

PLAIN (PL)

Plain finish designation means that the channel retains the oiled surface applied to the raw steel during the rolling process. The fittings have the original oiled surface of the coil or strip steel material.

Pregalvanized Zinc (PG) ASTM A653

Pregalvanized steel is zinc coated by a hot dip process. Steel strip from a coil is fed through a continuous zinc coater which cleans, fluxes and coats the steel with molten zinc. After cooling, the steel is recoiled.

The pregalvanized zinc coating conforms to a G-90 thickness designation per ASTM A653. The zinc thickness is .75 MIL or .45 oz./sq. ft. of surface area.

This coating is offered on Unistrut channel and tubing and is a well-proven, time-tested performer for indoor and outdoor applications. For severe corrosion applications, hot dip galvanizing, as described below, is a good alternative.

HOT DIP GALVANIZED (HG) ASTM A123 OR A153

In hot dip galvanizing, the finished part is immersed in a bath of molten zinc. This method results in complete zinc coverage and a thicker coating than pregalvanized or plated zinc.

The zinc coating is typically 2.6 MIL or 1.5 oz./sq. ft. of surface area.

This is the coating of choice for applications where severe corrosion is a design factor.

SPECIAL COATING

When specific applications require other than standard available finishes, special finishes can be supplied per customer requirements.

Electroplated Zinc (EG) ASTM B633, Type III SC1 or SC3

In the electroplating process, the part to be zinc coated is immersed in a solution of zinc ions. An electric current causes the zinc to be deposited on the part.

SC1 (Mild) has a Zinc coating of 0.2 and is recommended for dry indoor use. SC1 is the standard finish thickness.

SC3 (Severe) has a Zinc coating of 0.5 mill and is the standard finish thickness only on UL Listed raceway products.

Perma-Gold (ZD) ASTM B633, Type II SC3

Similar to the EG process except in a yellow color.

Unistrut Defender (DF)

Unistrut® Defender™ is a combination of two proprietary material coatings conforming to ASTM standards A1046 and A1059. Channel, Fittings and Pipe Clamps meet the physical requirements of ASTM A1011 SS GR 33, ASTM A1046 SS GR 33, or ASTM A1011 HSLAS GR 45 Class 2.

3X the corrosion resistance of HG!

Zinc Coating

Unistrut products are available in four types of zinc coatings:

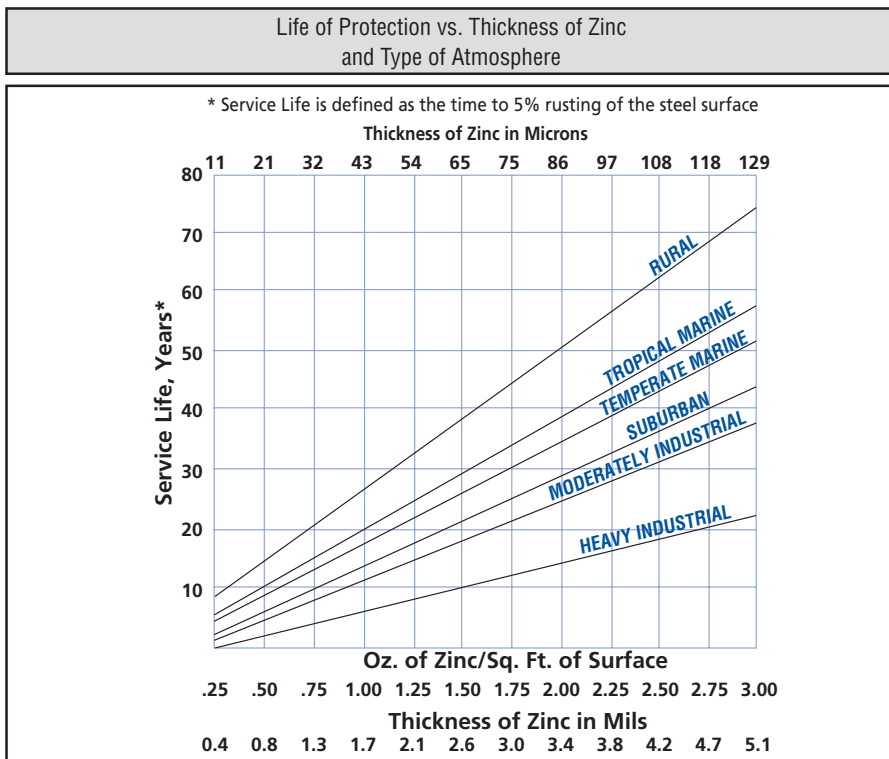
- Electroplated (EG)
- Perma-Gold (ZD)
- Pregalvanized (PG)
- Hot Dip Galvanized (HG).

