

CATALOG

AICKINSTRUT®

FIBERGLASS FRAMING SYSTEMS

A PART OF



INTRODUCTION

Aickinstrut Fiberglass Strut is the most widely used and accepted nonmetallic strut support system in the world because it is the most complete quality line of nonmetallic accessories, fasteners, hangers, pipe clamps and channels available. Aickinstrut is a versatile, high-strength product that has been successfully used in thousands of applications worldwide. Some of those applications include: wastewater treatment, refineries, chemical plants, marinas, pulp and paper, desalination facilities, theme parks, aquariums and underground vaults.

Made from entirely nonmetallic, corrosion resistant resins, Aickinstrut can be used in demanding environments where steel strut systems have traditionally failed. Its lightweight components can be installed quickly and easily using standard metal working tools. All Aickinstrut parts incorporate the highest quality materials to provide superior chemical resistance, strength, flame resistance and ultraviolet protection.

Because Aickinstrut manufactures a complete corrosion resistant strut support system, the customer has the benefit of purchasing all of these items from a single source, thereby minimizing start up and delivery delays.

Aickinstrut stands ready to provide assistance through its network of distributors and sales representatives.

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AICKINSTRUT FABRICATION

The installation of fiberglass channel and accessories is similar to the installation of metallic channel and accessories. All standard installation practices and procedures apply. In general, special handling is not required. Fabrication of Aickinstrut components requires just three simple operations; cutting, drilling and sealing as described below.

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 a few number of 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.

LABOR SAVINGS

Aickinstrut fiberglass structural members can be cut and drilled at a much faster rate than steel. Typically, fiberglass can be fabricated in less than half the time. As a result, substantial labor savings will be realized. Also, Aickinstrut products average 1/3 the weight of their steel counterparts, making them much easier to handle on the job site.

RELATIVE MATERIAL COSTS

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

MATERIAL

The finished Aickinstrut application will utilize a combination of materials from the following resin families:

Material Code	Material
E	PVC (extruded)
P	Polyester (pultruded)
V	Vinyl ester (pultruded)
PU	Polyurethane (injection molded)
PP	Polypropylene (injection molded)
N	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 Aickinstrut Channel, Fittings and Accessories for your particular applications.

OPERATING ENVIRONMENT

In order to design an Aickinstrut system for your application, consideration should be given to the maximum operating conditions. These “worst case” conditions will determine which type of Aickinstrut materials are best suited for your application. The three “worst case” operating conditions to consider are:

- Temperature
- Chemical Environment
- Loading

Temperature Ranges – Aickinstrut is supplied in six different materials covering distinct temperature ranges. Materials should be chosen which meet or exceed the minimum and maximum temperatures for your applications.

Material Code	Low Temperature	High Temperature
E	-25°F	130°F
P	-35°F	200°F
V	-35°F	200°F
PU	-40°F	140°F
PP	-30°F	150°F
N	-20°F	150°F

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 following chart to determine which Aickinstrut 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. This is typically the “worst case” exposure to corrosion. Less severe contact such as spills, splashes and vapor condensate will exceed the performance results listed in the table.

Loading – Channel loading is defined on pages 13 to 15. 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

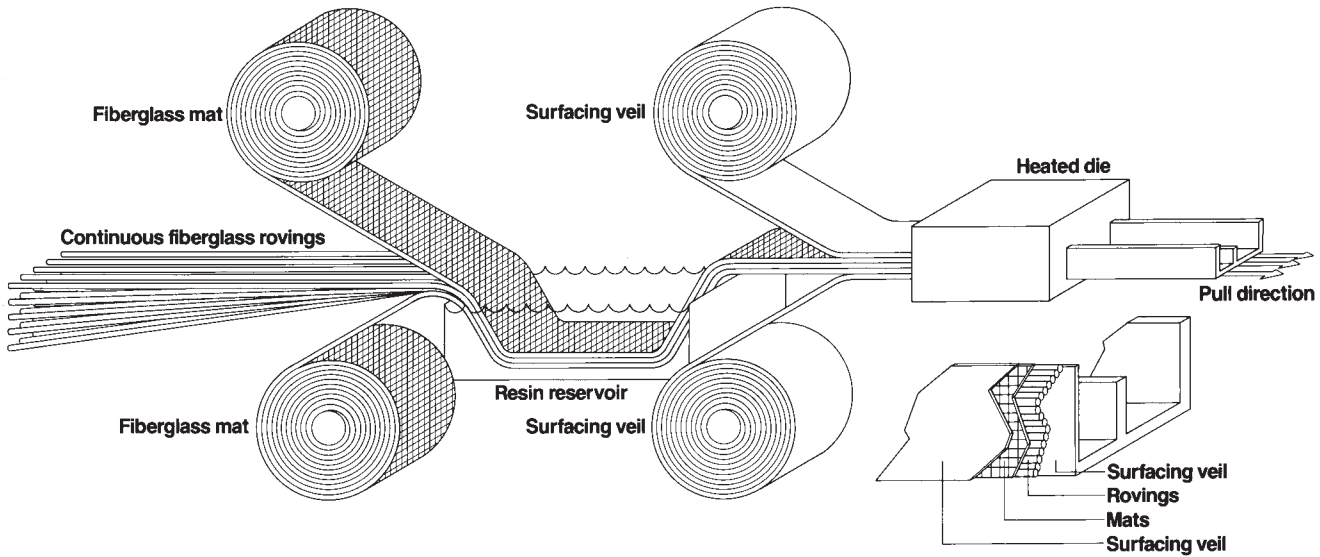
Polyester and vinyl ester resin systems are available. The vinyl ester resin system is somewhat stronger and is applied in severe corrosive applications.

Both resin systems are flame retardant, conforming to ASTM E84, Class 1 flame rating and are self extinguishing per the requirements of UL94V-0.

Consult the corrosion resistance guide on page 8 and 9 to determine the correct resin system for your application.

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Typical Properties	Test Method	Direction	Unit	Typical Value	Typical Value
				Polyester	Vinyl Ester
Mechanical					
Ultimate Tensile Strength	ASTM D-638	Longitudinal	PSI	30,000	35,000
	ASTM D-638	Transverse	PSI	7,000	10,000
Tensile Modulus	ASTM D-638	Longitudinal	PSI	2.5 x 10 ⁶	3.0 x 10 ⁶
	ASTM D-638	Transverse	PSI	0.8 x 10 ⁶	1.0 x 10 ⁶
Ultimate Compressive Strength	ASTM D-695	Longitudinal	PSI	30,000	35,000
	ASTM D-695	Transverse	PSI	15,000	20,000
Compressive Modulus	ASTM D-695	Longitudinal	PSI	2.5 x 10 ⁶	2.5 x 10 ⁶
	ASTM D-695	Transverse	PSI	1.0 x 10 ⁶	1.2 x 10 ⁶
Ultimate Flexural Strength	ASTM D-790	Longitudinal	PSI	30,000	35,000
	ASTM D-790	Transverse	PSI	10,000	14,000
Flexural Modulus	ASTM D-790	Longitudinal	PSI	1.6 x 10 ⁶	2.0 x 10 ⁶
	ASTM D-790	Transverse	PSI	0.8 x 10 ⁶	1.0 x 10 ⁶
Shear Strength Short Beam	ASTM D-2344	Longitudinal or	PSI	5,500	7,000
		Transverse	PSI	5,500	6,000
Impact Strength-Izod	ASTM D-256	Longitudinal	ft.-lb./in.	25	30
		Transverse	ft.-lb./in.	4	5
Hardness-Barcol	ASTM D-2583	Perpendicular	—	50	50
Electrical					
Electric Strength Short Time-in oil	ASTM D-149	Perpendicular	Volts/mil.	200	200
		Parallel	KV/in.	35	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	Seconds	80	120
		Transverse	Seconds	80	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 x 10 ⁻⁶	5 x 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-0	V-0
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.

Aickinstrut Fiberglass 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 ³)	2.0 x 10 ⁶	2.0 x 10 ⁶	2.0 x 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 x 10 ⁻⁶	5 x 10 ⁻⁶	5 x 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-0		

Aickinstrut Specifications**1.0 SCOPE**

- 1.1 This specification covers the requirements for the Aickinstrut Nonmetallic Channel Framing System.

2.0 MATERIAL

- 2.1 FRP channel shall be of pultruded glass reinforced polyester or vinyl ester resin having the physical property values listed in this catalog.
- 2.2 PVC channel shall be of extruded polyvinyl chloride having the physical property values listed in this catalog.
- 2.3 Some accessories shall be of injection molded, 40% long glass fiber reinforced polyurethane, polypropylene or nylon.

3.0 COMPOSITION

- 3.1 Glass reinforced channel shall have a synthetic surfacing veil applied on exterior surfaces to improve weatherability and inhibit ultraviolet degradation.
- 3.2 PVC channel shall be manufactured from a U.V. stabilized resin and incorporate dark gray pigment to improve weatherability and inhibit ultraviolet degradation.

4.0 STRUCTURAL DESIGN

- 4.1 Channel shall incorporate Aickinstrut's patented flange profile design which allows full and positive interlocking contact of channel accessories and prohibits premature flange failure from torqued accessories.
- 4.2 Channel profile dimensions shall be:
 $1\frac{5}{8}" \times 1\frac{5}{8}" \times \frac{3}{16}"$,
 $1\frac{1}{2}" \times 1\frac{1}{2}" \times \frac{3}{16}"$, or
 $1\frac{1}{2}" \times 1\frac{1}{8}" \times \frac{3}{16}"$.
- 4.3 All $1\frac{5}{8}" \times 1\frac{5}{8}"$ channel profiles shall have a minimum pull out resistance of 1,000 pounds when load is applied over a $\frac{3}{8}"$ long section of the inside flanges.

- 4.4 Channel section lengths shall be supplied in 10' or 20' lengths ($\pm\frac{1}{8}"$).

- 4.5 Universal Pipe Clamps shall have full interlocking contact with interior channel flanges to maximize pull-out resistance and be adjustable to accommodate a minimum $\frac{3}{4}"$ variance in piping or conduit O.D. sizes.

