part No. | A   | (A)      | Design Load |        | Wt./C |         |
|----------|-----|----------|-------------|--------|-------|---------|
|          |     |          | Lbs.        | kN     | Lbs.  | kg      |
| B631-18  | 18" | (457.2)  | 1500        | (6.67) | 145   | (65.8)  |
| B631-24  | 24" | (609.6)  | 1500        | (6.67) | 186   | (84.4)  |
| B631-30  | 30" | (762.0)  | 1500        | (6.67) | 225   | (102.0) |
| B631-36  | 36" | (914.4)  | 1500        | (6.67) | 266   | (120.6) |
| B631-42  | 42" | (1066.8) | 1230        | (5.47) | 307   | (139.2) |
| B631-48  | 48" | (1219.2) | 940         | (4.18) | 348   | (157.8) |
| B631-54  | 54" | (1371.6) | 740         | (3.29) | 389   | (176.4) |
| B631-60  | 60" | (1524.0) | 600         | (2.67) | 430   | (195.0) |
| B631-72  | 72" | (1828.8) | 420         | (1.87) | 508   | (230.4) |
| B631-84  | 84" | (2133.6) | 310         | (1.38) | 589   | (267.2) |
| B631-96  | 96" | (2438.4) | 240         | (1.07) | 669   | (303.5) |



## B632 - TWO HOLE STRAIGHT TUBING BRACE

- 1" (25.4) Square steel tubing
- Material: ASTM A513
- Standard finishes: ZN, GRN

| Part No. | A   | (A)      | Wt./C |         |
|----------|-----|----------|-------|---------|
|          |     |          | Lbs.  | kg      |
| B632-18  | 18" | (457.2)  | 133   | (60.3)  |
| B632-24  | 24" | (609.6)  | 174   | (78.9)  |
| B632-30  | 30" | (762.0)  | 215   | (97.5)  |
| B632-36  | 36" | (914.4)  | 256   | (116.1) |
| B632-42  | 42" | (1066.8) | 295   | (133.8) |
| B632-48  | 48" | (1219.2) | 335   | (151.9) |
| B632-54  | 54" | (1371.6) | 380   | (172.3) |
| B632-60  | 60" | (1524.0) | 420   | (190.5) |
| B632-72  | 72" | (1828.8) | 500   | (226.8) |
| B632-84  | 84" | (2133.6) | 585   | (265.3) |
| B632-96  | 96" | (2438.4) | 670   | (303.9) |



Reference page 72 for general fitting and standard finish specifications.

# Reference Data

## General Notes for Strut-Type Channel Raceway

UL Category RIUU - B-Line, Inc., Highland, IL 62249 December 11, 1998 (C)  
 FLUORESCENT AND INCANDESCENT LIGHTING



Suitable for not more than the number of wires of the sizes and types indicated in the following tables. Intended to enclose circuits operating at potentials not exceeding 600 volts between conductors. In all cases, the B217-20 or B217P snap-in cover is required to complete raceway closure. When using B217-24 snap-in cover, the number of wires is limited to 7 or fewer conductors no larger than #12 AWG.

B-Line's strut-type channel raceways and fittings are manufactured and tested to comply with the UL Standard for Safety for Strut-Type Channel Raceways and Fittings (UL 5B) in accordance with Article 384 of the 2002 National Electrical Code, NFPA 70.

1. Support spans for strut-type channel raceway shall not exceed 10 foot intervals.
2. No conductor larger than that for which the raceway is listed shall be installed in strut-type channel raceways. No wires under 14AWG or over 6AWG are allowed in any of B-Line's strut-type channel raceway. See tables 1, 2 and 3 below for a listing of the approved conductors for B-Line's strut-type channel raceways.
3. The number of conductors permitted in strut-type channel raceway shall not exceed the percentage fill using Table 384-22 and the applicable outside diameter of specific types and sizes of wire given in the tables in chapter 9 of the National Electrical Code. Table 384-22 lists two different percent fill areas depending on the use of internal or external joiners. Use 40% area fill with external joiners and 25% area fill for internal joiners.
4. Items in the electrical section of the B-Line Strut Systems Catalog identified by the UL symbol provide for electrical continuity. Other items require the use of a separate grounding wire.
5. If strut-type channel raceway is connected to another wiring system, the raceway must be field-tapped adjacent to the wire entry point to accept a #10-32 or larger grounding screw. A plated or stainless steel screw may be used. A sheet metal screw is not acceptable. Drill and tap the grounding wire hole before installing wires in raceway or move installed wires out of the way to avoid damage. After drilling and tapping, remove metal chips and burrs before installing screw.