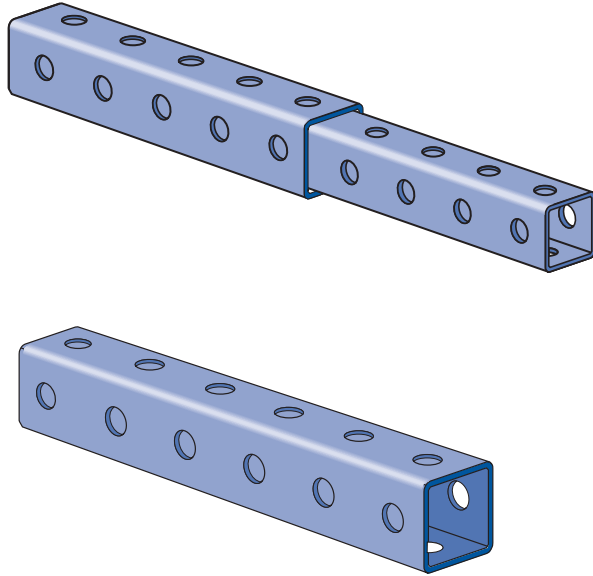
Zinc offer two types of protection:

- **Barrier:** The zinc coating protects the steel substrate from direct contact with the environment.
- **Sacrificial:** The zinc coating will protect scratches, cut edges, etc. through an anodic sacrificial process.

The service life of zinc coating is directly related to the zinc coating thickness as shown below.

Comparison of Zinc Finishes	
Finish	Zinc Thickness
Hot Dip Galvanized	2.6 MIL
Pre-galvanized	0.75 MIL
Electro-Galvanized (SC1)	0.2 MIL
Electro-Galvanized (SC3)	0.5 MIL
Perma-Gold (SC3)	0.5 MIL





MATERIAL

TELESTRUT is accurately and carefully cold formed to size from low-carbon strip steel.

STEEL: PLAIN

12 Ga. (2.7 mm), ASTM A1011 SS GR 33.

STEEL: PRE-GALVANIZED

12 Ga. (2.7 mm), ASTM A653 GR 33.

FINISHES

Telestrut is available in:

- Plain (PL)
- Pre-Galvanized (PG)
- Green powder coat (GR)

Fittings are available in:

- Green Powder Coat (GR), conforming to commercial standards for Powder Coating
- Electro-galvanized (EG), conforming to ASTM B633 Type III SC1
- Hot-dipped Galvanized (HG), conforming to ASTM A153
- Plain (PL)

DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parenthesis or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

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DESIGN BOLT TORQUE

BOLT SIZE	¼"-20	⅝"-18	⅜"-16	½"-13	⅝"-11	¾"-10
Rec.Torque Ft/Lbs (N•m)	6 (8)	11 (15)	19 (26)	50 (68)	100 (136)	125 (170)
Max Torque Ft/Lbs (N•m)	7 (9)	15 (20)	25 (34)	70 (95)	125 (170)	135 (183)

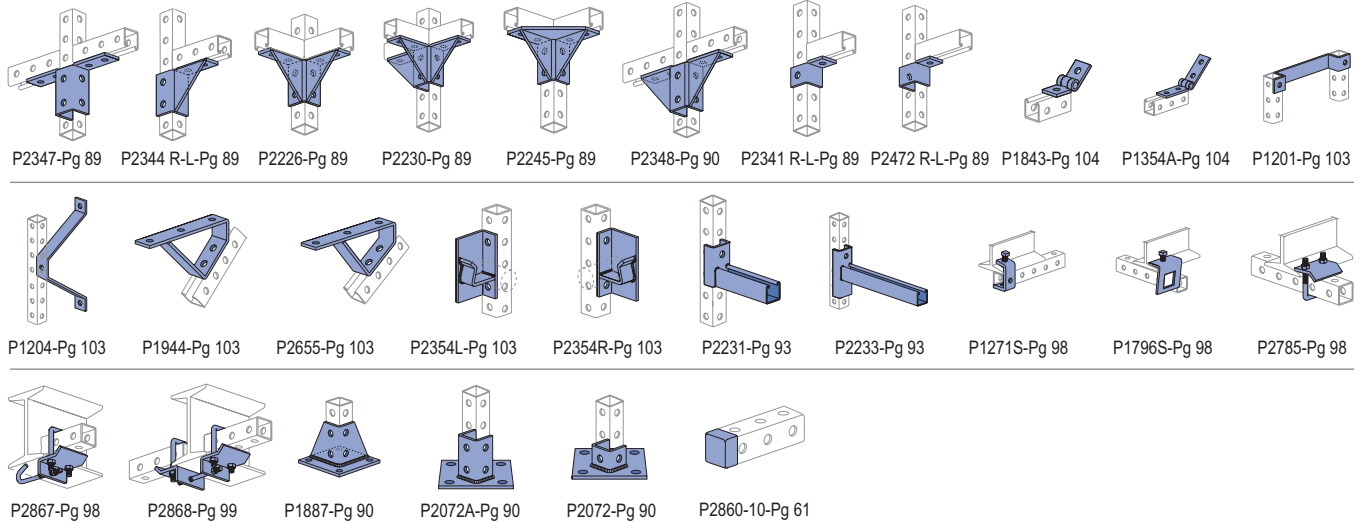
DESIGN LOAD

Load tables and charts are constructed to be in accordance with the SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007 EDITION published by the AMERICAN IRON AND STEEL INSTITUTE USING ASD METHOD.

