Fiberstrut Parts Catalogue

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Technical Information

Fiberstrut Fabrication

The installation of fiberglass channels and accessories is similar to the installation of metallic channels and accessories. All standard installation practices and procedures apply. In general, special handling is not required. The fabrication of Fiberstrut components requires three simple operations:

- Cutting – Cutting can be accomplished with a wide variety of saws. Hand held saws, such as hack saws (24 to 32 teeth per inch) are suitable when few cuts are required. For frequent cutting, a circular power saw with a carbide-tipped masonry blade yields the best results and the greatest number of cuts. When using a power saw, dust filter masks, gloves and long sleeve clothing should be worn.
- Drilling – Any standard twist bit, even when used with battery-powered drills, will work well. Carbide-tipped drill bits are recommended.
- Sealing – To protect against future migration of corrosive elements into the cut sections, all cuts and holes should be properly sealed.

Labour Savings

Fiberstrut fiberglass structural members can be cut and drilled at a much faster rate than steel and can be fabricated in less than half the time, resulting in substantial labour savings. Also, Fiberstrut products are on average one third of the weight of their steel counterparts, making them much easier to handle on the job site.

Relative Material Costs

Fiberstrut materials are advantageously priced in comparison to specialty metals traditionally used in corrosive environments. Fiberstrut channels, even though slightly more expensive than pre-galvanized channels, can be used with the knowledge that they will not have to be maintained regularly or replaced after a brief time. Should a pre-galvanized channel have to be replaced once, its cost far outweighs the expense of doing the initial installation with Fiberstrut.

Material

The finished Fiberstrut application will utilize a combination of materials from the following resin families: PVC (Extruded), Polyester (Pultruded), Vinyl ester (Pultruded), Polyurethane (Injection molded), Polypropylene (Injection molded) and Nylon (Injection molded).

The ability of each material to handle high and low temperatures, chemical exposures and static loads is covered in each of the following sections. By using these criteria, you will be able to select the optimal Fiberstrut Channel, Fittings and Accessories for your particular applications.

Operating Environment

In order to design a Fiberstrut system for your application, consideration should be given to the maximum operating conditions. These will determine which material is best suited for your application. The three operating conditions to consider are:

• Temperature
• Chemical Environment
• Loading

Temperature Ranges – Fiberstrut is supplied in six different materials covering distinct temperature ranges, as described in the table on the following page. Materials should be chosen which meet or exceed the minimum and maximum temperatures for your applications.

Material	Low Temperature	High Temperature
PVC	-30°C	55°C
Polyester	-35°C	95°C
Vinyl ester	-35°C	95°C
Polyurethane	-40°C	60°C
Polypropylene	-35°C	65°C
Nylon	-30°C	65°C

The temperature ranges indicated are meant to be used only as a general guideline. Continual exposure to elevated temperatures reduces the strength properties of plastics and glass reinforced fiberglass. Actual resin test data confirms that a 50% reduction in strength occurs at the extreme high temperature levels.

Chemical Resistance – Each resin family has its own specifications regarding its performance against corrosion resistance. Use the chart below to determine which Fiberstrut material system will provide the best performance for your particular application. The results in the chart are based upon immersion for a 24-hour period. Less severe contact such as spills, splashes and vapour condensate will exceed the performance results listed in the table.

Loading – Channel loading is defined on pages 7-9. Additional loading and design limitations for fittings and accessories are described in the appropriate section for that part.

The Pultrusion Process

The pultruded structural component is made by reinforcing a polymer resin (usually polyester or vinyl ester resin) with multiple strands of glass filament and alternating layers of glass mat.

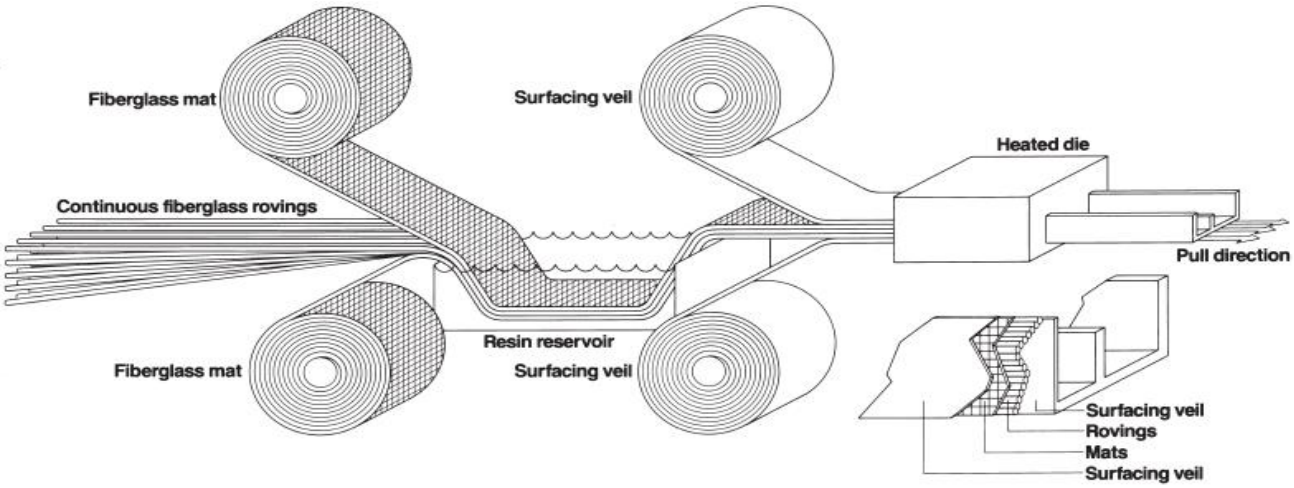
The glass is drawn through the liquid resin, which coats and saturates the fibers. The combination of resin and glass is then continuously guided and pulled (pultruded) through a heated die that determines the shape of the component. In the die, the resin is cured to form a permanent, reinforced part which can be cut to a specific length. Since the hardened fiberglass pultrusion is reinforced with an internal arrangement of permanently bonded continuous glass fibers, it possesses great strength. In addition to strength, pultruded fiberglass components exhibit exceptional corrosion resistance. This attribute makes fiberglass the material of choice for many harsh industrial applications.

Resin Systems

Polyester and vinyl ester resin systems are available. The vinyl ester resin system is somewhat stronger and is applied in severe corrosive applications.

Both resin systems are flame retardant, conforming to ASTME84, Class 1 flame rating and are self-extinguishing per the requirements of UL94V-0.

Typical Properties	Test Method	Direction	Unit	Typical Value Polyester	Typical Value Vinyl Ester
Mechanical					
Ultimate Tensile Strength	ASTM D-638 ASTM D-638	Longitudinal Transverse	PSI PSI	30,000 7,000	35,000 10,000
Tensile Modulus	ASTM D-638 ASTM D-638	Longitudinal Transverse	PSI PSI	2.5×10^6 0.8×10^6	3.0×10^6 1.0×10^6
Ultimate Compressive Strength	ASTM D-695 ASTM D-695	Longitudinal Transverse	PSI PSI	30,000 15,000	35,000 20,000
Compressive Modulus	ASTM D-695 ASTM D-695	Longitudinal Transverse	PSI PSI	2.5×10^6 1.0×10^6	2.5×10^6 1.2×10^6
Ultimate Flexural Strength	ASTM D-790 ASTM D-790	Longitudinal Transverse	PSI PSI	30,000 10,000	35,000 14,000
Flexural Modulus	ASTM D-790 ASTM D-790	Longitudinal Transverse	PSI PSI	1.6×10^6 0.8×10^6	2.0×10^6 1.0×10^6
Shear Strength Short Beam	ASTM D-2344	Longitudinal or Transverse	PSI PSI	5,500 5,500	7,000 6,000
Impact Strength-Izod	ASTM D-256	Longitudinal Transverse	ft.-lb./in. ft.-lb./in.	25 4	30 5
Hardness-Barcol	ASTM D-2583	Perpendicular	—	50	50
Electrical					
Electric Strength Short Time-in oil	ASTM D-149	Perpendicular Parallel	Volts/mil. KV/in.	200 35	200 35
Dielectric Constant	ASTM D-150	Perpendicular	—	5.0	5.0
Dissipation Factor	ASTM D-150	Perpendicular	—	0.03	0.03
Arc Resistance	ASTM D-495	Longitudinal or Transverse	Seconds Seconds	80 80	120 120



Glass Roving and Mat Reinforced Polyester and Vinyl Ester Fiberglass Components

Typical Properties	Test Method	Direction	Unit	Typical Value Polyester	Typical Value Vinyl Ester
Other					
Thermal Coefficient of Expansion	ASTM D-696	Longitudinal	in./in./°F	5×10^{-6}	5×10^{-6}
Thermal Conductivity		Longitudinal	BTU/Hr. sq. ft./in./°F	4.0	4.0
Water Absorption 24 hours	ASTM 0-570	Longitudinal	%	1	1
Density	ASTM D-792	Longitudinal	lbs./cu.in.	0.062	0.062
Color (Standard)				Dark Gray	Beige
Flammability	UL94		Classification:	V-O	V-O
Flammability	ASTME84		Rating:	25	25

The foregoing list of properties was derived from laboratory data using coupon test specimens cut from pultruded sections. Such information should only be used as a general guide in design. Many actual components (such as cable tray side rail) take advantage of the flexibility of the pultrusion process and are selectively reinforced to enhance performance in a particular load axis.The factory should be contacted for specific information on any given component.

Threaded Rod material Properties:

Threaded rod is a proprietary combination of fiberglass and Class I vinyl ester flame retardant resin.