5.0 STANDARDS

- 5.1 Glass reinforced and PVC channels covered in this specification shall have a flame spread rating of 25 or less when tested per ASTM E84 and meet the requirements of UL 94V0 thereby qualifying them as Class 1 material in the Uniform Building Code.
- 5.2 Glass reinforced channels covered in this specification shall comply with the requirements of ASTM D 3917 and ASTM D 4385 which govern the dimensional tolerance and visual defects of pultruded shapes.

6.0 GENERAL

- 6.1 Aickinstrut Nonmetallic Channel Framing shall be furnished as a system which includes all the necessary fasteners, channel splice plates, brackets, sealants, hangers, pipe clamps, etc.
- 6.2 Nonmetallic fasteners shall be manufactured from long glass fiber reinforced polyurethane to ensure maximum strength and corrosion resistance.
- 6.3 All components of the Aickinstrut Channel Framing System shall be nonmetallic except where type 316 stainless steel hardware is used as part of the assembly.
- 6.4 Aickinstrut is manufactured by Aickinstrut, a subsidiary of T.J. Cope, Philadelphia, Pennsylvania, 1-800-426-4293.
- 6.5 The manufacturer shall not have had less than 10 years experience in manufacturing strut systems.
- 6.6 Most products are manufactured in the United States of America. Some items are outsourced where deemed necessary.

Chemical Compatibility Table

Chemical	Series E (Rigid PVC) 70°-160°F		Series P (Poly/Glass) 70°-160°F		Series V (Vinyl/Glass) 70°-160°F		Series K (PVDF) 70°-160°F		Series PU (Polyurethane) 70°-160°F		Series N (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	–	–	–
Ammonium 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	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	–	–	–

Legend: “NR” indicates “Not Recommended” for use;

“R” indicates “Recommended”;

“–” indicates no information available

Chemical Compatibility Table

Chemical	Series E (Rigid PVC) 70°-160°F		Series P (Poly/Glass) 70°-160°F		Series V (Vinyl/Glass) 70°-160°F		Series K (PVDF) 70°-160°F		Series PU (Polyurethane) 70°-160°F		Series N (Nylon) 70°-160°F	
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% H2SO4	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

Note: The recommendations contained in this table are made without guarantee of representation as to results. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by T.J. Cope, Inc. as to effects of such use or results to be obtained nor does T.J. Cope, Inc. assume any liability arising out of the use by others of the products referenced in this table. Nor is the information herein to be construed as absolutely complete since additional information may be needed or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations. We suggest that you evaluate these recommendations and suggestions in your own laboratory prior to use. Our responsibility for claims arising from breach of warranty, negligence, or otherwise is limited to the purchase price of the material.

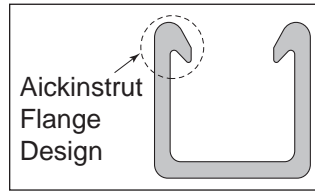
Legend: “NR” indicates “Not Recommended” for use;

“R” indicates “Recommended”;

“-” indicates no information available

CHANNEL FRAMING

All Aickinstrut channels, except the SST series, incorporate a flange design which provides reliable fastening and interlocking of Aickinstrut components and accessories.



Channels are provided in standard lengths of 10' with longer lengths available upon request. Aickinstrut single channels come packaged in boxes of 100' while the double channels are packaged in boxes containing 40'.

Aickinstrut channel is available in three materials:

- Polyester (P material), - Gray
- Vinyl Ester (V material) and - Beige
- PVC (E material) - Dark Gray

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 color coded. Polyester channels are colored gray and the vinyl ester channels are colored 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 color coded dark gray.

CHANNEL AVAILABILITY CHART

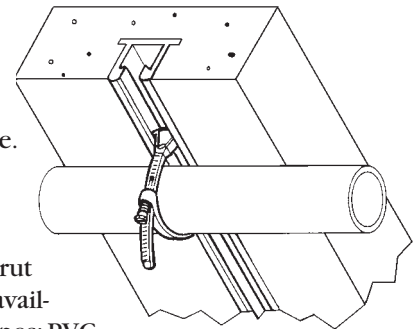
The following chart illustrates the availability of materials in the different channel profiles.

Channel Profile	Polyester (P) Vinyl Ester (V)	PVC (E)
Series 1000, 1000SST, 1200 1200SST, 2000, 2200, 2300	X	X
Series 1100, 1100SST, 1300, 1300SST, 1500, 1600, 1700, 1800	XX	N/A

CONCRETE EMBEDMENT CHANNEL

In certain applications, it is necessary to embed a corrosion resistant channel into a new pouring of concrete.

For these applications, Aickinstrut concrete embedment channel is recommended. Aickinstrut embedment channel is available in three material types; PVC,



polyester and vinyl ester. The PVC embedment channel is extruded as one piece while the polyester and vinyl ester embedment channel is a two piece bonded type design. The PVC embedment channel is available in the 1 $\frac{3}{8}$ " profile while polyester and vinyl ester embedment channels are available in all three profiles (1 $\frac{5}{8}$ ", 1 $\frac{1}{2}$ " & 1 $\frac{1}{8}$ ").

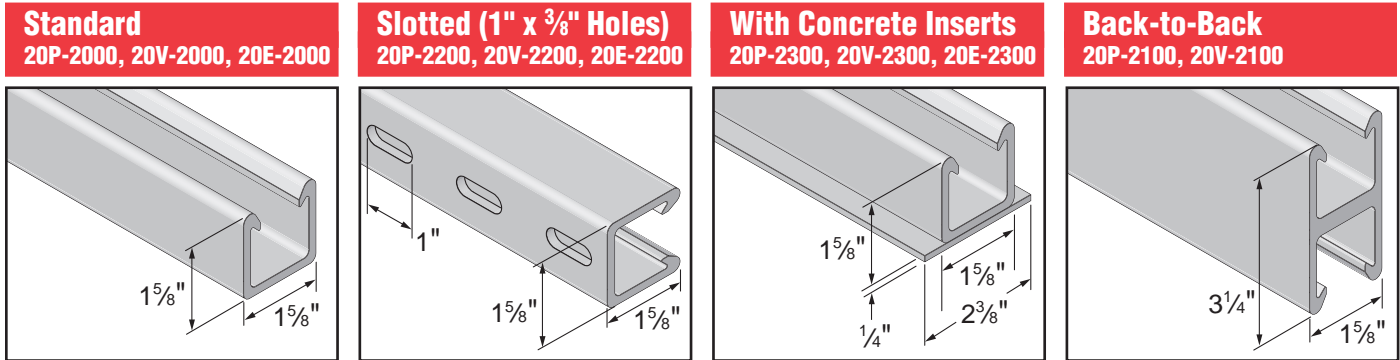
The embedment channel utilizes two continuous protruding flanges in the profile base to retain the channel in the concrete. Mounting the embedment channel flush with the concrete surface is a convenient way to secure piping, conduits or electrical enclosures to a wall or ceiling. The PVC embedment channel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

AICKINSTRUT SST CHANNEL

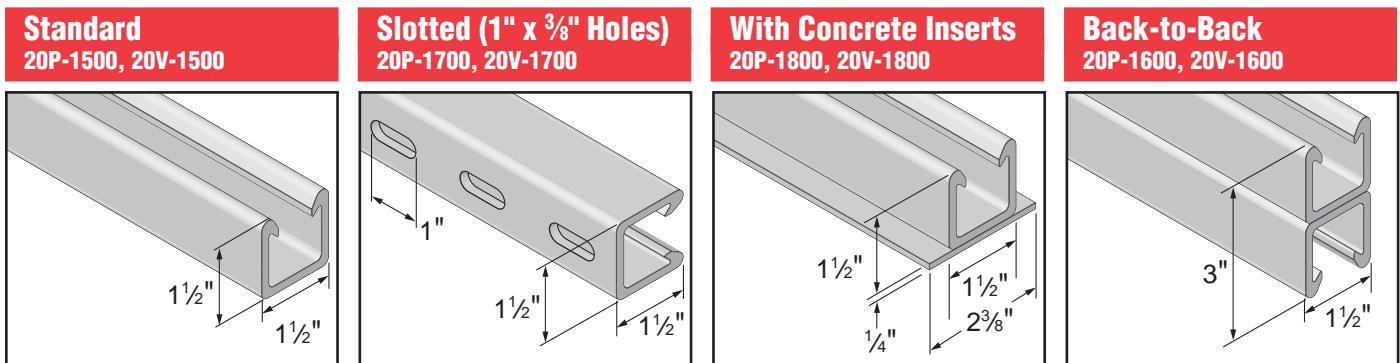
Aickinstrut SST Fiberglass Channel incorporates a standard channel profile that will accommodate metallic pipe straps and clamps. SST channel is available in polyester or vinyl ester resin. All standard styles (solid, slotted, concrete insert and back-to-back) are also available. Please contact the factory for loading information for the SST Channel.

NOTE: Aickinstrut SST Channel is not compatible with the Aickinstrut pipe clamps, channel nuts, and grooved fittings shown in this catalog. This profile is designed for use with metallic pipe straps and pipe clamps which are also available from Atkore.

