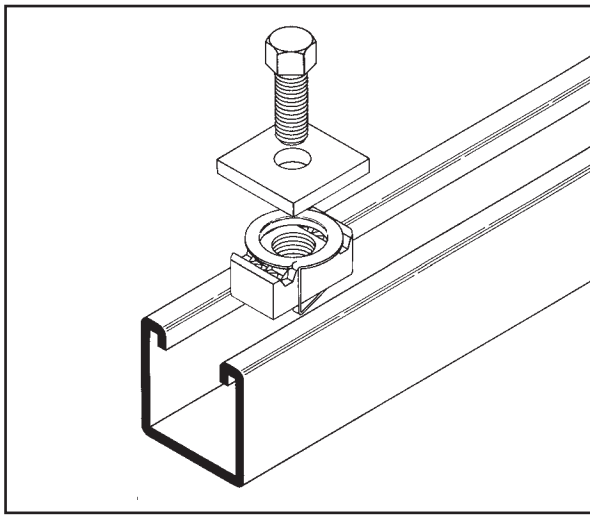


# Introduction

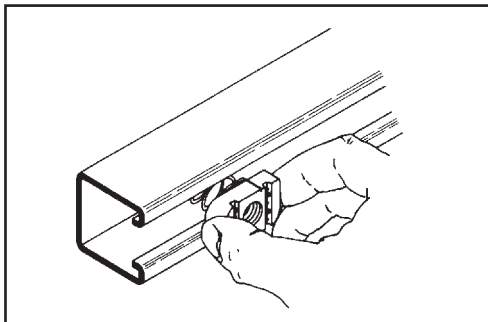
Our strut support system is designed with many time-saving features. They are fully adjustable and reusable, with a complete line of channels, fittings and accessories for multi-purpose applications.



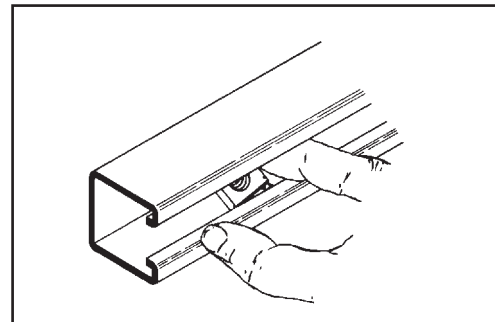
- **No Welding**
- **No Drilling**
- **Use Your Imagination**

The strut system installs quickly, with no need for special tools. All you need is a wrench and hacksaw.

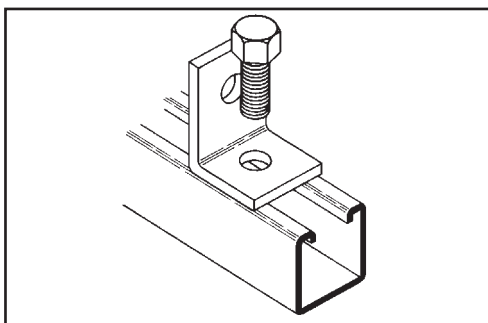
Channels and parts can be taken apart for reuse as quickly as they were assembled, yet help provide the strength of welded construction. This eliminates welding and drilling which can have substantial savings in time and labor.



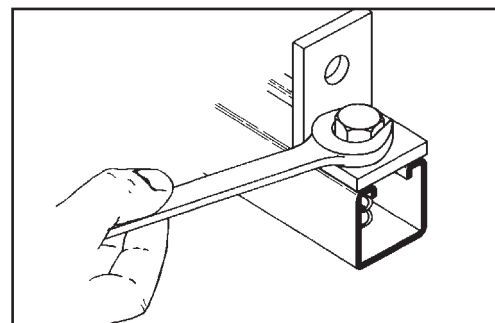
1. Channel nut may be inserted anywhere along continuous slot. Designed for easy insertion and self-alignment.