Type of Load	Safety Factor to Yield Strength
Beam Loads	1.67
Column Load	1.80

Standard 1½" Metal Framing – Wing Shape Fittings

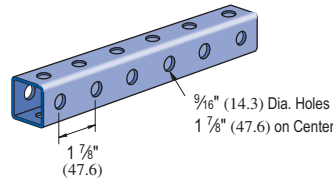
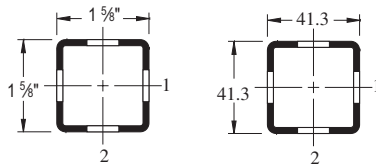
Standard 1½" – Misc. Fittings



Many of the standard metal framing components are compatible with the Telestrut telescoping tubing. Refer to the appropriate page in other sections of the catalog for information on the particular fittings shown here.

P9000

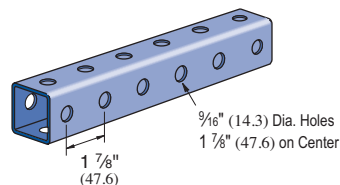
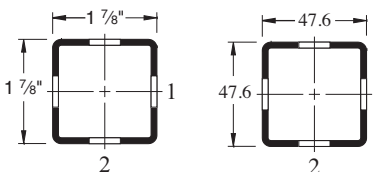
GR PG



Wt/100 Ft: 188 Lbs (279 kg/100 m)
Allowable Moment 5,140 In-Lbs (580 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

P9200

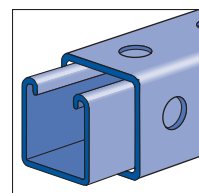
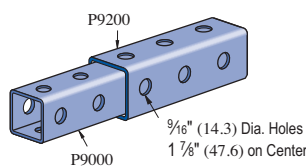
GR PG



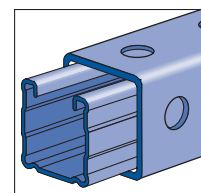
Wt/100 Ft: 223 Lbs (331 kg/100 m)
Allowable Moment 7,480 In-Lbs (850 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

TELESTRUT'S TELESCOPING POWER

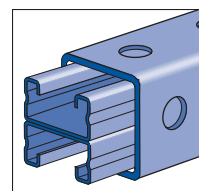
Telestrut can be combined with metal framing channel



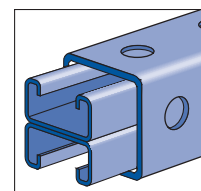
P1000 Series



P1100 Series



P4001 Series

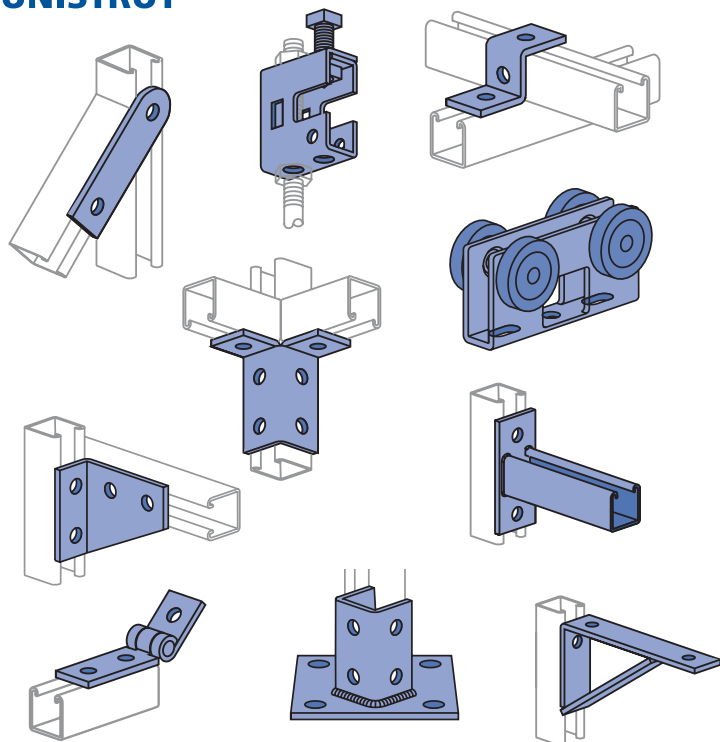


P4101 Series

Note: Will not telescope with GR or HG finish



GENERAL FITTINGS



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MATERIAL

Fittings, unless noted, are made from hot-rolled, pickled and oiled steel plates, bar, strip or coil, and conform to one or more of the following specifications: ASTM specifications A575, A576, A635, A1011 SS GR 33, A1011 HSLAS GR 45 or A36. All fittings meet or exceed physical properties of ASTM A1011 GR 33. The pickling of the steel produces a smooth surface free from scale.