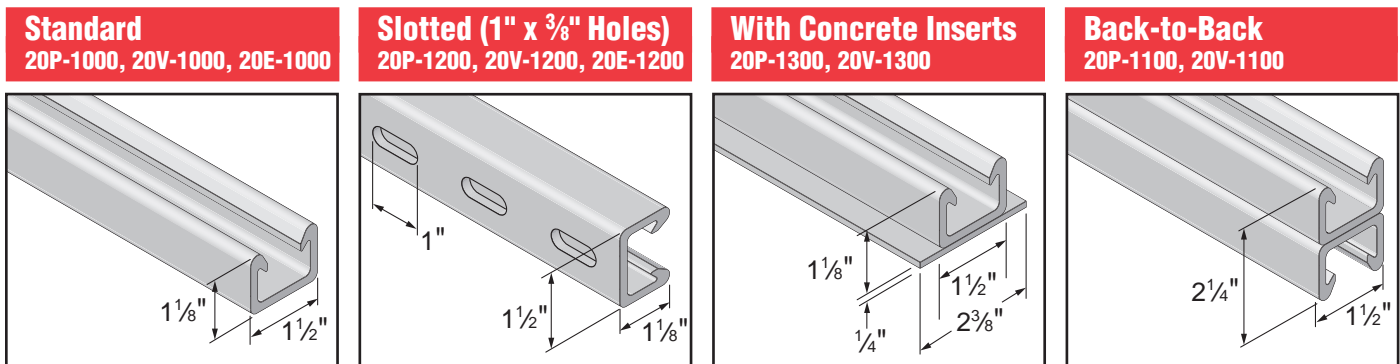
HEAVY DUTY CHANNEL – AICKINSTRUT PROFILE



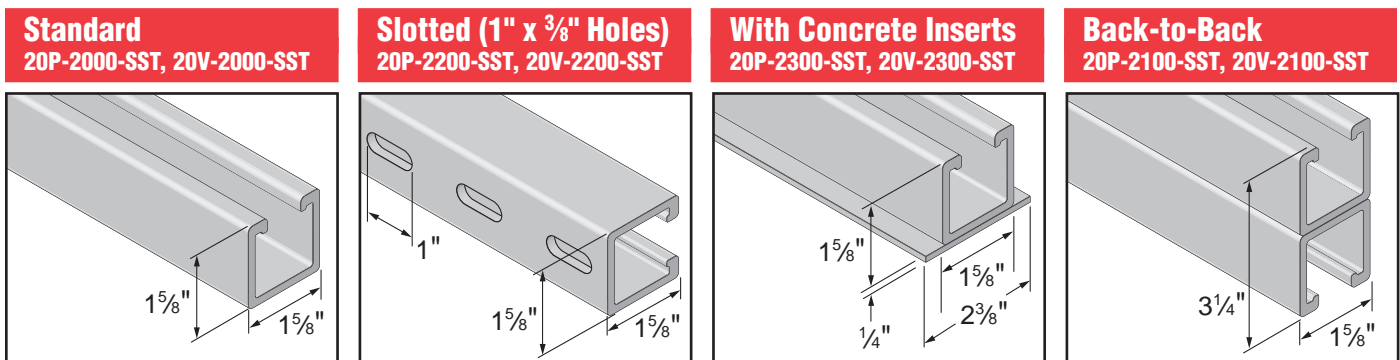
MEDIUM DUTY CHANNEL – AICKINSTRUT PROFILE



LIGHT DUTY CHANNEL – AICKINSTRUT PROFILE



HEAVY DUTY CHANNEL – STANDARD PROFILE



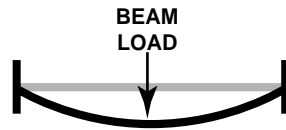
CHANNEL LOADING

Channel loading generally occurs in one of the following modes:

- beam
- column
- flange

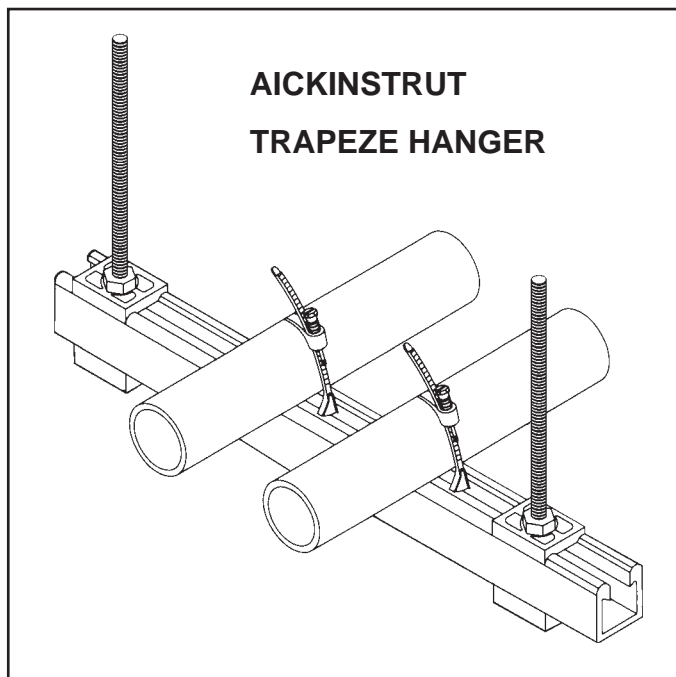
BEAM LOADING

Beam loading data reflects the maximum uniform load allowed when using the channel horizontally as in a trapeze hanger. Refer to the table on Page 13 for simple beam loading capacity of various channels. Use the beam loading conversion chart on page 12 to calculate loading capacity for other beam loading conditions.



The Aickinstrut Trapeze hanger is an example of beam loading. To calculate the maximum allowable beam load for an Aickinstrut 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.



BEAM LOADING – PVC

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

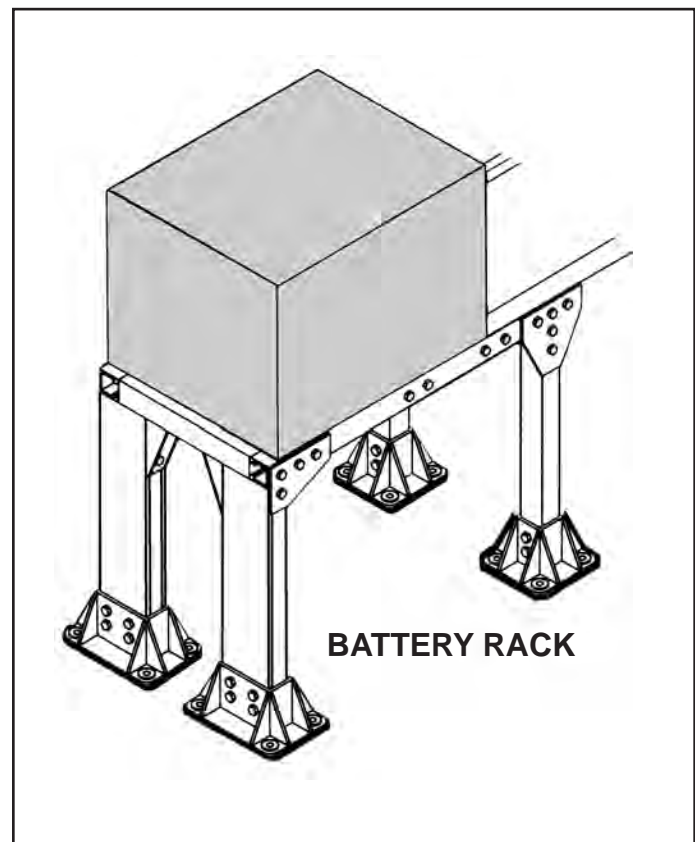
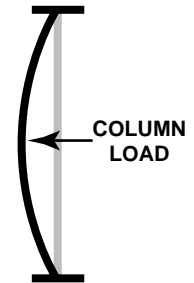
$$\text{PVC Beam Load} = \frac{(\text{Polyester/Vinyl Ester Beam Load})}{4}$$

NOTE: PVC is not recommended for lengths over 24”.

COLUMN LOADING

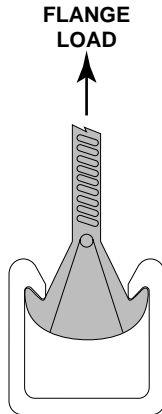
Column loads are forces applied directly to the end of the channel. Refer to the table on Page 13 for column loading capacity of various channels.

An example of a typical column load would be the pressure exerted on a leg of an Aickinstrut Battery Rack.



FLANGE LOADING

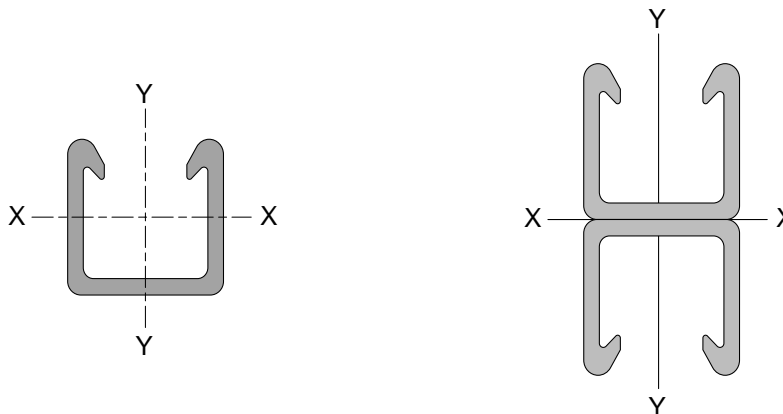
Pull-out strength is the channel's resistance to a clamp or fastener inserted under the flange and put under tension. For additional information concerning specific channels, materials and their pull-out strengths, refer to the channel flange pull-out chart on the right.