2. A 90° turn aligns channel nut grooves with inturned lips of the channel.



3. Position fitting over channel nut and insert bolt to start any connection.

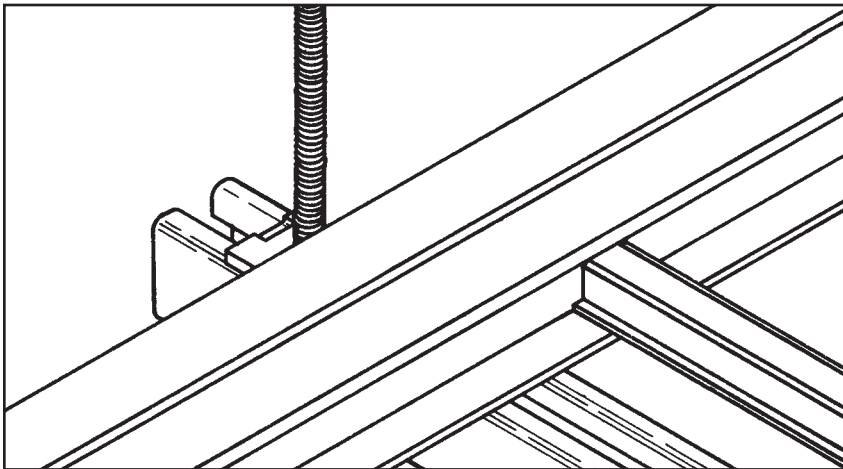
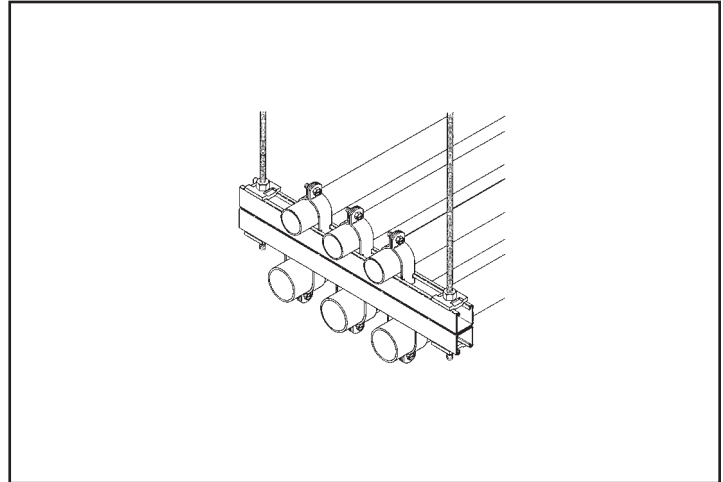


4. With the twist of a wrench, channel nut locks its teeth firmly against inturned lips.

Our strut system provides an economical solution for electrical, mechanical and industrial supports with an unlimited variety of applications in the construction industry.

### Electrical Applications

- Lighting Fixture Supports
- Raceway Systems
- Trapeze Hangers
- Pipe and Conduit Supports
- Cable Tray Supports
- Beam Adjustments

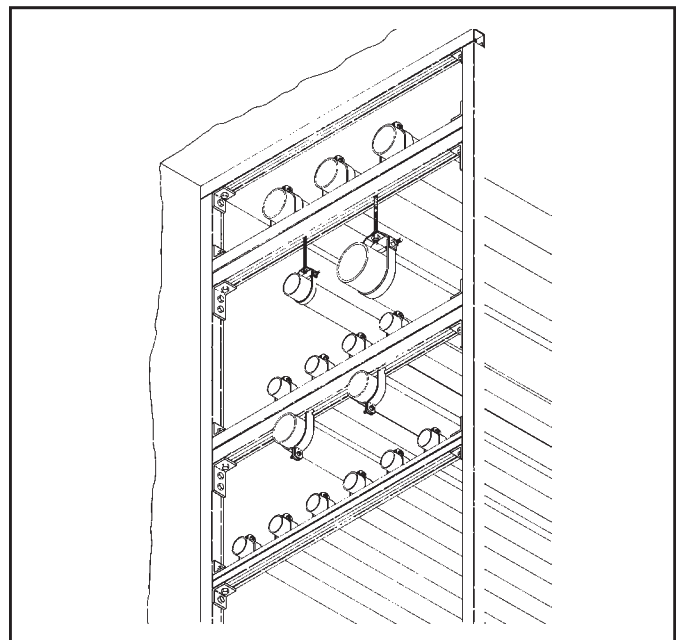


### Mechanical Applications

- Piping Racks
- Tunnel Pipe Stanchions
- Concrete Inserts
- Beam Attachments
- Pipe Risers

### Industrial Applications

- Racks and Shelving
- Partitions
- Production Line Supports
- Trolley Systems
- Wall Framing



## Materials

### Carbon Steel

Channels made from high-quality carbon steel are continuously roll formed to precise dimensions. By cold working the steel mechanical properties are increased, allowing lightweight structures to carry the required load. Corrosion resistance of carbon steel varies widely with coating and alloy. See "Finishes" for more detailed information.

### Stainless Steel

Stainless steel channel is available in AISI Type 304 or 316 material. Both are non-magnetic and belong to the austenitic stainless steels group, based on alloy content and crystallographic structure. Like carbon steel, stainless steel exhibits increased strength when cold worked by roll-forming.

Several conditions make the use of stainless steel ideal. These include reducing long term maintenance costs, high ambient temperatures, appearance, and stable structural properties such as yield strength, and high creep strength.