Properties	$^3/_8$-16 UNC	$^1/_2$-13 UNC	$^5/_8$-11 UNC
Thread shear strength using fiberglass nut in tensile (lbs.)	1,250	2,500	3,800
Transverse shear on threaded rod-double shear ASTM-B-565 (load lb.)	4,200	7,400	11,600
Transverse shear on threaded rod--single shear (load lb.)	1,600	2,600	3,800
Compressive strength-longitudinal ASTM-D-695 (psi)	55,000	55,000	55,000
Flexural strength ASTM-D-790 (psi)	60,000	60,000	60,000
Flexural modulus ASTM-D-790 (psi x 10')	2.0×10^6	2.0×10^6	2.0×10^6
Torque strength using fiberglass nut lubricated with SAE IOW30 motor oil (ft./lbs.)	8	15	33
Dielectric strength ASTM-D-149 (kv/in.)	40	40	40
Water absorption 24 hour immersion--threaded ASTM-D-570 (%)	1	1	1
Coefficient of thermal expansion--longitudinal (in./in./°F)	5×10^6	5×10^6	5×10^6
Max recommended operation temp, based on 50% retention of ultimate thread shear strength (°F)	200	200	200
Stud weight (lb./ft.)	.076	.129	.209
Flammability	Self extinguishing per UL94V-O		

Chemical Conversion Table

Chemical	(Rigid PVC) 70°-160°F		(Poly/Glass) 70°-160°F		(Vinyl/Glass) 70°-160°F		(PVDF) 70°-160°F		(Polyurethane) 70°-160°F		(Nylon) 70°-160°F	
Acetic Acid, Up to 10%	R	R	R	R	R	R	R	R	R	–	NR	NR
Acetic Acid, Up to 50%	R	R	R	R	R	R	R	R	R	–	NR	NR
Acetone, Up to 10%	NR	NR	NR	NR	NR	NR	NR	NR	R	–	R	R
Aluminum Hydroxide	R	R	R	R	R	R	R	R	R	–	NR	NR
Ammonium Hydroxide (Aqueous Ammonia), Up to 5%	R	R	NR	NR	R	R	R	R	R	–	–	–
Ammonium Hydroxide, Up to 10%	R	R	NR	NR	R	150°	R	R	R	–	–	–
Ammonium Hydroxide, Up to 20%	R	R	NR	NR	R	150°	R	R	R	–	–	–
Ammonium Nitrate	R	NR	R	R	R	R	R	R	R	–	–	–
Ammonium Phosphate	R	R	R	NR	R	R	R	R	R	–	–	–
Ammenium Sulfide, saturated	R	R	NR	NR	R	120°	R	R	R	–	–	–
Aqua Regia, fumes	NR	NR	NR	NR	R	150°	R	R	NR	–	–	–
Benzene NR	NR	NR	NR	NR	NR	NR	R	R	R	–	R	R
Benzoic Acid	R	R	R	R	R	R	R	R	R	–	–	–
Bromine, wet gas	R	NR	NR	NR	R	100°	R	R	–	–	–	–
Butylene Glycol, Up to 100%	R	R	R	R	R	R	R	R	R	–	R	R
Butyric Acid, Up to 50%	NR	NR	R	R	R	R	R	R	R	–	–	–
Calcium Hydroxide	R	R	R	NR	R	R	R	R	R	–	–	–
Calcium Hypochlorite	R	R	R	NR	R	R	R	R	R	–	NR	NR
Chlorine, Dry Gas	NR	NR	NR	NR	R	R	R	R	–	–	–	–
Chlorine, Wet Gas	NR	NR	NR	NR	R	R	R	R	–	–	–	–
Chlorine, Liquid	NR	NR	NR	NR	NR	NR	R	R	–	–	–	–
Chlorine, Water	NR	NR	R	R	R	R	R	R	R	–	NR	NR
Chromic Acid, Up to 5%	R	R	NR	NR	R	R	R	R	–	–	R	R
Copper Chloride	R	R	R	R	R	R	R	R	R	–	–	–
Copper Cyanide	R	R	R	NR	R	R	R	R	R	–	–	–
Copper Fluoride	R	R	R	NR	R	R	R	R	R	–	–	–
Copper Nitrate	R	R	R	R	R	R	R	R	R	–	–	
Copper Sulfate	R	R	R	R	R	R	R	R	R	–	–	–
Dechlorinated Brine Storage	R	R	–	–	R	R	R	R	R	–	–	–
Esters, Fatty Acid	NR	NR	R	R	R	R	R	R	R	–	–	–
Ferric Chloride	R	R	R	R	R	R	R	R	R	–	–	–
Ferrous Chloride	R	R	R	R	R	R	R	R	R	–	–	–
Fluoboric Acid	R	R	R	120°	R	R	R	R	–	–	–	–
Fluosilicic Acid, Up to 10%	NR	NR	NR	NR	R	R	R	R	–	–	NR	NR
Fluosilicic Acid, Up to 32%	NR	NR	NR	NR	R	100°	R	R	–	–	–	–
Formic Acid, Up to 10%	R	R	NR	NR	R	R	R	R	R	–	NR	NR
Formic Acid, Up to 50%	R	R	NR	NR	R	100°	R	R	R	–	–	–
Gasoline, Aviation	R	NR	R	NR	R	R	R	R	R	–	–	–
Green Liquor, Pulp Mill	R	R	–	–	R	R	R	R	–	–	–	–
Hydrochloric Acid Up to 15%	R	R	R	NR	R	R	R	R	R	–	–	–
Hydrochloric Acid Up to 37%	R	R	R	NR	R	R	R	R	R	–	–	–
Hydrofluoric Acid, Up to 10%	R	R	NR	NR	R	150°	R	R	–	–	–	–
Hydrofluoric Acid, Up to 20%	R	NR	NR	NR	R	100°	R	R	–	–	–	–
Hydrogen Chloride, Wet Gas	NR	NR	R	NR	R	R	R	R	NR	–	–	–
Hydrogen Sulfide, Wet Gas	R	R	R	NR	R	R	R	R	R	–	–	–
Lactic Acid	R	R	R	NR	R	R	R	R	R	–	–	–
Lead Nitrate	R	R	–	–	R	R	R	R	R	–	–	–
Magnesium Hydroxide	R	R	NR	NR	R	R	R	R	R	–	R	R
Nickel Sulfate, Low pH	R	R	NR	NR	R	R	R	R	R	–	–	–
Nickel Sulfate, High pH	R	R	NR	NR	R	R	R	R	R	–	–	–
Nitric Acid, Up to 5%	R	R	NR	NR	R	150°	R	R	R	–	–	–
Nitric Acid, Up to 35%	R	R	NR	NR	R	150°	R	R	R	–	–	–
Nitric Acid, Vapor	R	R	NR	NR	R	R	R	R	–	–	–	–
Perchloric Acid, Up to 10%	NR	NR	NR	NR	R	150°	R	R	–	–	NR	NR
Pickling Liquids, 3-5% H2S04	R	R	R	R	R	R	R	R	R	–	–	–
Phosphoric Acid	R	R	NR	NR	R	R	R	R	R	–	NR	NR
Phosphoric Acid, Super or Poly (115%, P20%)	R	R	NR	NR	R	R	R	R	–	–	–	–
Phosphoric Acid Vapor or Condensate	R	R	NR	NR	R	R	R	R	–	–	–	–
Potassium Chloride	R	R	R	R	R	R	R	R	R	–	–	–
Potassium Nitrate	R	R	R	R	R	R	R	R	R	–	–	–
Potassium Persulfate	R	R	NR	NR	R	R	R	R	R	–	–	–
Silver Cyanide, Up to 5%	R	R	NR	NR	R	R	R	R	R	–	–	–
Sodium Hydroxide, Up to 25%	R	R	NR	NR	R	150°	R	R	R	–	–	–
Sodium Hydroxide, up to 50%	R	R	NR	NR	R	180°	R	R	–	–	R	R
Sodium Hypochlorite, Up to 15%	R	R	NR	NR	R	150°	R	R	R	–	NR	NR
Sodium Nitrate	R	R	R	R	R	R	R	R	R	–	–	–
Sodium Sulfate	R	R	R	NR	R	R	R	R	R	–	–	–
Sodium Sulfide	R	R	NR	NR	R	R	R	R	R	–	–	–
Sulfuric Acid, Up to 25%	R	R	R	R	R	R	R	R	R	–	NR	NR
Sulfuric Acid, Up to 50%	R	R	NR	NR	R	R	R	R	R	–	–	–
Sulfuric Acid, Up to 70%	R	R	NR	NR	R	R	R	R	R	–	NR	NR
Sulfuric Acid, Up to 75%	NR	NR	NR	NR	R	120°	R	R	–	–	NR	NR
Sulfuric Acid, Up to 80%	NR	NR	NR	NR	NR	NR	NR	NR	–	–	NR	NR
Sulfuric Acid, Vapor	R	R	R	NR	R	R	R	R	–	–	–	–
Trichlorethylene, Fumes	NR	NR	NR	NR	R	120°	R	R	NR	–	–	–
Trisodium Phosphate	R	R	R	NR	R	R	R	R	R	–	–	–
Urea	R	R	R	NR	R	150°	R	R	R	–	R	R
Vegetable Oils	R	R	R	R	R	R	R	R	R	–	R	R
Vinegar	R	R	R	R	R	R	R	R	R	R	R	R
White Liquor, Pulp Mill	R	R	–	–	R	R	R	R	–	–	–	–

BEAM LOADING CONVERSION TABLE

Legend: "**NR**" indicates "Not Recommended" for use;
"**R**" indicates "Recommended";
"**–**" indicates no information available

Channel

Channel Framing

All Fiberstrut channels (except the stainless steel series) incorporate a flange design which provides reliable fastening and interlocking of Fiberstrut components and accessories.
Channels are provided in standard lengths of 10ft. with longer lengths available upon request. Fiberstrut single channels come packaged in boxes of 100 ft. while the double channels are packaged in boxes of 40ft.
Fiberstrut channels are available in three materials: Polyester (P), Vinyl ester (V) and PVC. The product numbers and material types of our available channels are displayed on the following page.

Polyester and Vinyl Ester Materials

The polyester and vinyl ester channels are manufactured from the pultrusion process. In this process, the component is made by reinforcing a polymer resin (polyester or vinyl ester) with multiple strands of glass filament, alternating layers of glass mat and U.V. resistant surfacing veils. The glass is drawn through the liquid resin, which coats and saturates the fibers. The combination of resin, glass and veil is then continuously guided and pulled (pultruded) through a heated die that determines the shape of the component.
In the die, the resin is cured to form a permanent, reinforced part which can be cut to a specific length. Since the hardened fiberglass pultrusion is reinforced with and internal arrangement of permanently bonded continuous glass fibers, it possesses great strength.
In addition, pultruded fiberglass components exhibit exceptional corrosion and fire resistance. These attributes make fiberglass the material of choice for many harsh industrial applications.
The polyester and vinyl ester channels are colour coded. Polyester channels are coloured grey and the vinyl ester channels are coloured beige.

PVC Materials

The PVC channels are manufactured from the extrusion process. In this process, the component is made by a PVC resin mixture being continuously fed through a heated die that determines the shape of the component.
In the die, the resin is cured to form a permanent, extruded part that can be cut to a specific length. Unlike pultruded components, extruded components do not incorporate glass-reinforcement; consequently, they do not exhibit the same beam strength as their pultruded counterparts.
PVC components, however; exhibit exceptional corrosion and fire resistance. These features make PVC channels an excellent alternative when excessive beam strength is not required. PVC channels are colour coded dark grey.