Many fittings are also available in stainless steel, aluminum and fiberglass. Consult factory for ordering information.

FINISHES

Fittings are available in:

Green Powder Coat (GR), conforming to commercial standards for Powder Coating

Electro-galvanized (EG), conforming to ASTM B633 Type III SC1;

Hot-dipped galvanized (HG), conforming to ASTM A123 or A153 and

Plain (PL)

Unistrut Defender (DF), conforming to ASTM A1059 or A1046

APPLICATION

All parts drawings illustrate only one application of each fitting. In most cases many other applications are possible. The channels shown in the illustrations are P1000, 1 $\frac{1}{8}$ " square, except where noted otherwise.

All $\frac{9}{16}$ " diameter holes use $\frac{1}{2}$ " x $1\frac{1}{16}$ " hex head cap screws and $\frac{1}{2}$ " nuts – P1010, P3010, P4010 or P5510 – depending on the channel used. Nuts and bolts are not included with the fitting and must be ordered separately.

DESIGN BOLT TORQUE

BOLT SIZE	$\frac{1}{4}$ "-20	$\frac{3}{16}$ "-18	$\frac{3}{8}$ "-16	$\frac{1}{2}$ "-13	$\frac{5}{8}$ "-11	$\frac{3}{4}$ "-10
Rec. Torque Ft/Lbs (N•m)	6 (8)	11 (15)	19 (26)	50 (68)	100 (136)	125 (170)
Max Torque Ft/Lbs (N•m)	7 (9)	15 (20)	25 (34)	70 (95)	125 (170)	135 (183)

SET SCREW TORQUE

BOLT SIZE	$\frac{1}{4}$ "-20	$\frac{3}{8}$ "-16	$\frac{1}{2}$ "-13	$\frac{5}{8}$ "-11	$\frac{3}{4}$ "-10	$\frac{7}{8}$ "-9
Set Screw Torque In/Lbs (N•m)	40 (4)	60 (7)	125 (14)	250 (28)	400 (44.5)	665 (75)

Note: Caution should be taken not to overtighten the set screw

DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parenthesis or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

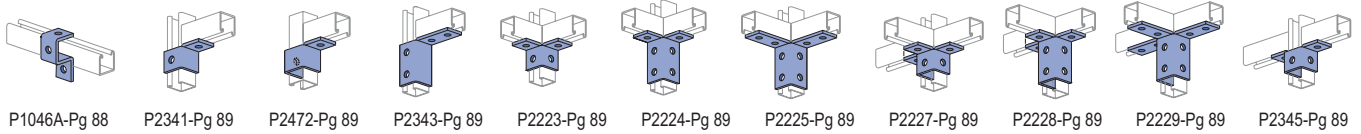
DESIGN LOAD

Design load data, where shown, is based on the ultimate strength of the connection with a safety factor of 2.5, unless otherwise noted.

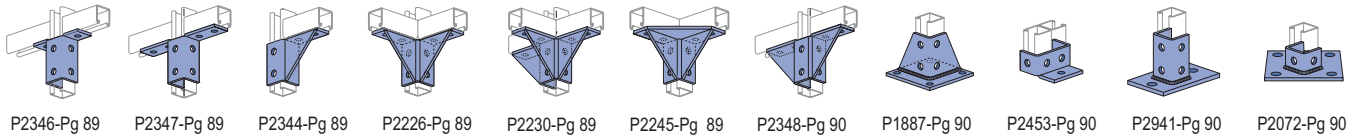
BEAM CLAMPS

Clamps are designed to be used with W, M, S and HP Shape beams, Standard C and Miscellaneous MC Channels, Angles and Structural Tees. Clamps must be used in pairs mounted in opposite directions where indicated. For beam clamps with HG finish, standard hardware is EG finish. For optional stainless steel hardware, please contact the factory for availability.