Type 304 resists most organic chemicals, dyestuffs and a wide variety of inorganic chemicals at elevated or cryogenic temperatures. Type 316 contains slightly more nickel and adds molybdenum to give it better corrosion resistance in chloride and sulfuric acid environments. For more information concerning the differences between types 304 and 316, visit Eaton.bline.com.

### Aluminum

Standard aluminum channel is extruded from aluminum alloy 6063-T6. Strut fittings are made from aluminum alloy 5052-H32.

The high strength to weight ratio of channel made of aluminum helps greatly reduce the overall cost of installation through ease of handling and field cutting.

Aluminum owes its excellent corrosion resistance to its ability to form an aluminum oxide film that immediately reforms when scratched or cut. In most outdoor applications, aluminum has excellent resistance to "weatherin". The resistance to chemicals, indoor or outdoor, can best be determined by tests conducted by the user with exposure to the specific conditions for which it is intended. The corrosion resistance of aluminum to some commonly known chemicals is shown in the Corrosion Chart on page 10. For further information, contact us or the Aluminum Association.

### Fiberglass

We offer two fire retardant (FR) resins for strut systems, polyester and vinyl ester. Both resins are ideal for corrosive environments or nonconductive applications with moderate strength requirements. Some common types of environments where Vinyl Ester Resins are recommended, that Poly Esters are not, are paper mills, most any metal plating operation and any condition with

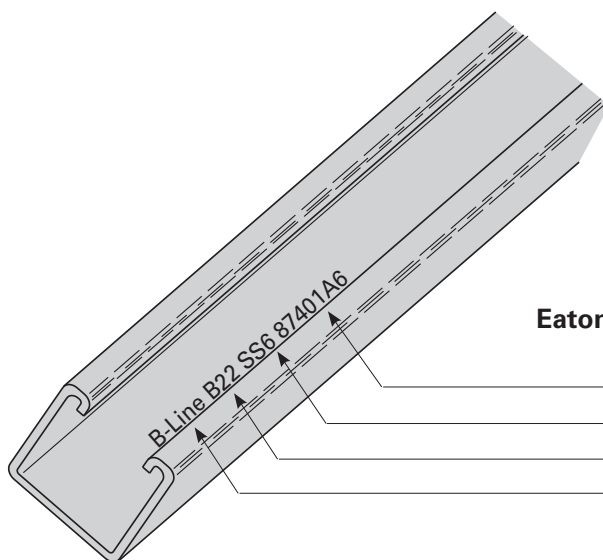
concentrated levels of Chlorine, [Cl<sup>-</sup>]. Please consult our fiberglass corrosion resistance charts on page 184 for specific chemical recommendation data.

Unlike other base materials depicted in this catalog, fiberglass exhibits unique physical property changes when operating in elevated temperature conditions that are a fraction of increase compared to steel or aluminum. Thus, it is advised against using fiberglass in temperatures greater than 200° F.

Please refer to the "Corrosion Resistance Guid" on page 184 for specific applications.

The fiberglass strut systems are manufactured from glass fiber-reinforced plastic shapes that meet ASTM E-84, Class 1 Flame Rating and self-extinguishing requirements of ASTM D-635. A surface veil is applied during pultrusion to insure a resin-rich surface and ultraviolet resistance.

While polyester is sufficient for most uses, vinyl ester is suitable for a broader range of environments.



### Eaton's B-Line series steel strut is stamped with:

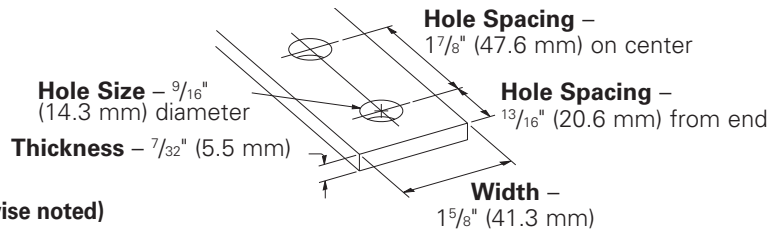
- Traceable to the steel's origin
- Material/Finish
- Part number designation
- Company Name



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 33,000 PSI min. yield
ZN	Electro-Plated Zinc	ASTM B633 SC3 Type III 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.

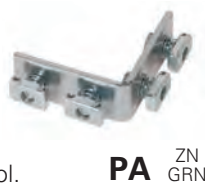
### Hardware

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.

### 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.

Note: See page 277 Design Load Data for typical channel - fitting connections.