Heavy Duty Channel		Pull-Out Strength*
20V-2000		449
20P-2000		360
20E-2000		260
Medium Duty Channel		Pull-Out Strength*
20V-1500		229
20P-1500		219
Light Duty Channel		Pull-Out Strength*
20E-1000		239
20P-1000		213
20V-1000		213

*Values shown represent a 3:1 safety factor

SECTION PROPERTIES



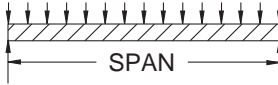


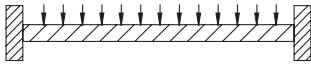

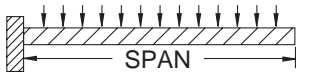

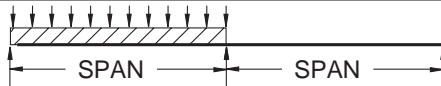
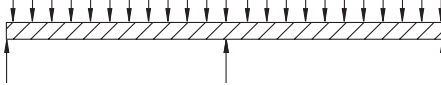


Section Number	Height (in.)	Width (in.)	Weight (lbs./ft.)	Area (in. ²)X - X AxisY - Y Axis.....		
					I (in. ⁴)	R (in.)	C ¹ (in.)	C ² (in.)	I (in. ⁴)	R (in.)	C (in.)
2000	1 ⁵ / ₈	1 ⁵ / ₈	0.82	1.06	0.31	0.54	0.70	0.93	0.42	0.63	0.82
2100	3 ¹ / ₂	1 ⁵ / ₈	1.64	2.12	1.77	0.91	1.63	1.63	0.85	0.63	0.82
1500	1 ¹ / ₂	1 ¹ / ₂	0.55	0.71	0.19	0.52	0.62	0.88	0.25	0.59	0.75
1600	3	1 ¹ / ₂	1.10	1.42	1.02	0.85	1.50	1.50	0.49	0.59	0.75
1000	1 ¹ / ₈	1 ¹ / ₂	0.47	0.61	0.10	0.40	0.51	0.62	0.22	0.60	0.75
1100	2 ¹ / ₂	1 ¹ / ₂	0.94	1.22	0.42	0.59	1.13	1.13	0.44	0.60	0.75

Channel Loading



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

EXAMPLE:

Determine load and deflection of a 30" 20P-2100 cantilever beam with a concentrated load on the end.

Solution:

- From the load table on the previous page, the maximum load for a 30" span is 2,224 lbs. and deflection for that load is 0.177".
- Multiply by factors from the table above.
 $Load = 2,224 \text{ lbs.} \times 0.12 = 267 \text{ lbs.}$
 $Deflection = 0.177" \times 3.20 = 0.566"$
- Thus, the 30" cantilever beam will support a maximum concentrated load of 267 lbs. on the end and that load will cause a 0.566" deflection.

Polyester/Vinyl Ester Beam Loading Chart

Span	Part Number	Max. Uniform Beam Load (Safety Factor - 3:1)		Uniform Load at Defl. of 1/360 Span		Maximum Column Load (lbs.)
		Load (lbs.)	Deflection (in.)	Load (lbs.)	Deflection (in.)	
12" Span	20P/V-2100	5,559	0.028	5,559	0.033	9,454
	20P/V-1600	4,836	0.043	3,778	0.033	7,007
	20P/V-1100	3,804	0.082	1,556	0.033	5,961
	20P/V-2000	3,561	0.102	1,159	0.033	5,160
	20P/V-1500	1,950	0.093	700	0.033	3,439
	20P/V-1000	1,629	0.151	359	0.033	2,759
18" Span	20P/V-2100	3,706	0.064	2,914	0.050	8,866
	20P/V-1600	3,224	0.096	1,697	0.050	6,501
	20P/V-1100	2,536	0.183	691	0.050	5,509
	20P/V-2000	2,374	0.230	515	0.050	4,704
	20P/V-1500	1,300	0.209	311	0.050	3,136
	20P/V-1000	1,086	0.340	160	0.050	2,351
24" Span	20P/V-2100	2,780	0.113	1,639	0.067	8,181
	20P/V-1600	2,418	0.171	944	0.067	5,909
	20P/V-1100	1,902	0.326	389	0.067	4,979
	20P/V-2000	1,781	0.410	290	0.067	4,168
	20P/V-1500	975	0.371	175	0.067	2,778
	20P/V-1000	815	0.605	90	0.067	1,862
30" Span	20P/V-2100	2,224	0.177	1,049	0.083	7,405
	20P/V-1600	1,934	0.267	604	0.083	5,236
	20P/V-1100	1,522	0.509	249	0.083	4,375
	20P/V-2000	1,424	0.640	185	0.083	3,553
	20P/V-1500	780	0.580	112	0.083	2,369
	20P/V-1000	652	0.945	57	0.083	1,298
36" Span	20P/V-2100	1,853	0.254	730	0.100	6,451
	20P/V-1600	1,612	0.384	420	0.100	4,482
	20P/V-1100	1,268	0.734	173	0.100	3,698
	20P/V-2000	1,187	0.922	129	0.100	2,859
	20P/V-1500	650	0.836	78	0.100	1,906
	20P/V-1000	543	1.360	40	0.100	901
48" Span	20P/V-2100	1,390	0.452	410	0.133	4,534
	20P/V-1600	1,209	0.683	236	0.133	2,809
	20P/V-1100	951	1.304	97	0.133	2,254
	20P/V-2000	890	1.638	72	0.133	1,636
	20P/V-1500	488	1.486	44	0.133	1,091
	20P/V-1000	407	2.418	22	0.133	507
60" Span	20P/V-2100	1,112	0.707	262	0.167	2,902
	20P/V-1600	967	1.067	151	0.167	1,798
	20P/V-1100	761	2.038	62	0.167	1,442
	20P/V-2000	712	2.560	46	0.167	1,047
	20P/V-1500	390	2.321	28	0.167	698
	20P/V-1000	326	3.779	14	0.167	324
72" Span	20P/V-2100	927	1.018	182	0.200	2,015
	20P/V-1600	806	1.536	105	0.200	1,248
	20P/V-1100	634	2.935	43	0.200	1,001
	20P/V-2000	594	3.686	32	0.200	727
	20P/V-1500	325	3.343	19	0.200	485
	20P/V-1000	272	5.441	10	0.200	225

CHANNEL FITTINGS

Aickinstrut Channel Fittings are required to fabricate an Aickinstrut structure and are easily attached to Aickinstrut 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 or vinyl ester material. All molded fittings with the exception of the post bases are molded in polyurethane. Post bases are also offered in polypropylene.

The 2500 Series Fittings are manufactured from $\frac{3}{8}$ " flat material. The 2800 Series Fittings are manufactured from $\frac{3}{8}$ " flat material and feature grooves which stabilize the fittings when mounted to the open side of the channel. All channel fittings are provided with $1\frac{3}{32}$ " holes which accommodate $\frac{3}{8}$ " hardware, however several of the new molded fittings come with $\frac{9}{16}$ " holes 50PU-2616, 50PU-2611, and 50PU-2613. Larger diameter holes can be provided upon special request.

Legend

R = Right Hand

L = Left Hand

P Series Fittings are Grey

V Series Fittings are Beige

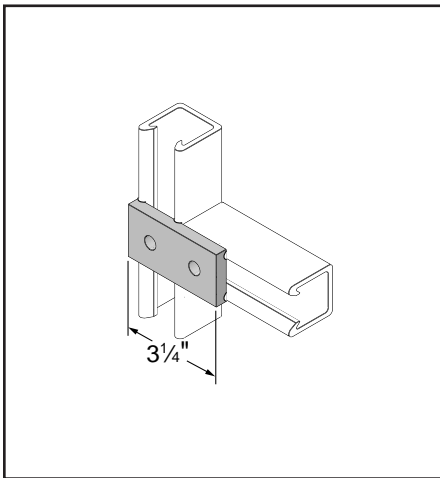
2500 Series - Flat

2800 Series - Grooved

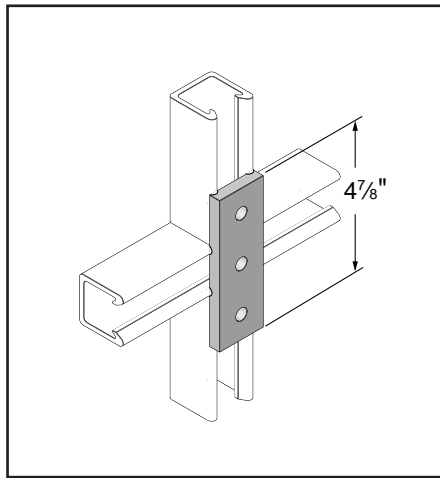
NOTE

Illustrations depict grooved channel fittings.

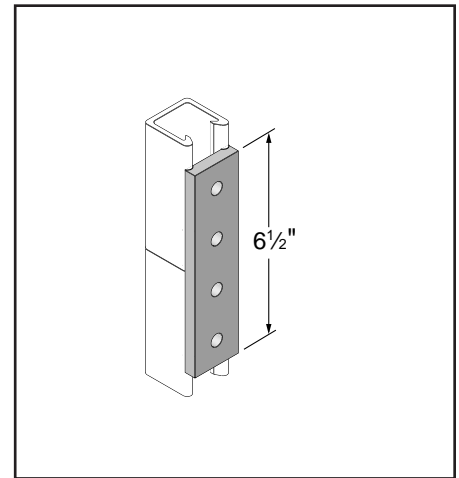
20P-2500, 20V-2500 (Flat)
20P-2800, 20V-2800 (Grooved)



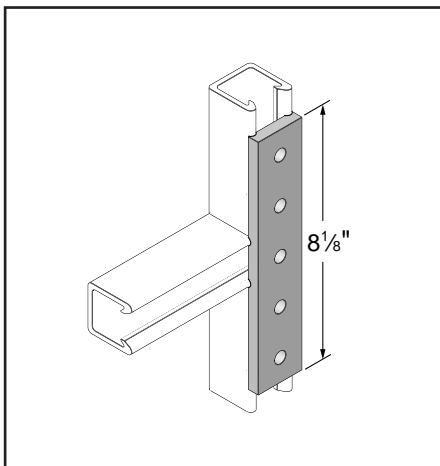
20P-2502, 20V-2502 (Flat)
20P-2802, 20V-2802 (Grooved)



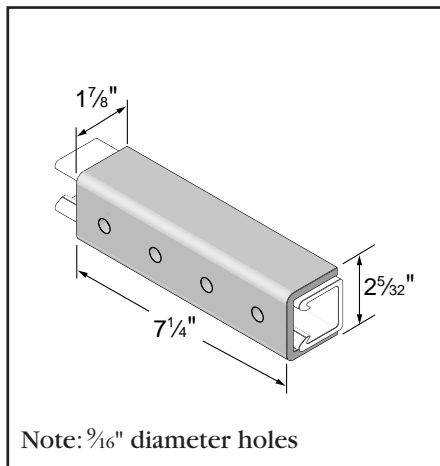
20P-2504, 20V-2504 (Flat)
20P-2804, 20V-2804 (Grooved)