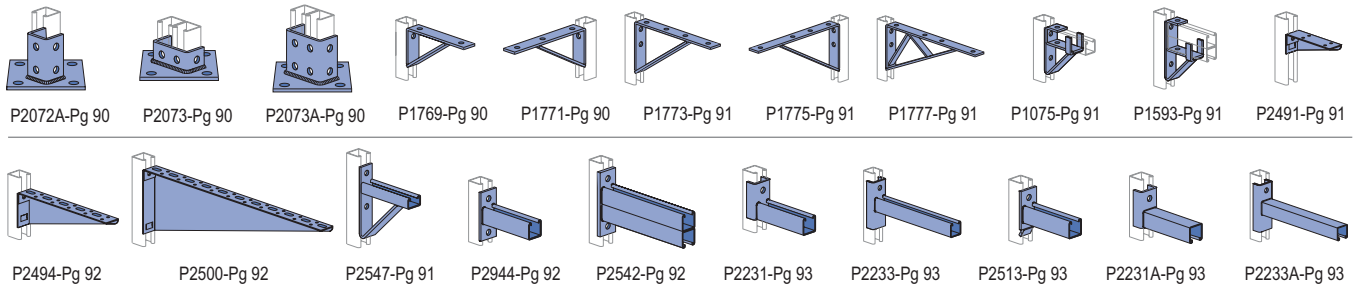
Wing Shape Fittings



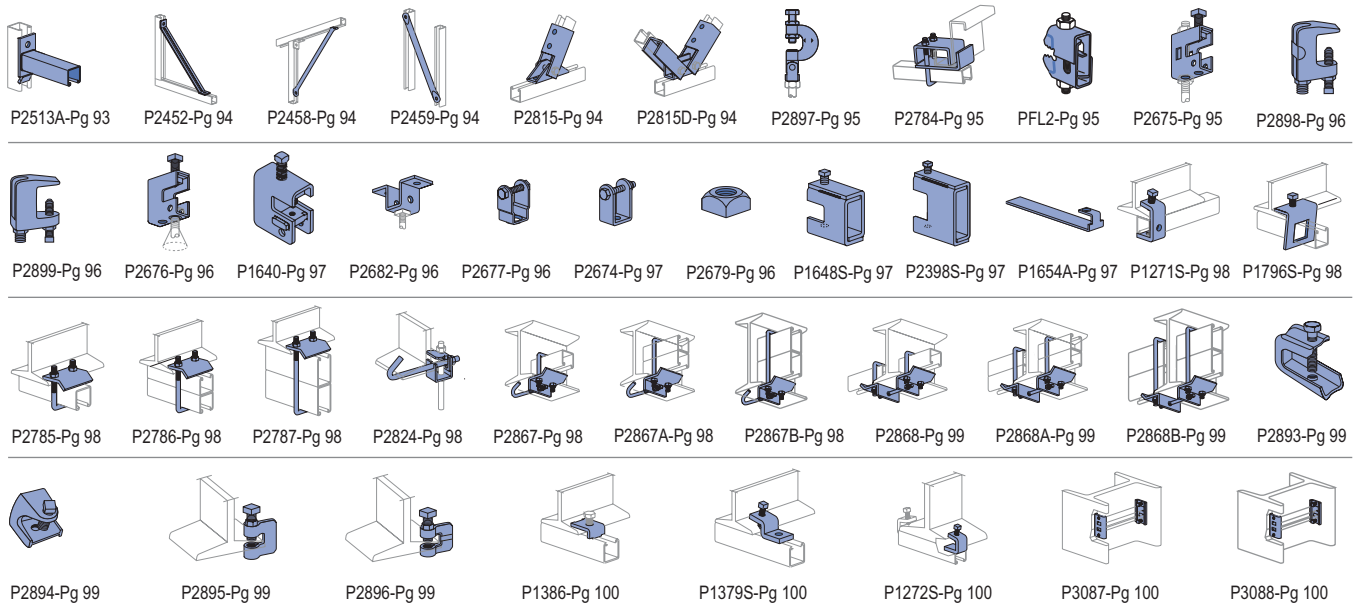
Post Bases



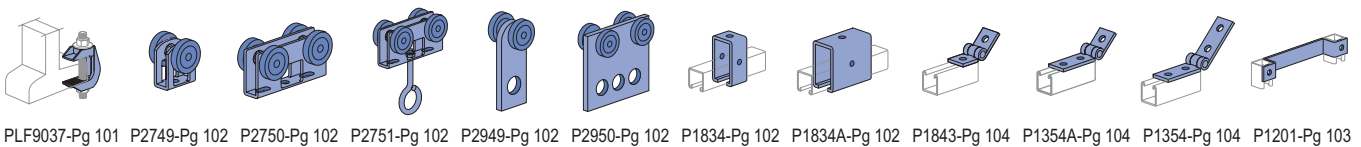
Brackets and Brace Fittings



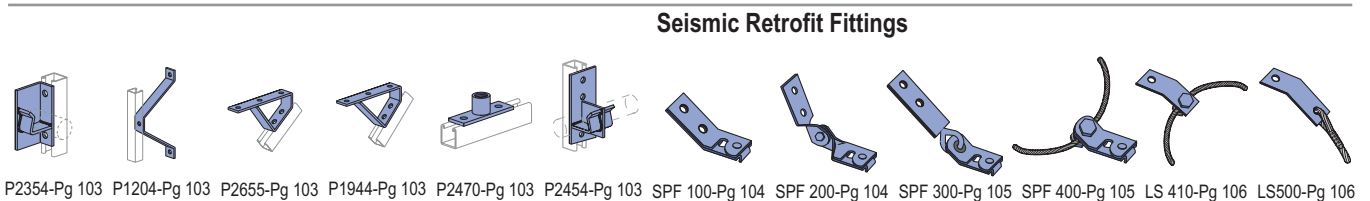
Beam Clamps



Trolley Assemblies

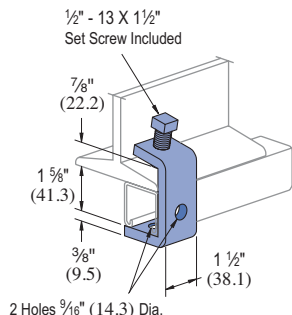


Special Applications Fittings





P1271S DF, EG, GR, HG

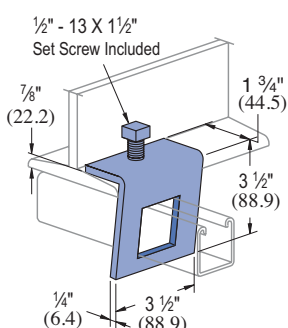


Note: Requires P1010 Channel Nut and bolt.

Design Load Each
500 Lbs (2.22 kN)
Use in Pairs Only

Wt/100 pcs: 95 Lbs (43.1 kg)

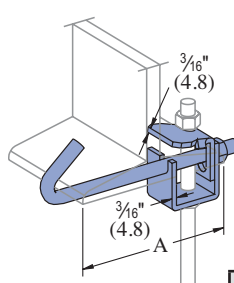
P1796S EG GR HG



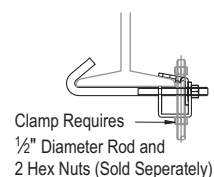
Design Load Each
500 Lbs (2.22 kN)
Use in Pairs Only

Wt/100 pcs: 91 Lbs (41.3 kg)

P2824-6,-9,-12 EG GR HG

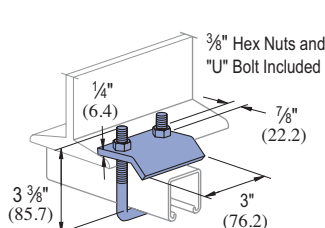


For use with Beams up to 3/4" (19.1) max flange thickness



Part Number	"A" In (mm)	Wt/100 pcs Lbs (kg)	Design Load Lbs (kN)
P2824-6	2 1/2 - 6 63.5 - 152.4	125 56.7	500 2.22
P2824-9	5 1/2 - 9 139.7 - 228.6	140 63.5	500 2.22
P2824-12	8 1/2 - 12 215.9 - 304.8	171 77.6	500 2.22