### Recommended Bolt Torque

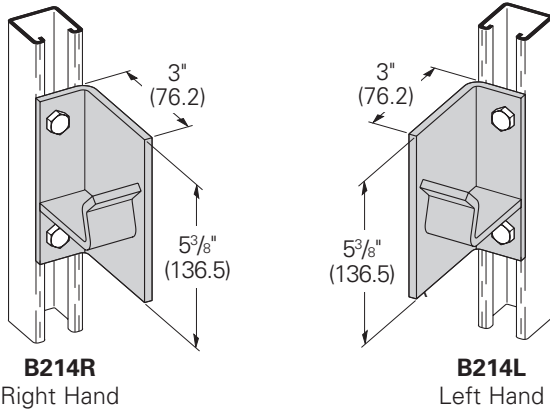
Bolt Size	$\frac{1}{4}$ "-20	$\frac{5}{16}$ "-18	$\frac{3}{8}$ "-16	$\frac{1}{2}$ "-13
Foot/Lbs.	6	11	19	50
Nm	8	15	26	68

See chart on page 154 for setscrew torque.

# Miscellaneous fittings

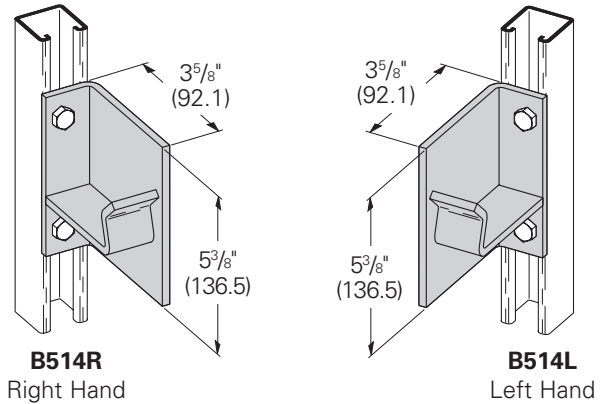
## B214 R&L Reel Rack Support for 1 1/4" (32) Pipe

- Standard finishes: ZN, GRN
- Wt./C 200 Lbs. (90.7 kg)



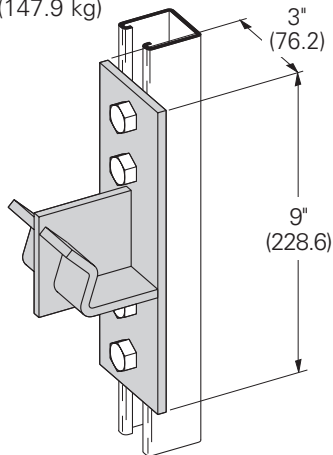
## B514 R&L Reel Rack Support for 2" (50) Pipe

- Standard finishes: ZN, GRN
- Wt./C 246 Lbs. (111.6 kg)



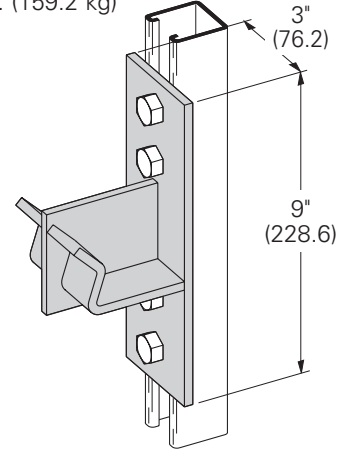
## B475 Double Reel Rack Support on Single Channel for 1 1/4" (32) Pipe

- Standard finishes: ZN, GRN
- Wt./C 326 Lbs. (147.9 kg)



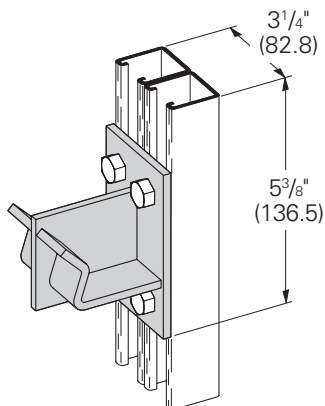
## B473 Double Reel Rack Support on Single Channel for 2" (50) Pipe

- Standard finishes: ZN, GRN
- Wt./C 351 Lbs. (159.2 kg)



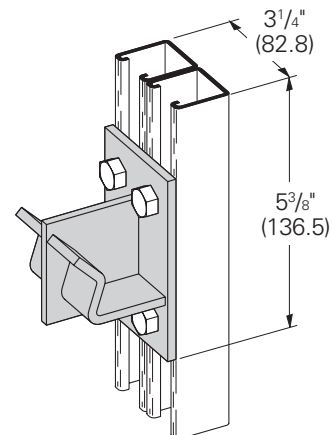
## B474 Double Reel Rack Support on Double Channel for 1 1/4" (32) Pipe

- Standard finishes: ZN, GRN
- Wt./C 257 Lbs. (116.6 kg)



## B472 Double Reel Rack Support on Double Channel for 2" (50) Pipe

- Standard finishes: ZN, GRN
- Wt./C 299 Lbs. (135.6 kg)



Reference page 106 for general fitting and standard finish specifications.