Concrete Embedment Channel

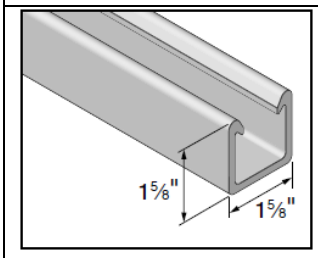
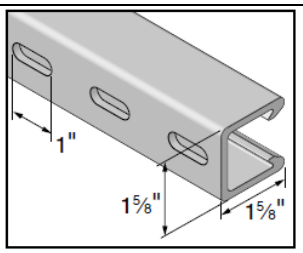
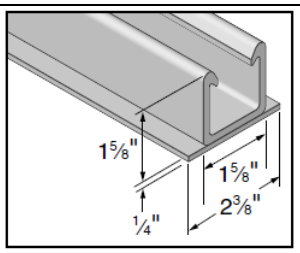
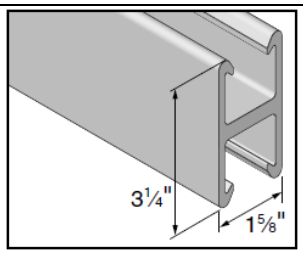
In certain applications, it is necessary to embed a corrosion-resistant channel into a new pouring of concrete. For these applications, the Fiberstrut concrete embedment channel is recommended. These are available in three material types; PVC, polyester and vinyl ester. The PVC embedment channel is extruded as one piece while the polyester/ vinyl ester embedment channel is a two piece bonded type design. The PVC embedment channel is available in the $1^{5}/_{8}$in. and $1^{1}/_{8}$in. profiles while polyester and vinyl ester embedment channels are available in $1^{5}/_{8}$in., $1^{1}/_{2}$in. and $1^{1}/_{8}$in. profiles.

The embedment channel utilizes two continuous protruding flanges in the profile base to retain the channel in the concrete. Mounting the embedment channel flush with the concrete surface is a convenient way to secure piping, conduits or electrical enclosures to a wall or ceiling. The PVC embedment channel is extremely strong. When embedded in 3,000 PSI concrete, the concrete will fail before the channel is pulled out.

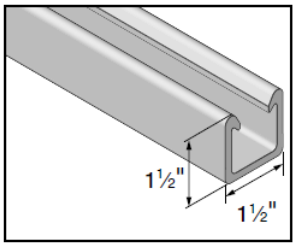
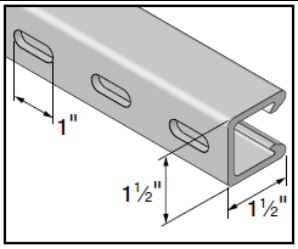
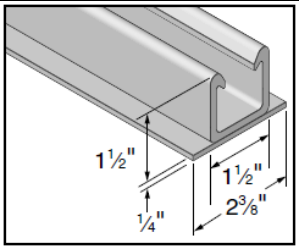
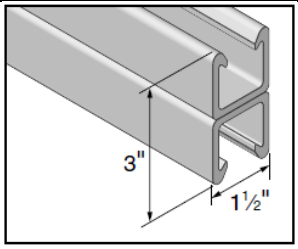
Fiberstrut SST Channel

Fiberstrut SST Fiberglass channel incorporates a standard channel profile that will accommodate metallic pipe straps and clamps. SST channel is available in polyester or vinyl ester resin. All standard styles (solid, slotted, concrete insert and back-to-back) are also available.
NOTE: Fiberstrut SST channels are not compatible with the Fiberstrut pipe clamps and channel nuts shown in this catalog. Please contact us for information on a complete line of compatible clamps and channel nuts.

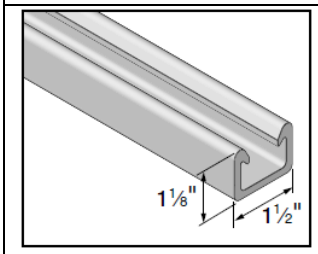
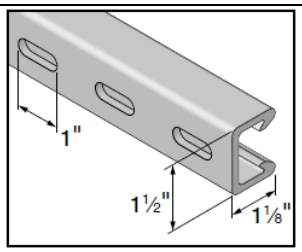
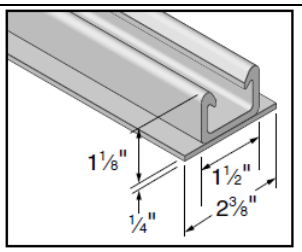
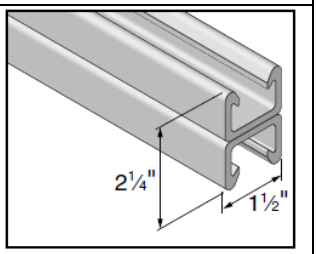
Heavy Duty Channel (1⅝") – Fiberstrut Profile

Standard	Slotted (1" x ⅜" Holes)	With Concrete Inserts	Back-to-Back
260667(P), 251887(V), 260680(PVC)	260673(P), 260675(V), 260681(PVC)	260674(P), 260676(V), 260683(PVC)	260668(P), 260666(V)
			

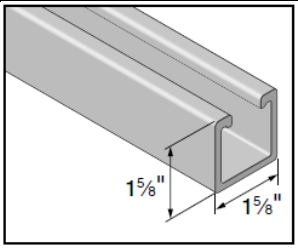
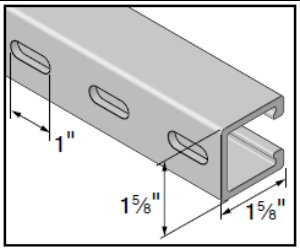
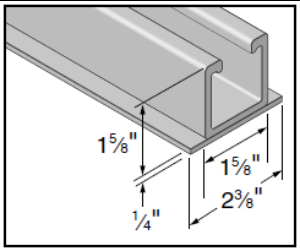
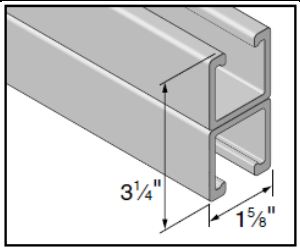
Medium Duty Channel (1½") – Fiberstrut Profile

Standard	Slotted (1" x ⅜" Holes)	With Concrete Inserts	Back-to-Back
260685(P), 251891(V)	260687(P), 251892(V)	260688(P), 260690(V)	260686(P), 260689(V)
			

Light Duty Channel (1⅛") – Fiberstrut Profile

Standard	Slotted (1" x ⅜" Holes)	With Concrete Inserts	Back-to-Back
260691(P), 260697(V), 260701(PVC)	260695(P), 260699(V), 260702(PVC)	260696(P), 260700(V)	260694(P), 260698(V)
			

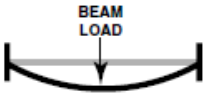
Heavy Duty Channel (1⅝") – Unistrut Profile

Standard	Slotted (1" x ⅜" Holes)	With Concrete Inserts	Back-to-Back
260745(P), 260749(V)	260747(P), 260751(V)	260748(P), 260752(V)	260746(P), 260750(V)
			

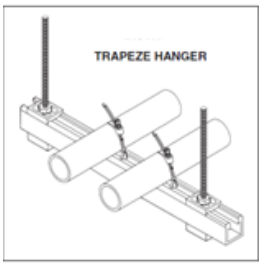
P: Polyester V: Vinylester PVC: PVC

Channel Loading

Beam Loading



Beam loading data reflects the maximum uniform load allowed when using the channel horizontally as in a trapeze hanger. Refer to the table on the following page for the beam loading capacity of various channels. Use the conversion chart on page 9 to calculate loading capacity for other beam loading conditions.



The Fiberstrut Trapeze hanger (above) is an example of beam loading. To calculate the maximum allowable beam load for a Fiberstrut Trapeze hanger:

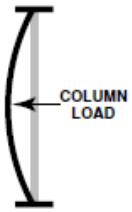
1. Measure the distance between the two threaded rod supports.
2. Using the length of the section hanger as the “beam”, refer to the appropriate profile size in the Beam Loading Chart to determine whether the deflection meets your requirements.

The data listed in the Beam Loading Chart reflects testing conducted on Polyester and Vinyl ester channels. PVC material will differ from the Polyester/Vinyl ester Beam Loading Chart. To obtain the beam loading for PVC channel, reduce the load as follows:

$$\frac{(\text{Polyester/Vinyl Ester Beam Load})}{4}$$

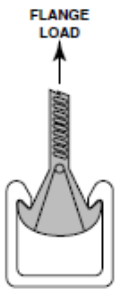
NOTE: PVC is not recommended for lengths over 24" inches

Column Loading



Column loads are forces applied directly to the end of the channel. Refer to the table on the following page for column loading capacity of various channels.

Flange Loading

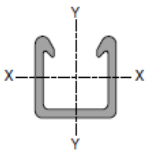


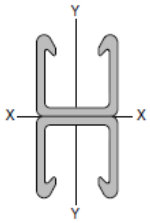
Pull-out strength is the channel’s resistance to a clamp or fastener inserted under the flange and put under tension.

For additional information concerning specific channels, materials and their pull-out strengths, refer to the channel flange pull-out chart on the right.

Heavy Duty Channel	**Pull-Out Strength**
Vinyl Ester Single	449
Polyester Single	360
PVC Single	260
Medium Duty Channel	**Pull-Out Strength**
Vinyl Ester Single	229
Polyester Single	219
Light Duty Channel	**Pull-Out Strength**
Vinyl Ester Single	213
Polyester Single	213
PVC Single	239

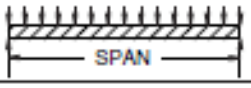
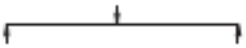
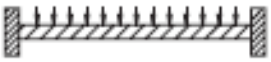
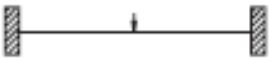
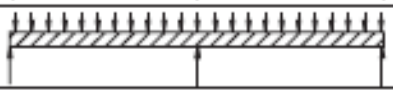
Section Properties





Section Type	Height (in.)	Width (in.)	Weight (lbs./ft.)	Area ($in.^2$)	X – X Axis				Y – Y Axis		
					I ($in.^4$)	R (in.)	C^1 (in.)	C^2 (in.)	I ($in.^4$)	R (in.)	C (in.)
Heavy Single	$1^5/_8$	$1^5/_8$	0.82	1.06	0.31	0.54	0.70	0.93	0.42	0.63	0.82
Heavy Double	$3^1/_2$	$1^5/_8$	1.64	2.12	1.77	0.91	1.63	1.63	0.85	0.63	0.82
Medium Single	$1^1/_2$	$1^1/_2$	0.55	0.71	0.19	0.52	0.62	0.62	0.25	0.59	0.75
Medium Double	3	$1^1/_2$	1.10	1.42	1.02	0.85	1.50	1.50	0.49	0.59	0.75
Light Single	$1^1/_8$	$1^1/_2$	0.47	0.61	0.10	0.40	0.51	0.62	0.22	0.60	0.75
Light Double	$2^1/_2$	$1^1/_2$	0.94	1.22	0.42	0.59	1.13	1.13	0.44	0.60	0.75

The multipliers shown in the beam loading conversion table reflect the adjustments to be made for a variety of beam loading conditions. The multipliers should be used in conjunction with the Beam Loading Chart. The values in the Beam Loading Chart are based on a simple beam with uniform loading. By using the Beam Loading Conversion Table, you will be able to estimate the maximum recommended loading and deflection for your particular application.