P2785 DF, EG, GR, HG

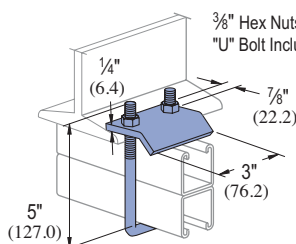


• For use with Beams up to 3/4" (19.1) Flanges and with Channels P1000, P1100, P2000, P3000, P3300, P3301, P4000, P4001, P4100, and P4101.

Design Load Each
1000 Lbs (4.45 kN)
Use in Pairs Only

Wt/100 pcs: 83 Lbs (37.6 kg)

P2786 DF, EG, GR, HG

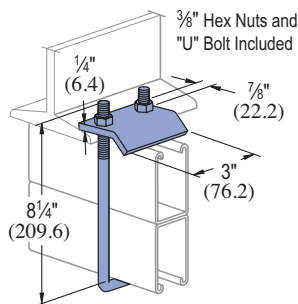


• For use with Beams up to 3/4" (19.1) Flanges and with Channels P1001, P1101, P2001, P3001, P5000, and P5500.

Design Load Each
1000 Lbs (4.45 kN)
Use in Pairs Only

Wt/100 pcs: 92 Lbs (41.7 kg)

P2787 DF, EG, HG

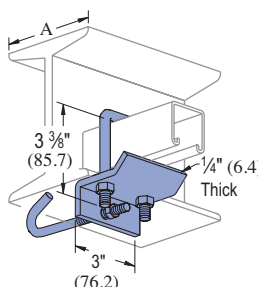


• For use with Beams up to 3/4" (19.1) Flanges and with Channels P5001 and P5501.

Design Load Each
1000 Lbs (4.45 kN)
Use in Pairs Only

Wt/100 pcs: 112 Lbs (50.8 kg)

P2867 EG GR HG

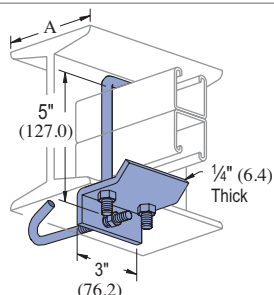


Part Number	Beam Size "A"	Wt/100 pcs Lbs (kg)
P2867	4"-6"	142 (64.4)
P2867-9	6"-9"	151 (68.5)
P2867-12	9"-12"	160 (72.6)
P2867-15	12"-15"	170 (77.1)
P2867-18	15"-18"	179 (81.2)

• Includes: "J" Bolt, "U" Bolt and Hex Nuts.