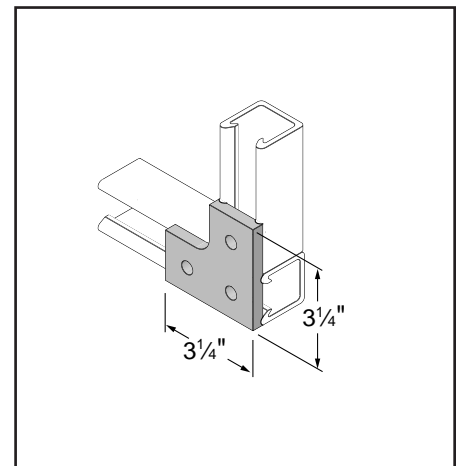
20P-2506, 20V-2506 (Flat)
20P-2806, 20V-2806 (Grooved)



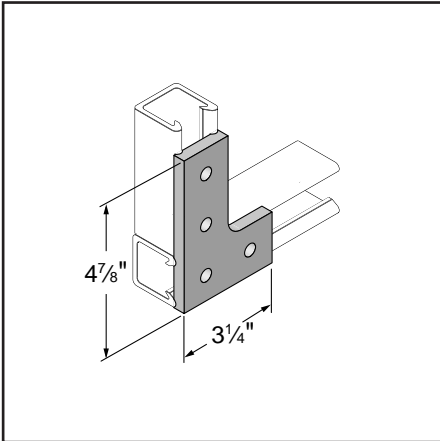
50PU-2616



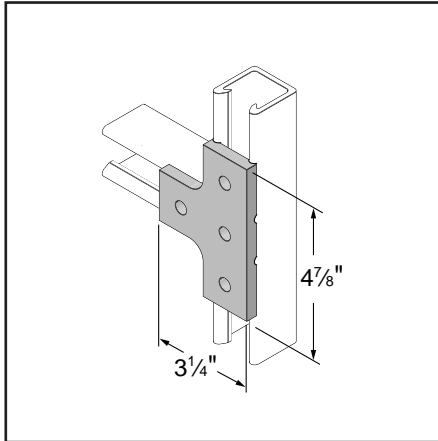
20P-2508, 20V-2508 (Flat)
20P-2808, 20V-2808 (Grooved)



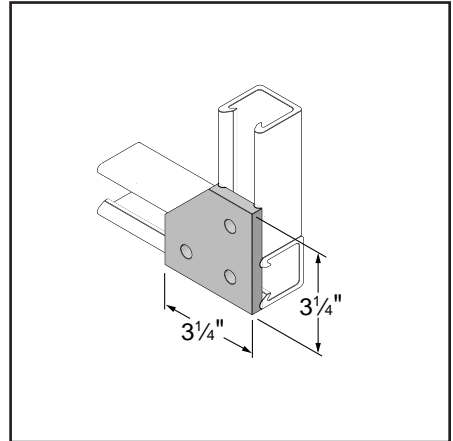
20P-2510, 20V-2510 (Flat)
20P-2810R, 20V-2810R (Grooved)
20P-2810L, 20V-2810L (Grooved)



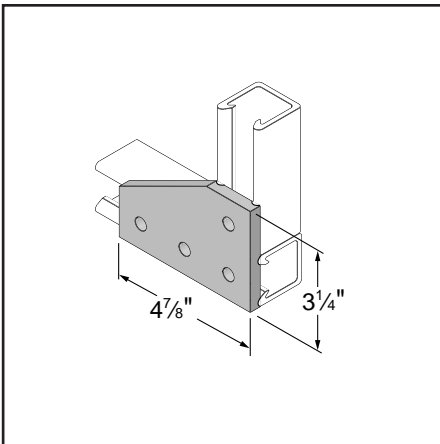
20P-2512, 20V-2512 (Flat)
20P-2812, 20V-2812 (Grooved)



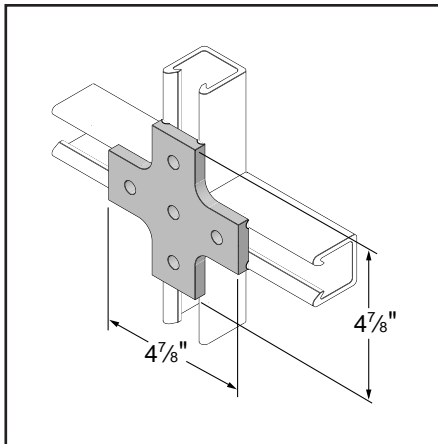
20P-2514, 20V-2514 (Flat)
20P-2814, 20V-2814 (Grooved)



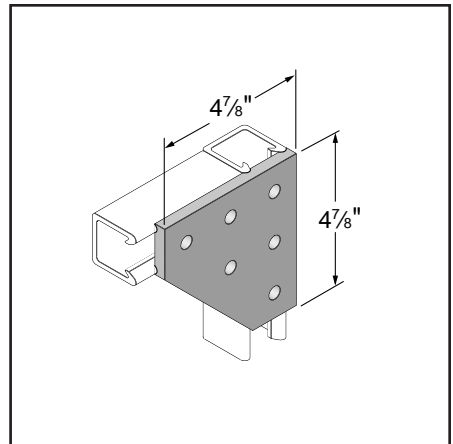
20P-2516, 20V-2516 (Flat)
20P-2816R, 20V-2816R (Grooved)
20P-2816L, 20V-2816L (Grooved)



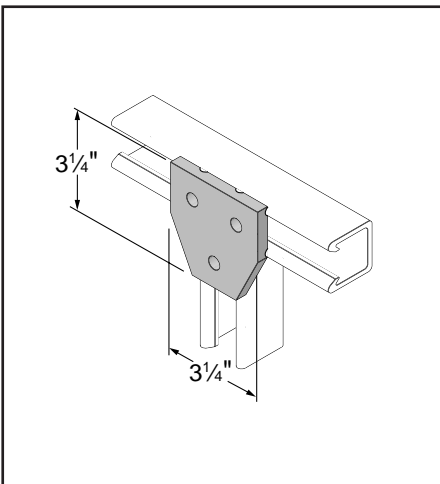
20P-2518, 20V-2518 (Flat)
20P-2818, 20V-2818 (Grooved)



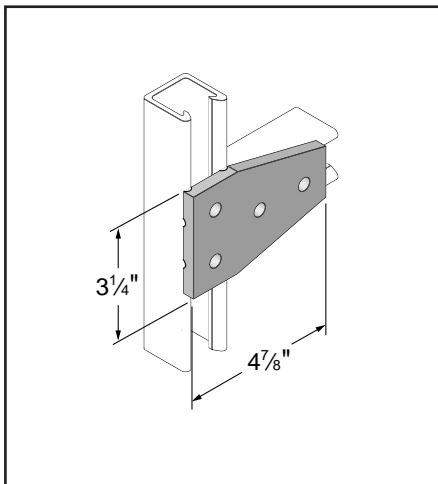
20P-2520, 20V-2520 (Flat)
20P-2820, 20V-2820 (Grooved)



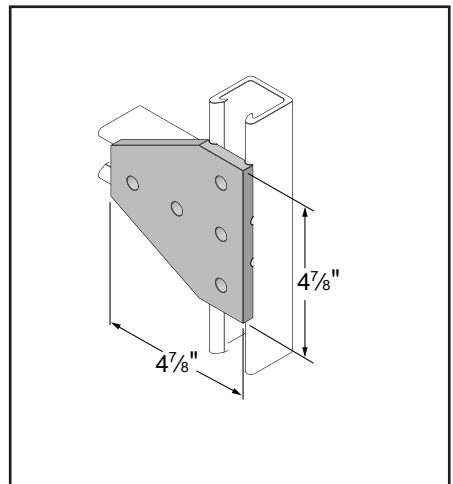
20P-2522, 20V-2522 (Flat)
20P-2822, 20V-2822 (Grooved)



20P-2524, 20V-2524 (Flat)
20P-2824, 20V-2824 (Grooved)



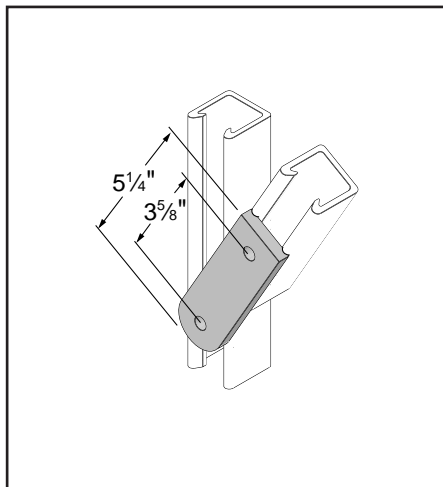
20P-2526, 20V-2526 (Flat)
20P-2826, 20V-2826 (Grooved)



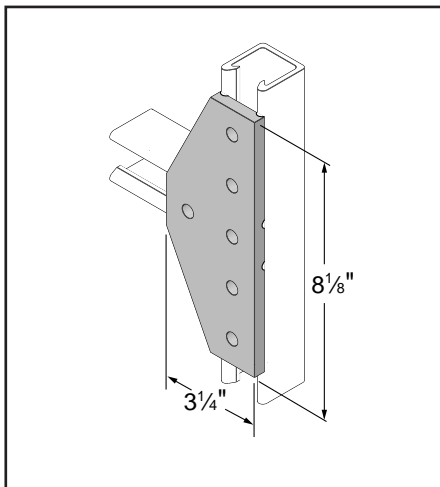
Channel Fittings



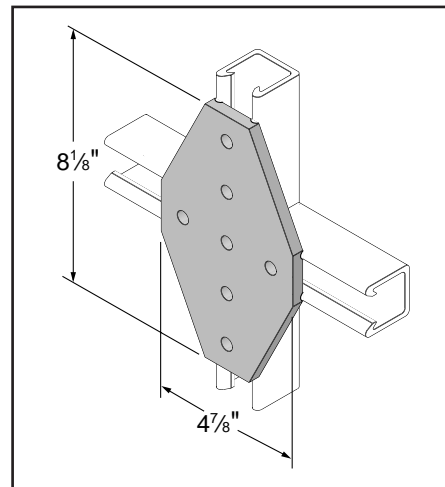
20P-2528, 20V-2528 (Flat)
20P-2828, 20V-2828 (Grooved)