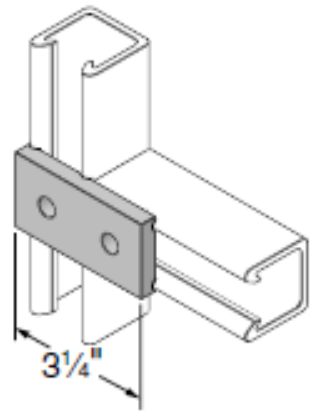
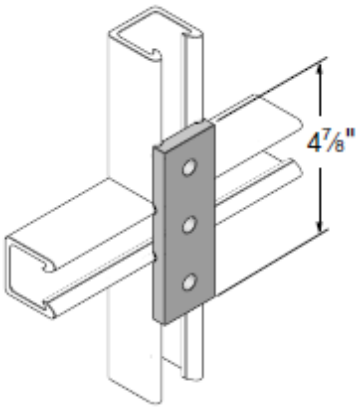
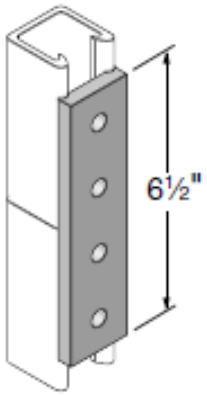
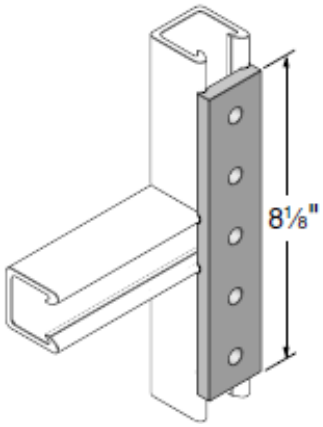
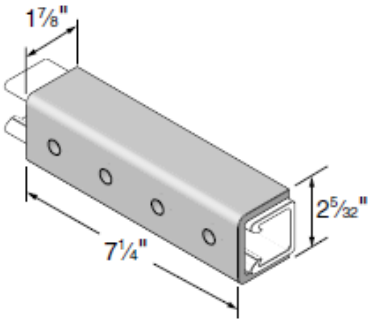
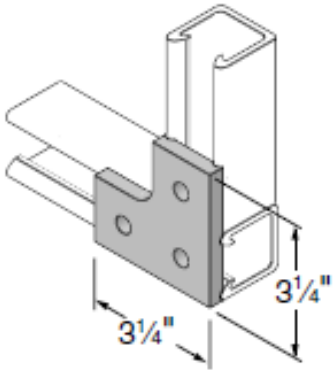
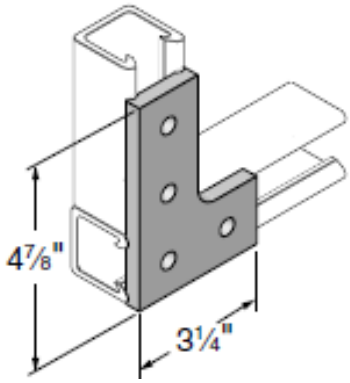
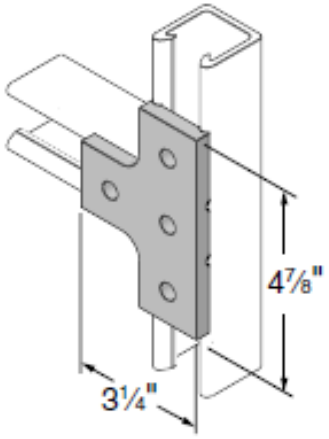
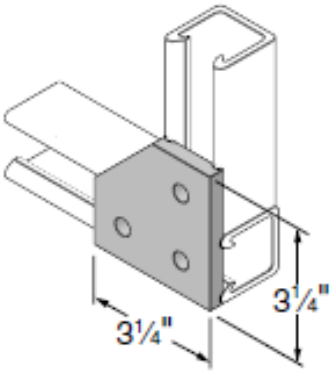
LOAD AND SUPPORT CONDITION	LOAD FACTOR	DEFLECTION FACTOR
1. Simple Beam, Uniform Load 	1.00	1.00
2. Simple Beam, Concentrated Load at Center 	0.50	0.80
3. Simple Beam, Two Equal Concentrated Loads at 1/4 pts 	1.00	1.10
4. Beam Fixed at Both Ends, Uniform Load 	1.50	0.30
5. Beam Fixed at Both Ends, Concentrated Load at Center 	1.00	0.40
6. Cantilever Beam, Uniform Load 	0.25	2.40
7. Cantilever Beam, Concentrated Load at End 	0.12	3.20
8. Continuous Beam, Two Equal Spans, Uniform Load on One Span 	1.30	0.92
9. Continuous Beam, Two Equal Spans, Uniform Load on Both Ends 	1.00	0.42
10. Continuous Beam, Two Equal Spans, Concentrated Load at Center of One Span 	0.62	0.71
11. Continuous Beam, Two Equal Spans, Concentrated Load at Center of Each Span 	0.67	0.48

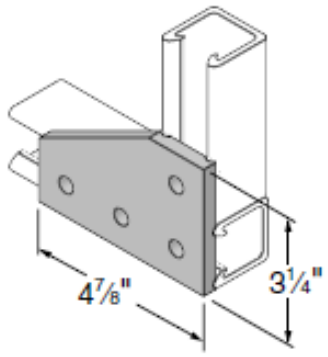
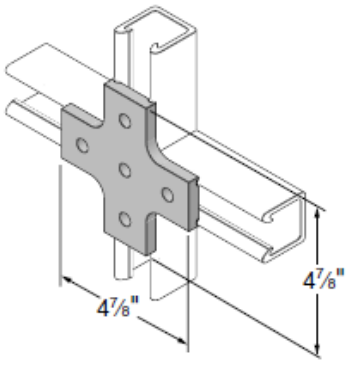
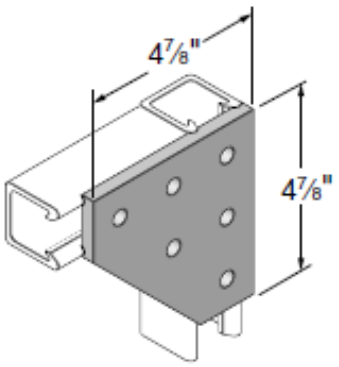
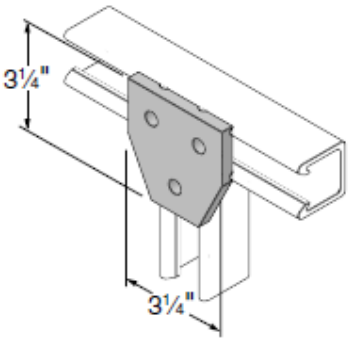
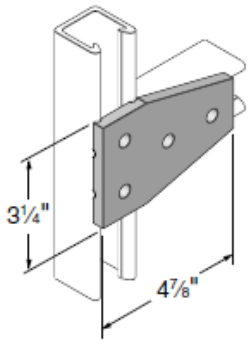
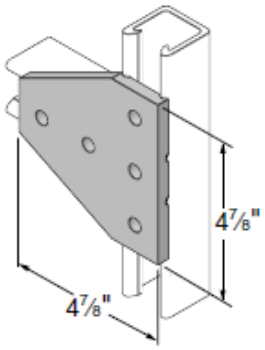
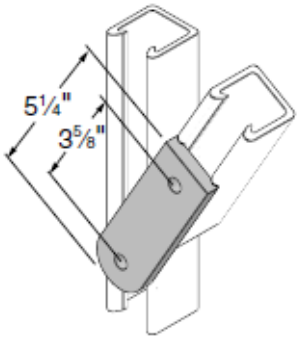
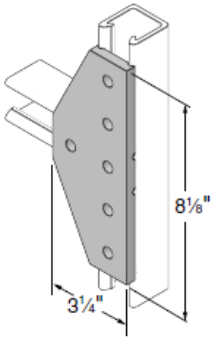
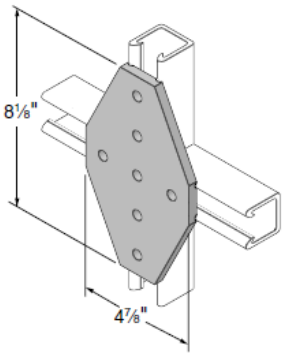
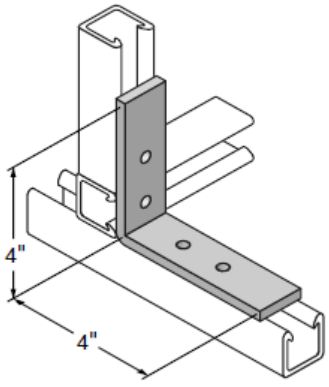
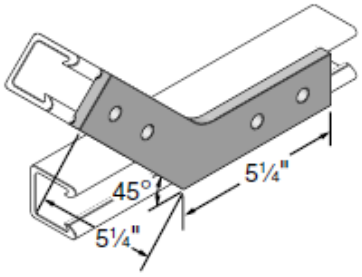
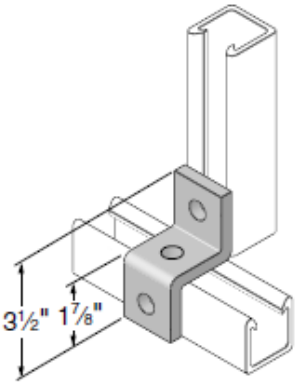
Polyester/Vinyl Ester Beam Loading Chart