• For use with Channels P1000, P1100, P2000, P3000, P3300, P3301, P4000, P4001, P4100, and P4101.

P2867A EG GR HG

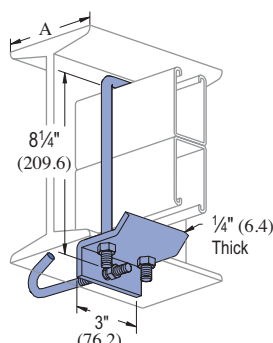


Part Number	Beam Size "A"	Wt/100 pcs Lbs (kg)
P2867A	4"-6"	151 (68.5)
P2867A-9	6"-9"	157 (71.2)
P2867A-12	9"-12"	166 (75.3)
P2867A-15	12"-15"	176 (79.8)
P2867A-18	15"-18"	185 (83.9)

• Includes: "J" Bolt, "U" Bolt and Hex Nuts.

• For use with Channel P1001, P1101, P2001, P3001, P5000, and P5500.

P2867B EG GR HG

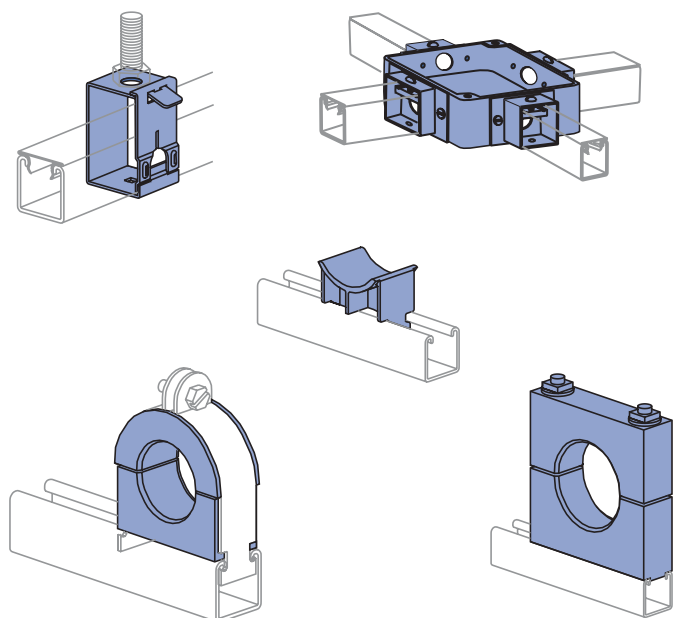


Part Number	Beam Size "A"	Wt/100 pcs Lbs (kg)
P2867B	4"-6"	161 (73.0)
P2867B-9	6"-9"	167 (75.7)
P2867B-12	9"-12"	176 (79.8)
P2867B-15	12"-15"	186 (84.4)
P2867B-18	15"-18"	195 (88.5)

• Includes: "J" Bolt, "U" Bolt and Hex Nuts.

• For use with Channel P5001, and P5501.

Note: When used for mechanical supports, load capacities of brackets and fittings should be in compliance with the American Standard Code for Pressure Piping. Clamps are designed to be used with W, M, S & HP Shape beams, Standard C & Misc. MC Channels, Angles & Structural Tees. Clamps must be used in pairs where indicated. For beam clamps with HG finish, standard hardware is EG finish. For optional stainless steel hardware, please contact the factory for availability.



MATERIAL

Unistrut fittings, unless noted, are made from hot-rolled, pickled and oiled steel plates, strip, bar or coil, and conform to one or more of the following specifications:

ASTM A575, A576, A635, A1011 SS GR 33, A1011 HSLAS GR 45 or A36. The fitting steel also meets or exceeds the physical requirements of ASTM A1011 SS GR 33.

Maple cable saddles, cable clamps and bus bar clamps are made from kiln-dry maple treated with paraffin to a depth of $\frac{1}{16}$ " (1.6mm). Special sizes of clamps can be fabricated upon request. Cable saddles are fiberglass-reinforced polyester.

CHANNEL RACEWAYS

The Unistrut Metal Framing System includes an exclusive combination of channel, fittings and hardware listed under new UL classification 5B. This classification covers strut-type channel raceways and fittings for use in accordance with Article 384 of the National Electrical Code, NFPA 70. Included are metal strut-type channel raceways at least .071 inch (1.81mm) thick and metal or non-metal closure strips at least .040 inch (1.02mm) thick.

The Unistrut system requires no welding, drilling or other complex fabrication techniques. This means faster, easier solutions for virtually any electrical support problem.