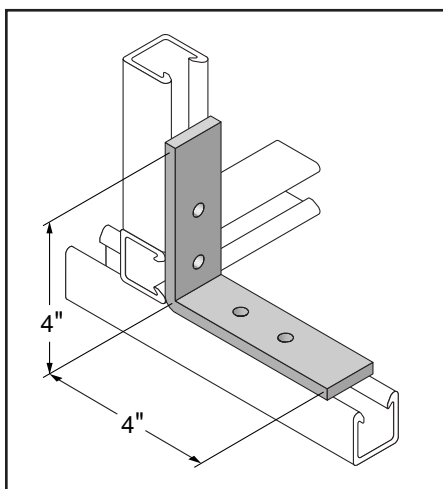
20P-2530, 20V-2530 (Flat)
20P-2830, 20V-2830 (Grooved)



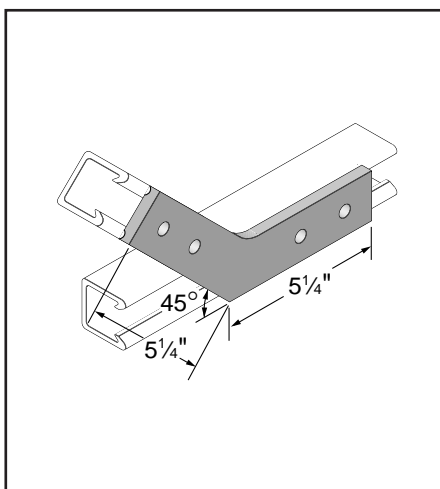
20P-2534, 20V-2534 (Flat)
20P-2834, 20V-2834 (Grooved)



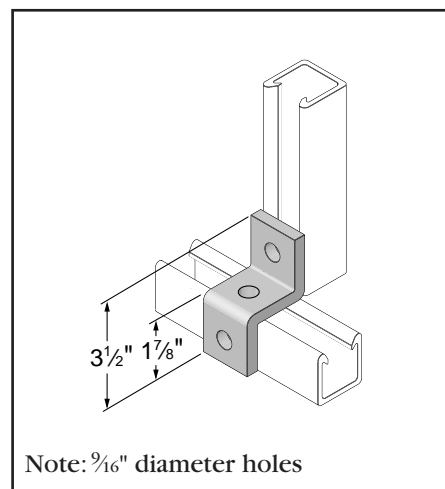
20P-2541, 20V-2541 (Flat)



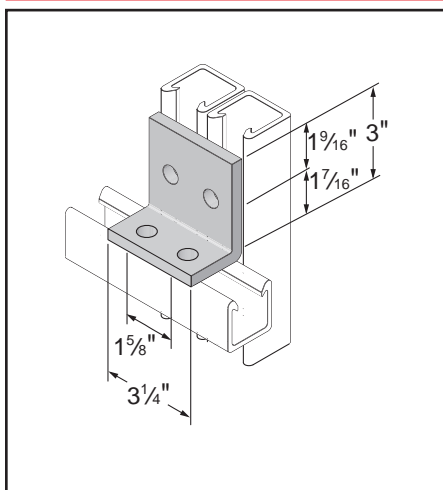
20P-2540, 20V-2540 (Flat)
20P-2840, 20V-2840 (Grooved)



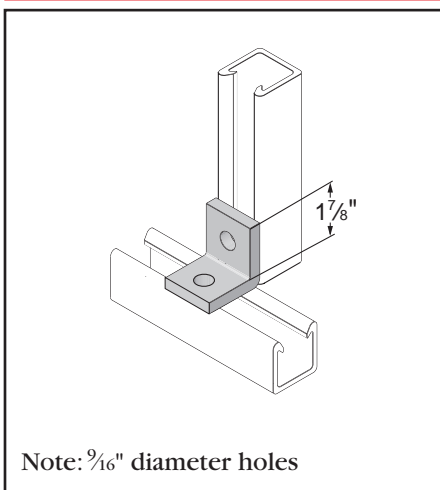
50PU-2611 (Flat)



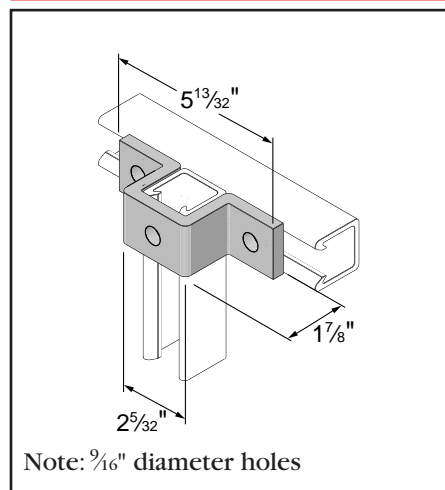
20P-2542, 20V-2542 (Flat)



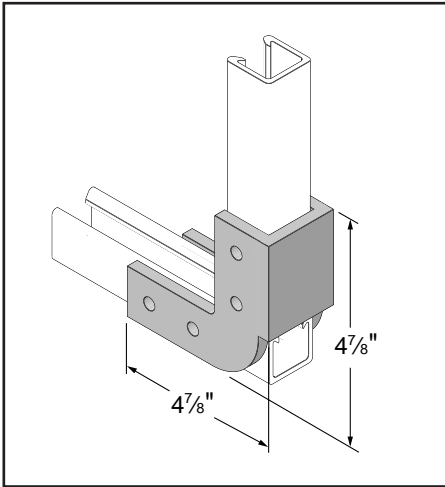
50PU-2611-SP



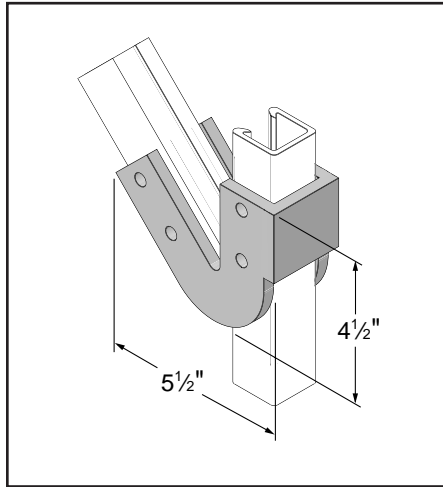
50PU-2613 (Flat)



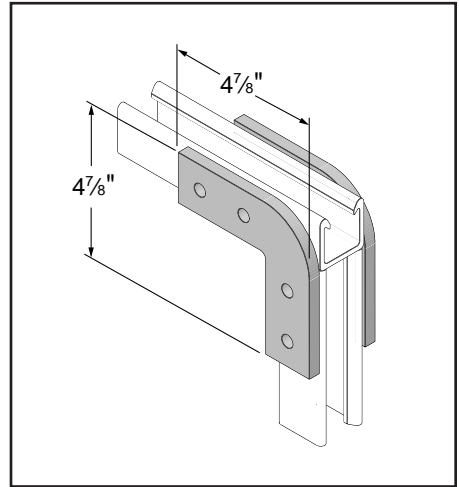
50PU-1508 (1½")
50PU-2008 (1⅝")



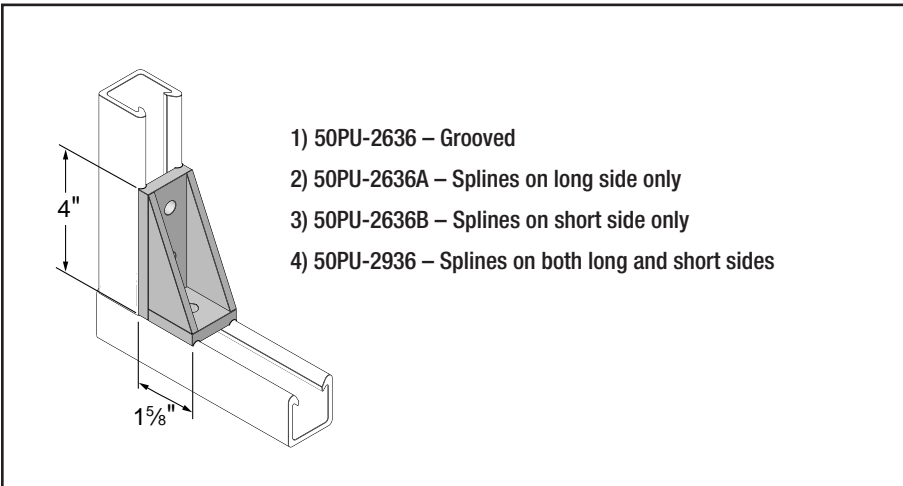
50PU-2045 (1⅝")



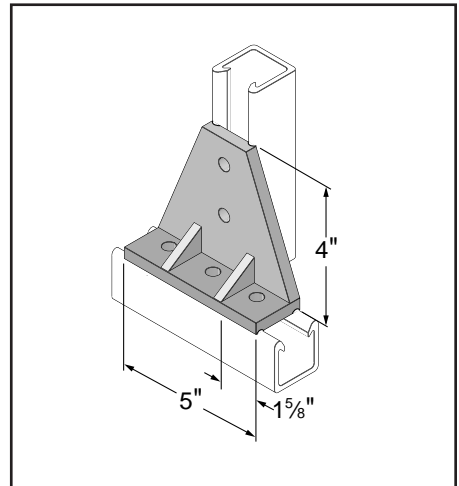
50PU-2090 (1⅝")