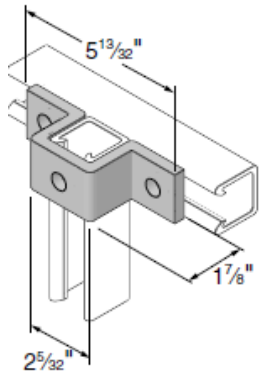
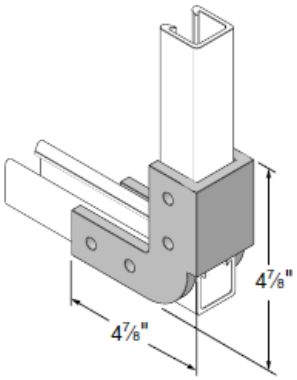
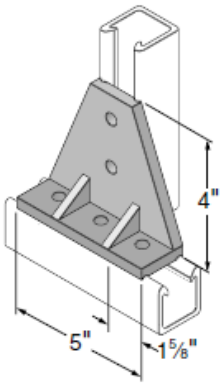
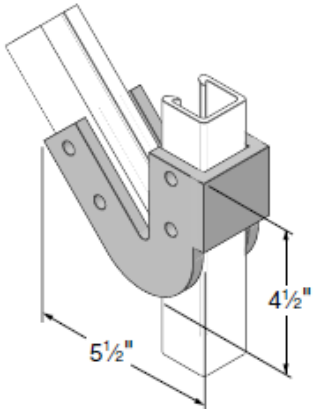
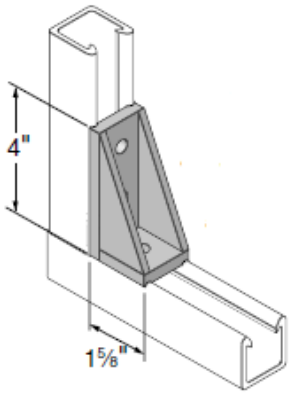
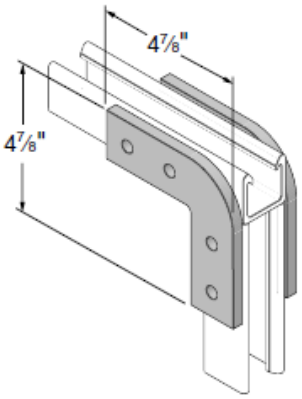
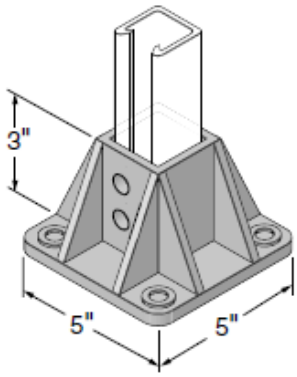
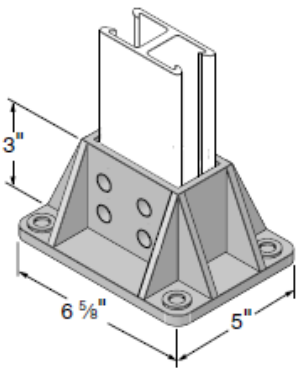
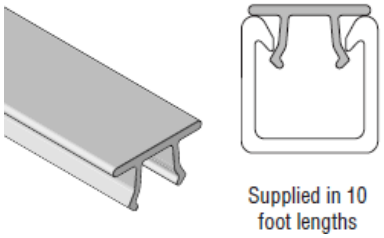
Span	Max. Uniform Beam Load (Safety Factor - 3:1) Load (lbs.)	Deflection (in.)	Uniform Load at Defl. of 1/360 Span Load (lbs.)	Deflection (in.)	Maximum Column Load (lbs.)
12" Span	5,559	0.028	5,559	0.033	9,454
	4,836	0.043	3,778	0.033	7,007
	3,804	0.082	1,556	0.033	5,961
	3,561	0.102	1,159	0.033	5,160
	1,950	0.093	700	0.033	3,439
	1,629	0.151	359	0.033	2,759
18" Span	3,706	0.064	2,914	0.050	8,866
	3,224	0.096	1,697	0.050	6,501
	2,536	0.183	691	0.050	5,509
	2,374	0.230	515	0.050	4,704
	1,300	0.209	311	0.050	3,136
	1,086	0.340	160	0.050	2,351
24" Span	2,780	0.113	1,639	0.067	8,181
	2,418	0.171	944	0.067	5,909
	1,902	0.326	389	0.067	4,979
	1,781	0.410	290	0.067	4,168
	975	0.371	175	0.067	2,778
	815	0.605	90	0.067	1,862
30" Span	2,224	0.177	1,049	0.083	7,405
	1,934	0.267	604	0.083	5,236
	1,522	0.509	249	0.083	4,375
	1,424	0.640	185	0.083	3,553
	780	0.580	112	0.083	2,369
	652	0.945	57	0.083	1,298
36" Span	1,853	0.254	730	0.100	6,451
	1,612	0.384	420	0.100	4,482
	1,268	0.734	173	0.100	3,698
	1,187	0.922	129	0.100	2,859
	650	0.836	78	0.100	1,906
	543	1.360	40	0.100	901
48" Span	1,390	0.452	410	0.133	4,534
	1,209	0.683	236	0.133	2,809
	951	1.304	97	0.133	2,254
	890	1.638	72	0.133	1,636
	488	1.486	44	0.133	1,091
	407	2.418	22	0.133	507
60" Span	1,112	0.707	262	0.167	2,902
	967	1.067	151	0.167	1,798
	761	2.038	62	0.167	1,442
	712	2.560	46	0.167	1,047
	390	2.321	28	0.167	698
	326	3.779	14	0.167	324
72" Span	927	1.018	182	0.200	2,015
	806	1.536	105	0.200	1,248
	634	2.935	43	0.200	1,001
	594	3.686	32	0.200	727
	325	3.343	19	0.200	485
	272	5.441	10	0.200	225

Channel Fittings

Fiberstrut Channel Fittings are required to fabricate a Fiberstrut structure and are easily attached to Fiberstrut Channels with channel nuts and polyurethane fasteners. The fittings are offered in two types; fabricated (cut from flat stock) or molded. Fabricated fittings are made from either polyester (P) or vinyl ester (V) material. All molded fittings with the exception of the post bases are molded in polyurethane (PU). Post bases are also offered in polypropylene (PP). Both flat and grooved fittings are available. All channel fittings are provided with $^{13}/_{32}$in. holes which accommodate $^{3}/_{8}$in. hardware. Larger diameter holes can be provided upon special request.

Flat: 260753(P), 260790(V) Grooved: 260754(P), 251838(V)	Flat: 260755(P), 260792(V) Grooved: 260756(P), 251919(V)	Flat: 260757(P), 260794(V) Grooved: 260759(P), 251894(V)
		
Flat: 260760(P), 260796(V) Grooved: 260761(P), 260797(V)	251840(PU)	Flat: 260762(P), 260798(V) Grooved: 260763(P), 251839(V)
		
Flat: 260764(P), 260800(V) Grooved Right: 260765(P), 251841(V) Grooved Left: 260935(P), 251842(V)	Flat: 260766(P), 260802(V) Grooved: 260767(P), 251843(V)	Flat: 260768(P), 260804(V) Grooved: 260769(P), 260805(V)
		

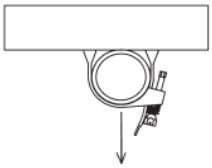
Flat: 260770(P), 260806(V) Grooved Right: 260771(P), 260807(V) Grooved Left: 260936(P), 260937(V)	Flat: 260772(P), 260808(V) Grooved: 260773(P), 260809(V)	Flat: 260774(P), 260810(V) Grooved: 260775(P), 251844(V)
		
Flat: 260776(P), 260812(V) Grooved: 260777(P), 260813(V)	Flat: 260778(P), 260814(V) Grooved: 260779(P), 251845(V)	Flat: 260780(P), 260816(V) Grooved: 260781(P), 251914(V)
		
Flat: 260782(P), 260818(V) Grooved: 260783(P), 251846(V)	Flat: 260784(P), 260820(V) Grooved: 260785(P), 251911(V)	Flat: 260786(P), 260822(V) Grooved: 260787(P), 260823(V)
		
Flat: 260834(P), 251913(V)	Flat: 260788(P), 260824(V) Grooved: 260789(P), 251847(V)	Flat: 260846(PU)
		

Flat: 251920(PU)	260841(PU), 251912(PU)	Flat: 251848(PU)
		
260843(PU) (1 5/8”)	260849(PU) (Flat, without splines) 260458(PU) (Splines on long side only) 251908(PU) (Splines on short side only) 251836(PU) (Splines on both sides)	260844(PU)
		
251837(PU – 1 5/8”) 251893(PU – 1 1/2”) 260863(PU – 1”) 260868(PP – 1 5/8”) 260869(PP – 1 1/2”) 260870(PP – 1”)	260864(PU – 1 5/8”) 260865(PU – 1 1/2”) 260866(PU – 1”) 260871(PP – 1 5/8”) 260872(PP – 1 1/2”) 260873(PP – 1”)	251849(PVC) Channel capping strip
Post Base - Standard 	Post Base - Standard 	 Supplied in 10 foot lengths, made from PVC. Installs simply by pressing it onto the channel opening. It is designed to be used when a cover is desired for the channel opening (such as a concrete embedment channel)

Pipe Clamps

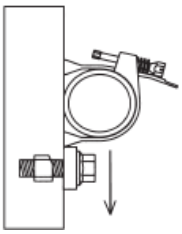
Design Load Information

All Fiberstrut pipe straps and clamps show the recommended loading for both types.



Type 1 Design Load

The design load shown represents pipes supported below the strut. The loads shown are based on a minimum ultimate failure safety factor of 3:1.

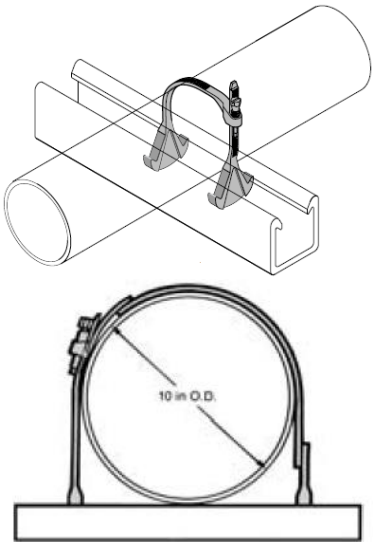


Type 2 Design Load

The design loading shown can be achieved with the addition of a vertical stop lock assembly installed directly beneath the pipe clamp. Design loads are based on a minimum clamp slip safety factor or 3:1. It is recommended that stop lock assemblies be used for all vertical pipe support applications.