Unistrut channel offers structural and spanning capabilities not available with conventional surface raceway products and is available in continuous lengths of up to 20 feet. Just as important, it is part of an integrated system that can be used for raceways, trapeze hangers, cable-tray supports, lighting grids, fluorescent-fixture supports and countless other electrical applications.

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CHANNEL COMPATABILITY

All of the electrical components in this section are intended for use with any of the $1\frac{5}{8}$ " wide channel. They are not intended for use with $1\frac{1}{4}$ " or $1\frac{3}{16}$ " framing systems.

FINISHES

Components listed in this section are available in:

- Electro-galvanized (EG), conforming to ASTM B633 Type III SC1;
- Hot-dipped galvanized (HG), conforming to ASTM A123 or A153,
- Green Powder Coat (GR), conforming to commercial standards for Powder Coating
- Plain (PL)

Note: Many Unistrut Metal Framing components, when used with appropriate closures, are UL® listed, and CSA approved.

DESIGN LOAD

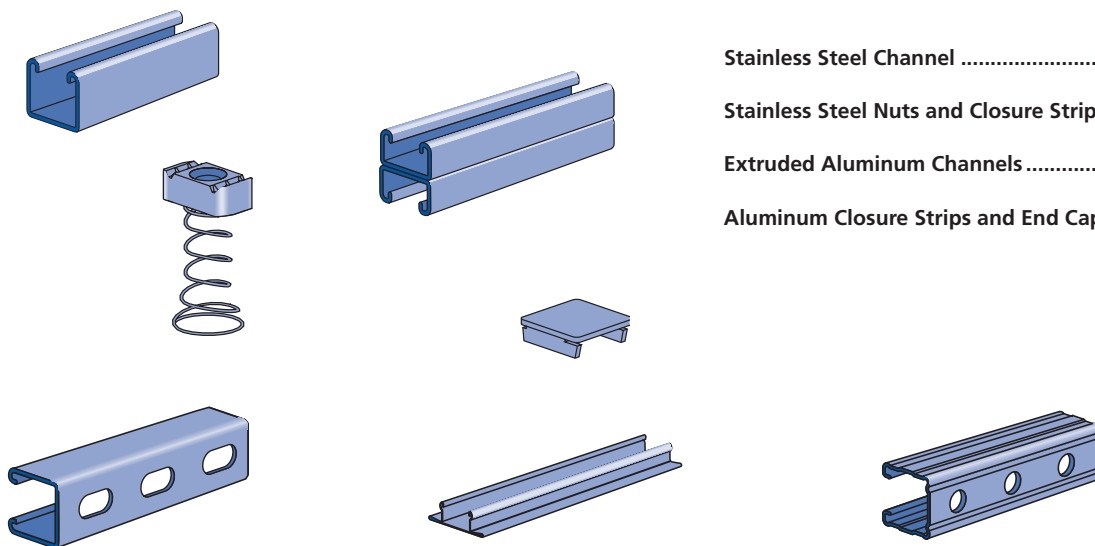
Design load data, where shown, is based on the ultimate strength of the connection with a safety factor of 2.5, unless otherwise noted.

DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parenthesis or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

LISTINGS

UL File No. - E19459	Channel & Closure Strips
UL File No. - E25629	Fittings
CSA File No. - 013669	All Products



Stainless Steel Channel	206
Stainless Steel Nuts and Closure Strips	207
Extruded Aluminum Channels	208 - 209
Aluminum Closure Strips and End Caps	209

MATERIAL

STAINLESS STEEL

Channels: ASTM A 240 (Type 304)

Sintered nuts: ASTM B783 (Type SS316N1-25)

Fittings:

ASTM A240 (Type 304 or Type 316) or ASTM A276 (Type 304 or Type 316)

Contact factory for specific material availability.

ALUMINUM

Channels (Extruded): ASTM B221 (Type 6063-T6)

Fittings: ASTM B209 (Type 1100F or Type 5052-H32)

Nuts: Stainless steel nuts are recommended for Aluminum channel

EXTRUDED ALUMINUM

To determine nut slip resistance, multiply load data for appropriate nut by 75%. To determine nut pull-out load, multiply load data for appropriate nut by 50%.

STAINLESS STEEL

For design assistance, consult Unistrut customer engineering.

PRODUCT AVAILABILITY

Most fittings and channels shown in this catalog, are available in aluminum or stainless steel. Consult factory for ordering information.

DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parenthesis or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

LOAD DATA (BEAM & COLUMN)

To determine maximum allowable beam and column loading for channels in this section, multiply the load data in the appropriate mild steel channel sections of this catalog by the following factors:

Channel Material	Beam Load % Factor	Column Load % Factor
Extruded Aluminum	33%	33%
Stainless Steel	100%	100%

LOAD DATA (SLIP & PULL OUT)