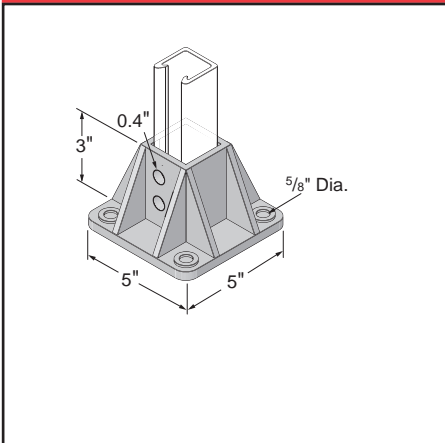
50PU-2636¹, 50PU-2636A², 50PU-2636B³, 50PU-2936⁴



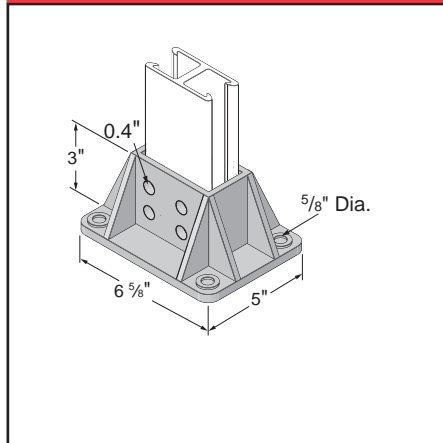
50PU-2538 (Flat)



20PU-5853 (1⅝"), 20PU-5854 (1½"),
20PU-5855 (1⅞"), 20PP-5853 (1⅝"),
20PP-5854 (1½"), 20PP-5855 (1⅞")



20PU-5903 (3¼"), 20PU-5904 (3"),
20PU-5905 (2¼"), 20PP-5903 (3¼"),
20PP-5904 (3"), 20PP-5905 (2¼")

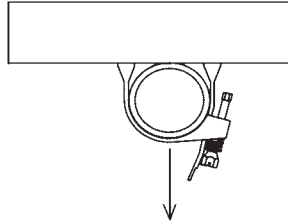


AICKINCLAMPS DESIGN LOAD INFORMATION

There are two types of piping system loadings, overhead (Type 1) and vertical (Type 2) as described below. All Aickinstrut pipe straps and clamps show the recommended loading for both types of loading.

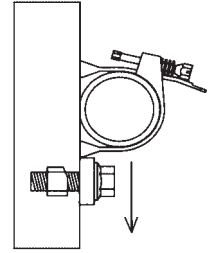
Type 1 Design Load

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



Type 2 Design Load

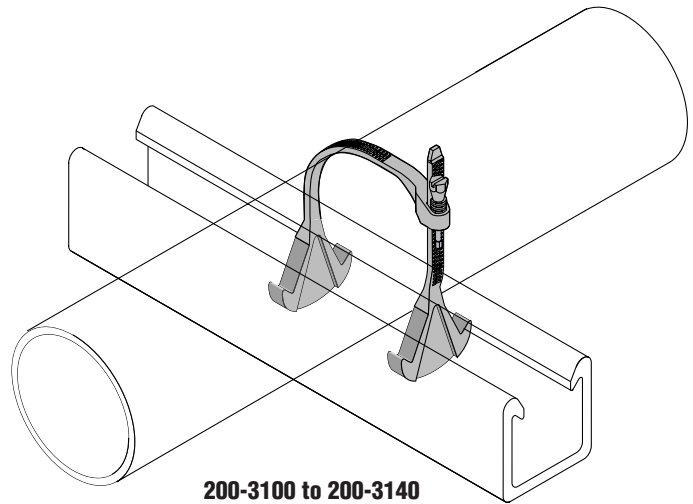
The design loading shown can be achieved with the addition of a vertical stop lock assembly (Part #200-4219) installed directly beneath the pipe clamp. The adjacent illustration shows how the vertical stop lock provides additional support for pipe and how it can be used to achieve full Type 2 design loads.



Design loads are based on a minimum clamp slip safety factor of 3:1. It is recommended that stop lock assemblies be used for all vertical pipe support applications.

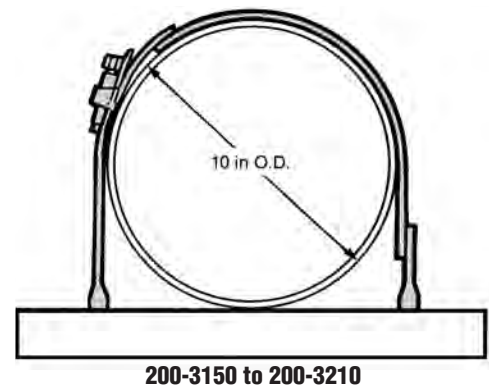
Adjustable Pipe Clamps

Aickinstrut Adjustable Pipe Clamps are manufactured from glass-reinforced polyurethane and are adjustable to accommodate a wide 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. Aickinclamps sized 6½" - 20" are to be used only in non-load bearing applications. These are applications where the weight of the pipe is being supported by Aickinstrut structural members (see figure on right). Aickinclamps can safely be used in temperatures up to 160°F. For operating temperatures of 160-230°F, it is recommended to use PVDF clamps. PVDF clamps are available as a special order. Contact the factory for pricing and availability. Care should be taken not to exceed 3 ft./lbs. of torque on the adjustable pipe straps.



Part Number	O.D. Pipe Size (in.)	Design Load (lbs.)*		Torque (ft./lbs.)
		Type 1	Type 2	
200-3100	½ - 1½	135	65	10 in./lbs.
200-3110	1½ - 2¼	135	65	3
200-3120	2¼ - 3¼	145	70	3
200-3130	3 - 4	215	70	3
200-3140	4 - 6½	215	70	3

*Design loads shown represent a 3:1 safety factor.



Rigid Pipe Clamps

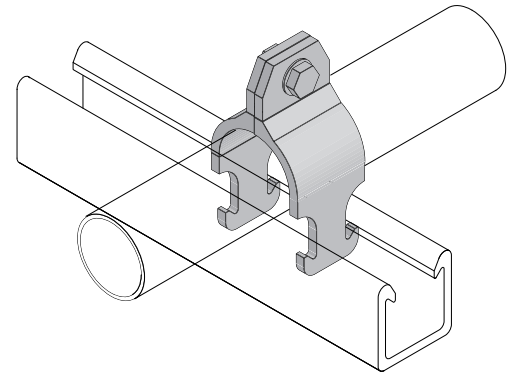
Aickinstruct Rigid Pipe Clamps resemble the more traditional style of pipe clamps. These clamps are made from glass-reinforced polyurethane and are sized based on the pipe inside diameter or nominal size.

Polyurethane clamps are recommended for applications up to 160°F. For high temperature applications (up to 230°F), PVDF clamps are available as a special order. Contact the factory for pricing and availability.

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		
PCR-050	1/2	0.840	225	90	3/8 x 1 1/4	3
PCR-075	3/4	1.050	225	90	3/8 x 1 1/4	3
PCR-100	1	1.315	225	90	3/8 x 1 1/4	3
PCR-125	1 1/4	1.660	225	90	3/8 x 1 1/4	3
PCR-150	1 1/2	1.900	225	90	3/8 x 1 1/4	3
PCR-200	2	2.375	225	90	3/8 x 1 1/4	3
PCR-250	2 1/2	2.875	225	90	3/8 x 1 1/4	3
PCR-300	3	3.500	225	90	3/8 x 1 1/4	3
PCR-400	4	4.500	300	125	3/8 x 1 1/4	3
PCR-600	6	6.625	300	125	3/8 x 1 1/4	3
PCR-800	8	8.625	300	125	3/8 x 1 1/4	3

*Design loads shown represent a 3:1 safety factor.



Two Hole Pipe Straps

Aickinstruct Two Hole Pipe Straps are designed for use in securing pipe, conduit and ducts to Aickinstruct Channel. 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.

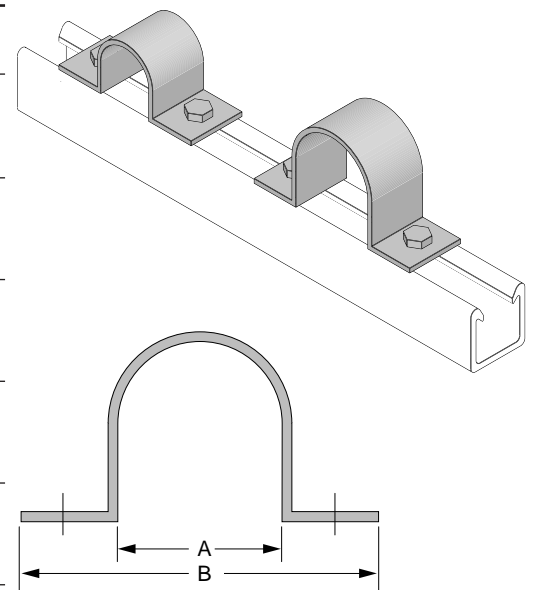
The two hole pipe straps are manufactured from a fire-retardant, glass reinforced polyester resin. For extreme

chemical environments, the straps can be manufactured from vinyl ester resin. Larger diameter straps for special applications are also available. Contact the factory for pricing and availability of vinyl ester and large diameter straps. Two hole pipe straps should not be torqued above recommended values.

Part Number	Dimension		Bolt Size (in.)	Material Size (in.)	Design Load (lbs)*		Torque (ft./lbs.)
	A (in.)	B (in.)			Type 1	Type 2	
PS050	0.840	4.840	1/2	1/4 x 1 5/8	135	50	4
PS075	1.050	5.050	1/2	1/4 x 1 5/8	135	50	4
PS100	1.315	5.315	1/2	1/4 x 1 5/8	135	50	4
PS150	1.900	5.900	1/2	1/4 x 1 5/8	135	50	4
PS200	2 3/8	6.375	1/2	1/4 x 1 5/8	135	50	4
PS250	2 7/8	6.875	1/2	1/4 x 1 5/8	135	50	4
PS300	3 1/2	7.500	1/2	1/4 x 1 5/8	135	50	4
PS350	4	8.000	1/2	1/4 x 1 5/8	135	50	4
PS400	4 1/2	8.500	1/2	1/4 x 1 5/8	175	60	4
PS500	5 9/16	9.563	1/2	1/4 x 1 5/8	175	60	4
PS600	6 5/8	10.625	1/2	1/4 x 1 5/8	175	60	4
PS800	8 5/8	12.625	1/2	1/4 x 1 5/8	225	125	4
PS1000	10 3/4	15.750	5/8	1/4 x 1 5/8	225	125	10
PS1200	12 3/4	16.250	5/8	1/4 x 1 5/8	225	125	10
PS1400	14	18.000	5/8	3/8 x 1 5/8	250	150	10
PS1600	16	20.000	5/8	3/8 x 1 5/8	250	150	10
PS1800	18	23.000	5/8	3/8 x 1 5/8	250	150	10

*Design loads shown represent a 3:1 safety factor.