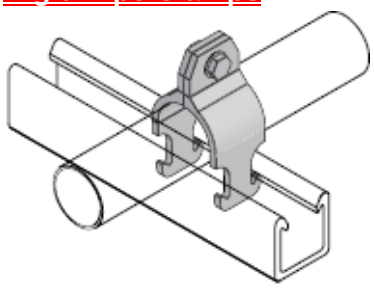
Adjustable Pipe Clamps

Adjustable Pipe Clamps are manufactured from glass-reinforced polyurethane and are adjustable to accommodate a range of outside diameters. They can be utilized with a variety of piping systems including: PVC, fiberglass, copper, rigid steel conduit and PVC coated rigid steel conduit. $6^{1}/_{2}$–20 inch clamps are to be used only in non-load bearing applications where the weight of the pipe is supported by structural members. Clamps can safely be used in temperatures up to 71°C. For operating temperatures of 71-110°C, it is recommended to use PVDF clamps which are available as a special order. Care should be taken not to exceed 3 ft./lbs. of torque on the adjustable pipe straps.



Part Number (in.)	O.D. Pipe Size (in.)	Design Load (lbs.)		Torque (ft./lbs.)
		Type 1	Type 2	
260969	$^{1}/_{2}$– $1^{1}/_{2}$	135	65	10 (in./lbs.)
260970	$1^{1}/_{2}$ – $2^{1}/_{4}$	135	65	3
260971	$2^{1}/_{4}$ – $3^{1}/_{4}$	145	70	3
260972	3 – 4	215	70	3
260973	4 – $6^{1}/_{2}$	215	70	3
260975	$6^{1}/_{2}$ – 8	Non-Load Bearing		3
260977	8 – 10	Non-Load Bearing		3
260978	10 – 12	Non-Load Bearing		3
260979	12 – 14	Non-Load Bearing		3
260980	14 – 16	Non-Load Bearing		3
260981	16 – 18	Non-Load Bearing		3
260982	18 – 20	Non-Load Bearing		3

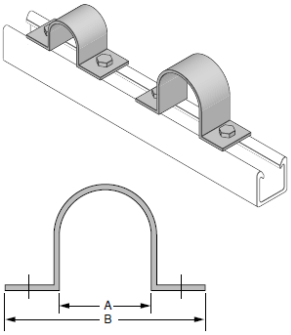
Rigid Pipe Clamps



Rigid Pipe Clamps resemble the more traditional style of pipe clamps. These clamps are made from glass-reinforced polyurethane and are sized based on the pipe inside diameter or nominal size. Polyurethane clamps are recommended for applications up to 71°C. For high temperature applications (up to 110°C), PVDF clamps are available as a special order. Care should be taken not to exceed the recommended torque values of the rigid pipe clamps.

Part Number	Nominal Size (in.)	PVC Sch. 80 and Rigid Metal	Design Loads (lbs.)		FRP Bolt Size (in.)	FRP Bolt Torque (ft./ lbs.)
			Type 1	Type 2		
251851	1/2	0.840	225	90	3/8 x 1 1/4	3
251852	3/4	1.050	225	90	3/8 x 1 1/4	3
251853	1	1.315	225	90	3/8 x 1 1/4	3
251898	1 1/4	1.660	225	90	3/8 x 1 1/4	3
251854	1 1/2	1.900	225	90	3/8 x 1 1/4	3
251855	2	2.375	225	90	3/8 x 1 1/4	3
260989	2 1/2	2.875	225	90	3/8 x 1 1/4	3
251856	3	3.500	225	90	3/8 x 1 1/4	3
251857	4	4.500	300	125	3/8 x 1 1/4	3
260991	6	6.625	300	125	3/8 x 1 1/4	3
260992	8	8.625	300	125	3/8 x 1 1/4	3

Two Hole Pipe Straps



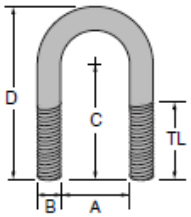
Two Hole Pipe Straps are designed for use in securing pipe, conduit and ducts to Fiberstrut Channels. Two Hole fiberglass straps can also be used independently from the channel for surface mounting. All sizes of the straps are suitable for load bearing applications. When bolting onto a 1 5/8 in. or 1 1/2 in. channel, a 1 1/4 in. long bolt is required.

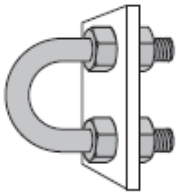
The Two Hole pipe straps are manufactured from a fire-retardant, glass reinforced polyester resin. For extreme chemical environments, the straps can be manufactured from vinyl ester resin. Larger diameter straps for special applications are also available. Contact us for pricing and availability of vinyl ester and large diameter straps. Two Hole pipe straps should not be torqued above recommended values.

Part Number	Pipe Size (in.)	Dimension A (in.)	Dimension B (in.)	Bolt Size (in.)	Material Size (in.)	Design Load (lbs.) Type 1	Design Load (lbs.) Type 2	Torque (ft./ lbs.)
261009	1/2	0.840	4.840	1/2	1/4 x 1 5/8	135/50	50	4
261010	3/4	1.050	5.050	1/2	1/4 x 1 5/8	135/50	50	4
261011	1	1.315	5.315	1/2	1/4 x 1 5/8	135/50	50	4
261329	1 1/2	2	5.875	1/2	1/4 x 1 5/8	135/50	50	4
261012	2	2 3/8	6.375	1/2	1/4 x 1 5/8	135/50	50	4
261013	2 1/2	2 7/8	6.875	1/2	1/4 x 1 5/8	135/50	50	4
261014	3	3 1/2	7.500	1/2	1/4 x 1 5/8	135/50	50	4
261015	3 1/2	4	8.000	1/2	1/4 x 1 5/8	135/50	50	4
261016	4	4 1/2	8.500	1/2	1/4 x 1 5/8	175/60	60	4
261017	5	5 9/16	9.563	1/2	1/4 x 1 5/8	175/60	60	4
261018	6	6 5/8	10.625	1/2	1/4 x 1 5/8	175/60	60	4
261019	8	8 5/8	12.625	1/2	1/4 x 1 5/8	225/125	125	4
261020	10	10 3/4	15.750	5/8	1/4 x 1 5/8	225/125	125	10
261021	12	12 3/4	16.250	5/8	1/4 x 1 5/8	225/125	125	10
261022	14	14	18.000	5/8	1/4 x 1 5/8	250/150	150	10
261023	16	16	20.000	5/8	1/4 x 1 5/8	250/150	150	10
261024	18	18	23.000	5/8	1/4 x 1 5/8	250/150	150	10

Non-metallic U-Bolts

Non-metallic U-Bolts provide a corrosion resistant alternative to traditional metallic U-Bolts. Made from glass-reinforced polyurethane, these bolts will outlast stainless steel in most corrosive applications. Non-metallic U-Bolts have oversized diameters which allow them to hold steel conduit and plastic pipe. Each U-Bolt comes with two polyurethane hex nuts. Additional nuts and washers can be purchased separately. The U-Bolts can also be installed to allow for thermal expansion and contraction of plastic pipe as shown below.



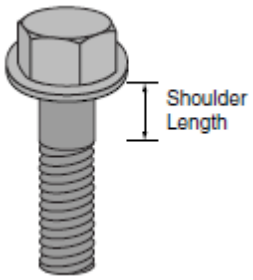


Part Number	Size (in.)	"A" Dim.	"B" Dim.	"C" Dim.	"D" Dim.	"TL" Dim.	Load (lbs.)	Torque (in./ lbs.)
261025	1/2	0.937	0.375	1.568	2.412	1.25	135	40
261026	3/4	1.125	0.375	1.662	2.600	1.25	135	40
261027	1	1.375	0.375	1.787	2.850	1.25	135	40
261028	1 1/4	1.687	0.375	1.943	3.162	1.25	135	40
261029	1 1/2	2.000	0.375	2.100	3.475	1.25	135	40
261030	2	2.437	0.500	2.468	4.187	1.50	135	80
261031	2 1/2	2.937	0.500	2.718	4.687	1.50	135	80
261032	3	3.562	0.500	3.031	5.312	1.50	135	80
261033	3 1/2	4.062	0.500	3.281	5.812	1.50	135	80
261034	4	4.562	0.500	3.531	6.312	1.50	135	80
261035	6	6.750	0.625	5.750	9.875	3.25	135	120

Bolts

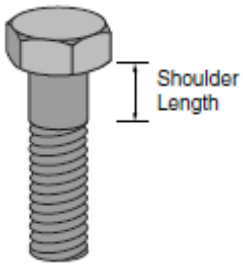
Bolts are provided in two styles and five diameters (1/4in., 3/8in., 1/2in., 5/8in. and 3/4in.) and range in length from 1 1/4 to 3 1/2 inches. The flanged style incorporates a molded washer collar which eliminates the need for a washer. The flanged style is provided for 1/4in. and 1/2in. diameter bolts. Flanged bolts are available in 3/8in. diameter as a special order item. The hex head style is provided for all 3/8in., 5/8in. and 3/4in. diameter bolts. Bolts are not fully threaded, therefore, shoulder length (non-threaded portion) dimensions have been provided. Bolts are ideal for mechanical connections that require a high degree of corrosion resistance. The 3/8in. diameter fasteners are recommended for all channel fitting mechanical connections. Bolts are manufactured from glass-reinforced polyurethane and are packaged in bags containing 25 pieces.