**TABLE 1: MAXIMUM NUMBER OF WIRES (Adjusted per NEC Table 384.22 for 40% fill)**

Use this table to determine the type and number of conductors for use with B-Line's strut-type channel raceway using external joiners. This table applies for all installations except for the support and supply of electric discharge type lighting fixtures. See table 2 and 3 for further information.

| Insulation Type | Wire Size AWG. | B11<br>B11K06 | B12<br>B12K06 | B22<br>B22K06 | B24<br>B24K06 | B26<br>B26K06 | B32<br>B32K06 | B56<br>B56K06 |
|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| FEP,<br>FEPB    | 14             | 172           | 127           | 81            | 81            | 81            | 67            | 36            |
|                 | 12             | 126           | 92            | 59            | 59            | 59            | 49            | 26            |
|                 | 10             | 90            | 66            | 42            | 42            | 42            | 35            | 19            |
|                 | 8              | 51            | 38            | 24            | 24            | 24            | 20            | 11            |
|                 | 6              | 24            | 17            | 11            | 12            | 12            | 9             | 5             |
| RH, RHH,<br>RHW | 14             | 52            | 38            | 24            | 26            | 27            | 20            | 12            |
|                 | 12             | 45            | 33            | 21            | 22            | 23            | 17            | 10            |
|                 | 10             | 37            | 27            | 17            | 18            | 19            | 14            | 8             |
|                 | 8              | 20            | 14            | 9             | 10            | 10            | 7             | 4             |
|                 | 6              | 14            | 10            | 6             | 7             | 7             | 5             | 3             |
| T, TW           | 14             | 124           | 91            | 58            | 58            | 58            | 48            | 26            |
|                 | 12             | 95            | 70            | 45            | 45            | 45            | 37            | 20            |
|                 | 10             | 69            | 51            | 33            | 33            | 33            | 27            | 14            |
|                 | 8              | 36            | 26            | 17            | 18            | 19            | 14            | 8             |
|                 | 6              | 21            | 15            | 9             | 10            | 11            | 8             | 5             |
| THHN,<br>THWN   | 14             | 178           | 131           | 84            | 84            | 84            | 69            | 37            |
|                 | 12             | 130           | 95            | 61            | 61            | 61            | 50            | 27            |
|                 | 10             | 82            | 60            | 38            | 38            | 38            | 32            | 17            |
|                 | 8              | 46            | 34            | 21            | 22            | 22            | 17            | 10            |
|                 | 6              | 33            | 24            | 15            | 16            | 16            | 12            | 7             |
| THW             | 14             | 82            | 61            | 39            | 39            | 39            | 32            | 17            |
|                 | 12             | 66            | 49            | 31            | 31            | 31            | 26            | 14            |
|                 | 10             | 52            | 38            | 24            | 24            | 24            | 20            | 11            |
|                 | 8              | 29            | 21            | 13            | 14            | 15            | 11            | 6             |
|                 | 6              | 21            | 15            | 10            | 10            | 11            | 8             | 5             |
| XHHW            | 14             | 124           | 91            | 58            | 58            | 58            | 48            | 26            |
|                 | 12             | 95            | 70            | 45            | 45            | 45            | 37            | 20            |
|                 | 10             | 71            | 52            | 33            | 33            | 33            | 28            | 15            |
|                 | 8              | 37            | 27            | 17            | 19            | 19            | 14            | 8             |
|                 | 6              | 27            | 20            | 13            | 14            | 14            | 10            | 6             |