Hex Flange Bolts



Part Number	Size (in.)	Thread Shear (lbs.)	Shank Shear (lbs.)	Shoulder Length (in.)	Torque (ft./ lbs.)
251858	1/4 x 3/4	110	210	Full Thread	10in./lbs.
251921	1/4 x 1	110	210	Full Thread	10in./lbs.
251859	1/4 x 1 1/2	110	210	1/2	10in./lbs.
251860	1/2 x 1 1/4	450	870	Full Thread	8
260884	1/2 x 1 1/2	450	870	Full Thread	8
251861	1/2 x 2	450	870	3/4	8
260886	1/2 x 2 1/2	450	870	3/4	8
260887	1/2 x 3	450	870	1	8
251862	1/2 x 3 1/2	450	870	2 3/16	8

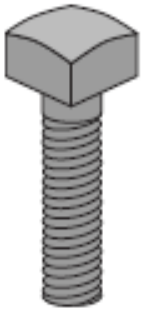
Hex Bolts



Part Number	Size (in.)	Thread Shear (lbs.)	Shank Shear (lbs.)	Shoulder Length (in.)	Torque (ft./ lbs.)
251863	3/8 x 1 1/4	250	470	Full Thread	3
260878	3/8 x 1 1/2	250	470	1/4	3
251864	3/8 x 2	250	470	1/2	3
260880	3/8 x 2 1/2	250	470	3/4	3
251865	3/8 x 3	250	470	1	3
261036	5/8 x 1 1/4	700	1360	1/4	12
251866	5/8 x 1 1/2	700	1360	1/4	12
261037	5/8 x 2	700	1360	1/4	12
251867	5/8 x 2 1/2	700	1360	1/4	12
261038	5/8 x 3	700	1360	1/4	12
251868	5/8 x 3 1/2	700	1360	1 1/4	12

Vinyl Ester Square Head Bolts

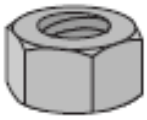
Vinyl ester square head bolts are used for concrete mounting and general purpose fastening applications. The square head bolts are constructed from vinyl ester all-thread rod and vinyl ester square nuts. The units are bonded together with a durable two part urethane adhesive. The square head bolts are offered in 3/8in. diameter but can be supplied in other diameters as a special order. Contact us for pricing and availability of special diameter square head bolts.



Part Number	Size (in.)	Thread Shear (lbs.)	Torque (ft./lbs.)
261041	3/8 x 1	250	10
261042	3/8 x 1 1/4	250	10
261043	3/8 x 1 1/2	250	10
261044	3/8 x 1 3/4	250	10
261045	3/8 x 2	250	10
261046	3/8 x 2 1/2	250	10
261047	3/8 x 3	250	10
261048	3/8 x 3 1/2	250	10
261049	3/8 x 4	250	10

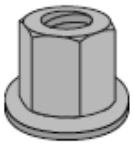
Hex Nuts

Fiberstrut hex nuts are available in two styles; hex and hex flange nuts. The hex nut is preferred for channel fitting connections. The hex flange nut is preferred for applications that require additional thread engagement (such as with all-thread rod) or maximum thread shear strength. All nuts are manufactured from glass reinforced polyurethane and are packaged in bags containing 25 pieces. All hex and hex flange nuts are available in PVDF and Polypropylene and metric sizes as a special order. Contact us for pricing and availability.



Part Number	Size (in.)	Thread Shear (lbs.)	Height (in.)	Torque (ft./lbs.)
251869	1/4 - 20	150	0.218	10in./lbs.
251870	3/8 - 16	460	0.328	3
251871	1/2 - 13	800	0.437	8
251872	5/8 - 11	1000	0.546	12
256364	3 - 10	1000	0.640	15
261050	1 - 8	1100	0.859	17

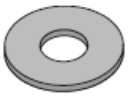
Hex Flange Nuts



Part Numbers	Size (in.)	Thread Shear (lbs.)	Height (in.)	Torque (ft./lbs.)
251873	3/8 - 16	500	0.750	3
251874	1/2 - 13	1200	0.855	8
251875	5/8 - 11	2200	1.220	12
258924	3/4 - 10	2900	1.590	15
251897	1 - 8	2900	1.75	17

Flat Washers

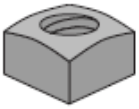
Flat Washers are made from PVC and are available for 1/4in. through 1in. diameter. PVC washers are recommended for connections that utilize hex nuts and bolts. PVC washers are packaged in bags containing 25 pieces.



Part Number	Size (in.)	Outside Diameter (in.)
251876	1/4	0.49
251877	3/8	1.00
251878	1/2	1.25
251879	5/8	1.50
261051	3/4	1.50
261052	1	2.25

Vinyl Ester Square Nuts

Square nuts are manufactured from pultruded vinyl ester square stock. They are recommended for applications that require high thread shear values. Square nuts are packaged in bags containing 25 pieces.

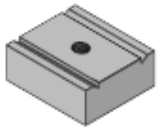


Part Number	Size (in.)	Thread Shear (lbs.)	Height (in.)	Torque (ft./lbs.)
261053	3/8 - 16	1300	0.437	10
261054	1/2 - 13	1700	0.562	10
251901	5/8 - 11	1700	0.687	10
261055	3/4 - 10	1700	0.812	10
261056	1 - 8	1700	0.937	10

Channel Nuts

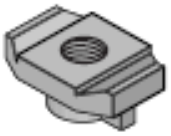
Channel nuts are provided in two types; Standard Duty and Heavy Duty. Standard Duty channel nuts are designed for light duty applications that do not require high thread shear values. Standard duty channel nuts can also be used with all channel sizes. Heavy duty channel nuts are designed to be used where high thread shear values or spring nuts are required. Heavy duty channel nuts cannot be used with light duty channels. All channel nuts are manufactured from glass-reinforced polyurethane and are packaged in bags containing 50 pieces. Channel nuts are also available in PVDF as a special order. Contact us for pricing and availability.

Heavy Duty Channel Nuts



Part Number	Size (in.)	Thread Shear (lbs.)	Torque (ft./lbs.)
251918	3/8 - 16	1400	8
254964	1/2 - 13	1400	8
254963	5/8 - 11	1400	10
261057	3/4 - 10	1400	10
261058	10mm	1400	8
261059	12mm	1400	8
261060	16mm	1400	10
261061	20mm	1400	10

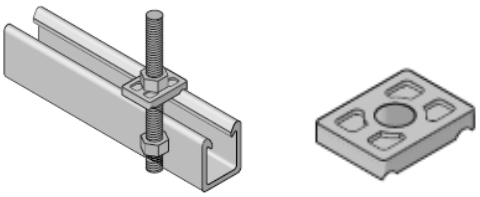
Standard Duty Channel Nuts



Part Number	Size (in.)	Thread Shear (lbs.)	Torque (ft./lbs.)
251880	1/4 - 20	460	2
261062	5/16 - 18	460	2
251881	3/8 - 16	460	3
251882	1/2 - 13	460	3
261063	10mm	460	3
261064	12mm	460	3
261065	#10 Screw	460	N/A

Saddle Clips

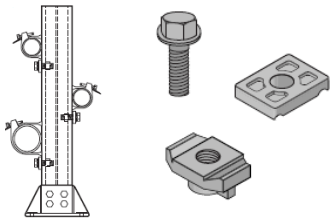
Saddle Clips make channel fastening much easier. The clips mate with the exterior of the channel flanges and are secured with threaded rods and nuts. The saddle clips are manufactured from glass reinforced polyurethane and are supplied in bags of 50 pieces.



Part Number	Size (in.)
261066	3/8
261067	1/2
261068	5/8
261069	3/4

Stop-Lock Assemblies

Stop-Lock Assemblies reduce the chance of pipe slippage when running supports vertically. Stop-Locks are recommended for applications that are subject to vibration, have regular contact with fluids or are vertically mounted (Type 2). The Stop-Locks fit all three sizes of channel. Stop-Locks are manufactured from glass-reinforced polyurethane and are offered with a 3/8in., 1/2in. and 5/8in. bolt size. The 5/8in. Stop-Lock Assembly is supplied with a heavy duty channel nut (the 5/8in. Stop-Lock Assembly will not work with the standard light-duty channels).



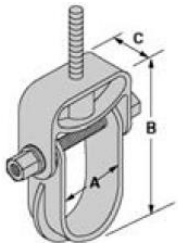
Part Number	Size (in.)	Force Resistance (lbs.)	Torque (ft./lbs.)
261072	3/8	200	7
261073	1/2	220	12
261074	5/8	250	15

Pipe Hangers

Clevis Hangers

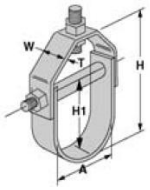
Clevis hangers are available in two styles; molded and hand lay-up. The molded clevis hangers are manufactured from glass-reinforced polyurethane and are available for 1/2in. through 6in. sizes. The hand lay-up clevis hangers are manufactured from glass-reinforced vinyl ester resin and are available for sizes 1in. through 24in.

Molded Clevis Hangers



Part Number	Nominal Diameter (in.)	Max. Pipe O.D. (in.)	"A" Dim.	"B" Dim.	"C" Dim.	Hanger Rod (in.)	Load (lbs.)
261076	1/2 – 1	1	1.500	4.25	1.25	1/2	670
261077	1 1/4 -1 1/2	1 1/2	2.000	5.14	1.25	1/2	670
261078	1 1/2 - 2	2	2.500	6.52	1.25	1/2	730
261079	2 1/2 - 4	4	5.125	10.00	1.50	1/2	1150
261080	4 1/2 - 6	6	6.750	12.33	1.50	1/2	1170

Hand Lay-Up Clevis Hangers



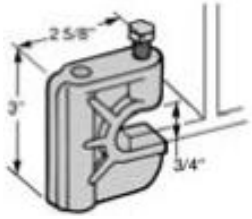
Part Number	Size Range (In.) A	T	Dimensions (in.) H	H1	W	Hanger Rod (in.)	Trans Rod (in.)	Spreader Rod O.D. (in.)	Loads (lbs.)
261081	1 - 1 1/2	1/8	2 3/4	1 7/8	1 1/2	1/2	3/8	1/2	60
261082	1 1/2 - 2	1/8	3 1/2	2 3/8	1 1/2	1/2	3/8	1/2	60
261083	2 - 2 5/8	1/8	4 3/4	3	2	1/2	3/8	1/2	90
261084	2 1/2 - 3 1/4	1/8	5 1/2	3 5/8	2	1/2	3/8	1/2	120
261085	3 - 3 7/8	1/8	7	4 1/4	2	5/8	3/8	1/2	160
261086	4 - 5 1/8	3/16	8 1/2	5 5/8	2	5/8	3/8	1/2	250
261087	6 - 7 1/8	3/16	10 7/8	7 1/2	3	5/8	3/8	1/2	300
261088	8 - 9 1/4	1/4	14	9 3/4	3	5/8	3/8	1/2	350
261089	10 - 11 3/8	1/4	18	12	4	5/8	3/8	3/4	450
261090	12 - 13 1/2	1/4	21 1/2	14 1/8	5	5/8	1/2	3/4	600
261091	14 - 15 3/4	1/4	24 1/2	16 1/2	5	3/4	1/2	3/4	700
261092	16 - 18	3/8	27 3/8	19 1/2	6	3/4	3/4	1	750
261093	19 - 21	3/8	34 1/2	22 1/2	6	3/4	3/4	1	800
261094	21 - 22	1/2	35 1/2	24	6	3/4	3/4	1	850
261095	22 - 24	1/2	41	28	6	3/4	3/4	1	900

Pipe Hanging Accessories

Beam Clamps

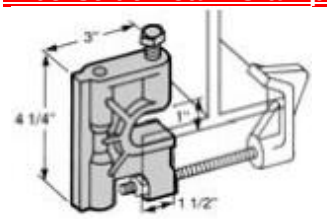
Beam clamps are available in two styles; molded and fabricated. The molded beam clamps are manufactured from glass-reinforced polyurethane and can accommodate 3/8in., 1/2in. and 5/8in. hanger rod sizes. The molded beam clamps utilize the traditional "C" clamp style design. The fabrication beam clamps are manufactured from vinyl ester flat stock and utilize polyurethane bolts and channel nuts for clamping. Fabricated beam clamps are available for attaching to 1/4in., 3/8 in. and 1/2in. thick beam flanges. Each fabricated beam clamp assembly includes four (4) 1/2in. standard duty channel nuts, four (4) 1/2in. Polyurethane bolts and two (2) attachment clips.
All beam clamps allow easy attachment of threaded rod to "I" beams or other structural assemblies.

Molded Beam Clamps



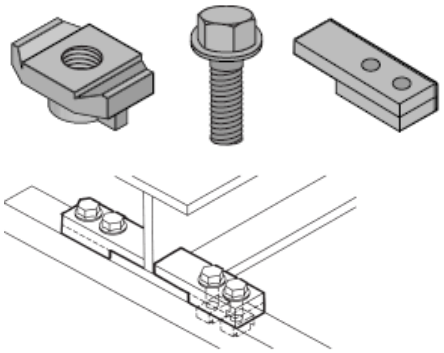
Part Number	Size (in.)	Thread Shear (lbs.)	Torque (ft./lbs.)
261107	3/8	400	10
261108	1/2	400	10

Fiberstrut Beam Clamp



Part Number	Size (in.)	Thread Shear (lbs.)	Torque (ft./lbs.)
261109	3/8	500	10
261110	1/2	500	10
261111	5/8	500	10

Fabricated Beam Clamps

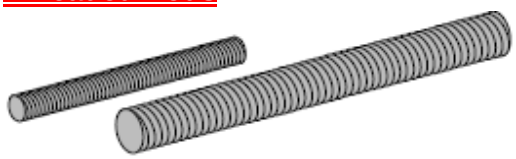


Part Number	Flange Thickness (in.)	Thread Shear (lbs.)	Torque (ft./lbs.)
261112	1/4	600	10
261113	3/8	600	10
261114	1/2	600	10

Beam Clip (3/8") – Part No. 261124

Pipe Supports

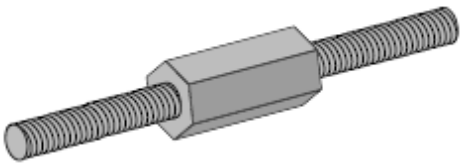
Threaded Rods



Pultruded threaded rods are an excellent choice for hanging and channel fastening. These rods can also be used with either the vinyl ester square nuts, polyurethane hex nuts or hex flange channel nuts. All FRP threaded rods are manufactured from pultruded vinyl ester resin and are grey in colour.
The standard rod lengths are 4-foot and 8-foot. Special lengths and threading are also available. Contact us for pricing and availability.

4-Foot Threaded Rods					8-Foot Threaded Rods				
Part Number	Size (in.)	Weight (lbs.)	Thread Shear (lbs.)	Torque (ft./lbs.)	Part Number	Size (in.)	Weight (lbs.)	Thread Shear (lbs.)	Torque (ft./lbs.)
261116	3/8- 16	0.07	415	5	251883	3/8-16	0.14	415	5
261117	1/2- 13	0.12	570	10	251884	1/2-13	0.24	570	10
251902	5/8-11	0.18	1260	40	251885	5/8-11	0.36	1260	40
261118	3/4-10	0.28	1700	50	258925	3/4-10	0.56	1700	50
251896	1-8	0.50	3000	60	261115	1-8	1	3000	60

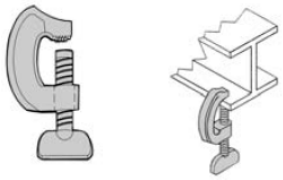
Rod Couplers



Part Number	Size (in.)	Length (in.)	Thread Shear (lbs.)
261119	3/8-16	2 1/4	800
261120	1/2-13	2 1/4	870
261121	5/8-11	2 1/4	1500
261122	3/4-10	2 1/4	1500

Rod couplers provide an excellent means for extending FRP all-thread rods beyond their standard lengths. Couplers are manufactured from glass-reinforced polyurethane and are coloured grey. Connectors are packaged in bags containing 25 pieces.

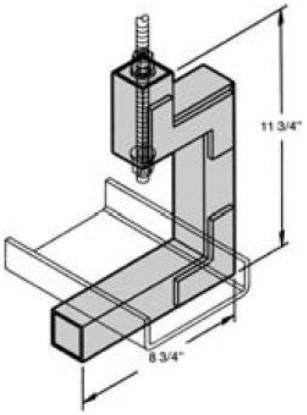
Duraclamp C-Clamps



Part Number	Description	Thread Shear (lbs.)	Torque (ft./lbs.)
261125	“C”-Clamp	25	17
261126	Bolt	N/A	17
261127	“C”	25	N/A

Duraclamps are glass-reinforced polyurethane C-Clamps that are designed to replace steel C-Clamps in areas where corrosion is a problem. The individual Duraclamp components can also be purchased separately.

Channel Hangers



The Channel Hanger is designed to support fiberglass structural “C” channel that is being used as a raceway system for cables, tubing or small diameter piping. The Channel Hanger is available in either polyester or vinyl ester resin and is simply supported from a 1/2in. FRP all-thread rod and beam clamp (not provided). The Channel Hanger will accommodate “C” channel width sizes 2in. through 8in..

Part Number	Material
261138	Polyester
261139	Vinyl Ester

Fiber-Rack Stanchions

The Fiber-Rack Stanchion is the new alternative to traditional iron cable stanchions used for utility and industrial cable supports. Made entirely from glass-reinforced nylon, these stanchions out-perform metallic supports against corrosion. The extended life-span of the Fiber-Rack Stanchions makes them the logical choice over metallic cable supports. The Fiber-Rack Stanchion is available in two different lengths and four different arm lengths. The unique interlocking design allows the arm to "lock" into nine different levels on the $14\frac{1}{4}$in. stanchions and fourteen on the $17\frac{1}{2}$" stanchion. Glass-reinforced polyurethane stanchions are available as a special order. Contact us for pricing and availability.

Dimensions – The stanchion back is designed with $\frac{9}{16}$in. wide x $\frac{15}{16}$in. long holes to accept fasteners for mounting. There are two mounting holes in the $21\frac{3}{8}$in. long stanchion and three mounting holes in the $33\frac{5}{16}$in. long stanchion. Thickness at the slotted mounting holes is $1\frac{7}{8}$in. The mounting holes are spaced on 12in. centers and require $\frac{1}{2}$–inch diameter fasteners.

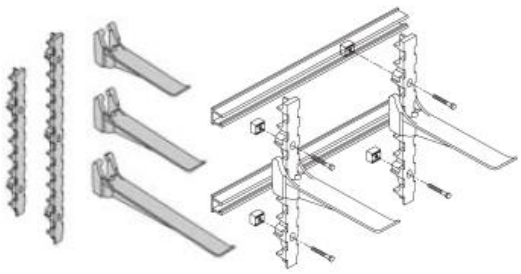
Installation – The Fiber-Rack Stanchions can be anchored into existing concrete structures using any good quality industrial anchoring system. For new concrete structures, the Fiber-Rack Stanchions can be mounted to concrete embedment channel and attached with $\frac{1}{2}$in. channel nuts and $\frac{1}{2}$in. x 3in. Fiberstrut Bolts.

Fire Retardance – Fiber-Rack materials meet or exceed the requirements of UL94 HB.
Loading – The recommended allowable loads on Fiber-Rack Stanchions vary depending upon the position of the arm. Following the guidelines listed below will ensure a safe, reliable installation.

- Total load on any one arm should not exceed 800 lbs.
- The sum of the loads on any arm multiplied by their distances to the wall stanchion should not exceed 1200in./lbs.

Example – A cable weighing 200 lbs. is positioned on an arm at a distance of 5 inches from the wall stanchion. If the total load is less than 800 lbs and the sum of the load multiplied by their distances to the wall stanchion does not exceed 1200in./lbs., then the system is adequate. In this case,

Total load (200<800 lbs) = OK
Tot. moment (200x5in. = 1000<1200in./lbs.) =OK



Part Number	Description	Weight (lbs.)	Load (lbs.)
261128	8” Arm	1.00	800
261129	$14\frac{1}{4}$” Arm	1.16	800
261130	$17\frac{1}{2}$” Arm	1.45	800
261131	$23\frac{7}{8}$” Arm	1.86	800
261132	$21\frac{3}{8}$” Stanchion	1.49	N/A
261133	$33\frac{5}{16}$” Stanchion	2.31	N/A

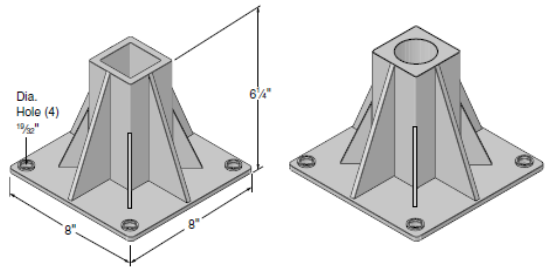
Wall Brackets

Wall brackets are available in a wide variety of sizes and configurations. They are ideal for customizing the support of piping, cables, tubing, conduits or cable trays. These brackets are available in either polyester or vinyl ester resin types. They will work with all the standard accessory items. Consult us for design, pricing and availability information.

Instruments & Pipe Stands

Heavy Duty Post Base

The Fiberstrut heavy duty post base is designed for applications that require a stronger base attachment than the standard post base. Made from polyurethane, the heavy duty post base is available with four different openings: $1\frac{1}{2}$in., $1\frac{5}{8}$in., 2in. square and 2in. Schedule 80 round.
The heavy duty post base is ideal for mounting fiberglass channel, handrails and instrument stands in corrosive environments. The standard colour is grey, but special colours are available upon request.



Part Number	Size and Shape
260857	2” Square
260858	2” Round
251886	$1\frac{5}{8}$” sq.
260862	$1\frac{1}{2}$” sq.