Notes: Bolts and channel nuts are sold separately.

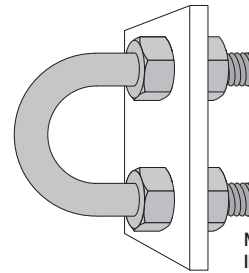


When bolting onto 1 5/8" or 1 1/2" channel a 1/4" long bolt is required.

Nonmetallic U-bolts

Aickinstrut Nonmetallic 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. Nonmetallic U-Bolts have oversized diameters which allow them to hold steel conduit and plastic pipe.

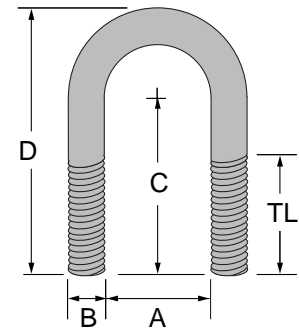
Each U-Bolt comes with two polyurethane hex nuts. Additional nuts and washers can be purchased separately.



The U-Bolts can also be installed to allow for thermal expansion and contraction of plastic pipe as shown here.

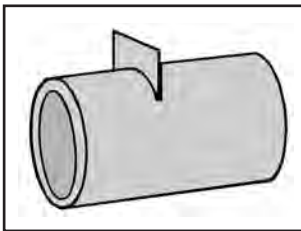
Note: Plate not included. Illustration purpose only

Part Number	Size (in.)	"A" Dim.	"B" Dim.	"C" Dim.	"D" Dim.	"TL" Dim.	Load (lbs.)*	Torque (in./lbs.)*
UB-050	1/2	0.937	0.375	1.568	2.412	1.25	135	40
UB-075	3/4	1.125	0.375	1.662	2.600	1.25	135	40
UB-100	1	1.375	0.375	1.787	2.850	1.25	135	40
UB-125	1 1/4	1.687	0.375	1.943	3.162	1.25	135	40
UB-150	1 1/2	2.000	0.375	2.100	3.475	1.25	135	40
UB-200	2	2.437	0.500	2.468	4.187	1.50	135	80
UB-250	2 1/2	2.937	0.500	2.718	4.687	1.50	135	80
UB-300	3	3.562	0.500	3.031	5.312	1.50	135	80
UB-350	3 1/2	4.062	0.500	3.281	5.812	1.50	135	80
UB-400	4	4.562	0.500	3.531	6.312	1.50	135	80
UB-600	6	6.750	0.625	5.750	9.875	3.25	135	120

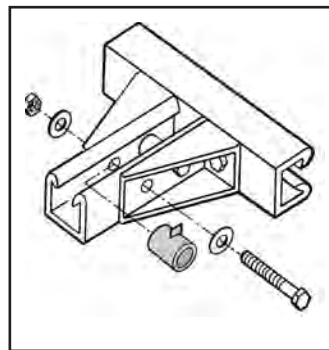


*Torque and load values shown represent a 3:1 safety factor.

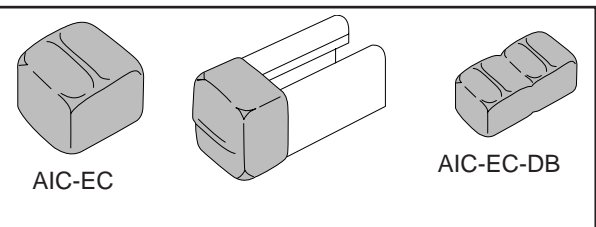
Channel Spacers 50PU-500SP



Channel spacers are designed to prevent wall compression under heavy loading conditions. Such loading occurs during the torquing of hardware for channel fittings. The spacers are molded from polyurethane and will accommodate 3/8" and 1/2" bolts. The spacers are designed to be used only with 1 5/8" and 1 1/2" channels.

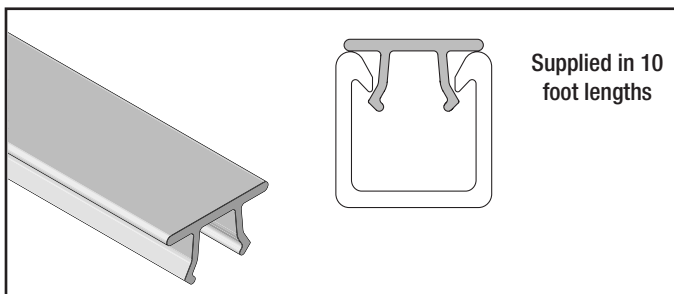


Channel End Cap AIC-EC



The Aickin-End Cap is made from red PVC and designed for 1 5/8" channel. End caps are desired when the ends of the channel need to be enclosed. The Aickin-End Cap easily installs by pressing it onto the end of the channel opening.

Channel Capping Strip 20E-5000



Supplied in 10 foot lengths

Channel Capping Strip is made from PVC and 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 concrete embedment channel).

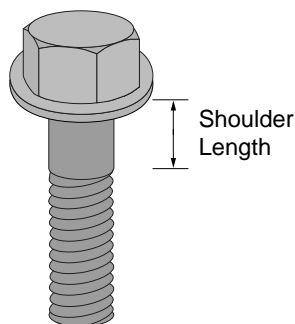


Fiberfast Bolts

Fiberfast bolts are provided in two styles and five diameters ($\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ " and $\frac{3}{4}$ ") and range in length from $1\frac{1}{4}$ " to $3\frac{1}{2}$ ". The flanged style incorporates a molded washer collar which eliminates the need for a washer. The flanged style is provided for $\frac{1}{4}$ " and $\frac{1}{2}$ " diameter bolts. Flanged bolts are available in $\frac{3}{8}$ " diameter as a special order item. The hex head style is provided for all $\frac{3}{8}$ ", $\frac{5}{8}$ " and $\frac{3}{4}$ " diameter bolts. All Fiberfast bolts are not fully threaded, therefore, shoulder

length (nonthreaded portion) dimensions have been provided. Fiberfast bolts are ideal for mechanical connections that require a high degree of corrosion resistance. The $\frac{3}{8}$ " diameter fasteners are recommended for all channel fitting mechanical connections. All Fiberfast bolts are manufactured from glass-reinforced polyurethane and are packaged in bags containing 25 pieces.

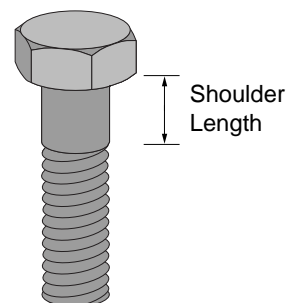
Hex Flange Bolts



Part Number	Size (in.)	Thread Shear (lbs.)*	Shank Shear (lbs.)*	Shoulder Length (in.)	Torque (ft./lbs.)
250PU-075	$\frac{1}{4}$ x $\frac{3}{4}$	110	210	Full Thread	10 In./lbs.
250PU-100	$\frac{1}{4}$ x 1	110	210	Full Thread	10 In./lbs.
250PU-150	$\frac{1}{4}$ x $1\frac{1}{2}$	110	210	$\frac{1}{2}$	10 In./lbs.
500PU-125	$\frac{1}{2}$ x $1\frac{1}{4}$	450	870	Full Thread	8
500PU-150	$\frac{1}{2}$ x $1\frac{1}{2}$	450	870	Full Thread	8
500PU-200	$\frac{1}{2}$ x 2	450	870	$\frac{3}{4}$	8
500PU-250	$\frac{1}{2}$ x $2\frac{1}{2}$	450	870	$\frac{3}{4}$	8
500PU-300	$\frac{1}{2}$ x 3	450	870	1	8
500PU-350	$\frac{1}{2}$ x $3\frac{1}{2}$	450	870	$2\frac{3}{16}$	8

*Thread shear values shown represent a 3:1 safety factor.

Hex Bolts

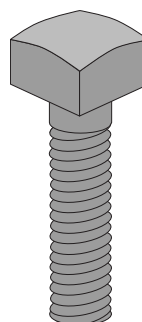


Part Number	Size (in.)	Thread Shear (lbs.)*	Shank Shear (lbs.)*	Shoulder Length (in.)	Torque (ft./lbs.)
375PU-125	$\frac{3}{8}$ x $1\frac{1}{4}$	250	470	Full Thread	3
375PU-150	$\frac{3}{8}$ x $1\frac{1}{2}$	250	470	$\frac{1}{4}$	3
375PU-200	$\frac{3}{8}$ x 2	250	470	$\frac{1}{2}$	3
375PU-250	$\frac{3}{8}$ x $2\frac{1}{2}$	250	470	$\frac{3}{4}$	3
375PU-300	$\frac{3}{8}$ x 3	250	470	1	3
625PU-125	$\frac{5}{8}$ x $1\frac{1}{4}$	700	1,360	$\frac{1}{4}$	12
625PU-150	$\frac{5}{8}$ x $1\frac{1}{2}$	700	1,360	$\frac{1}{4}$	12
625PU-200	$\frac{5}{8}$ x 2	700	1,360	$\frac{1}{4}$	12
625PU-250	$\frac{5}{8}$ x $2\frac{1}{2}$	700	1,360	$\frac{1}{4}$	12
625PU-300	$\frac{5}{8}$ x 3	700	1,360	$\frac{1}{4}$	12
625PU-350	$\frac{5}{8}$ x $3\frac{1}{2}$	700	1,360	$1\frac{1}{4}$	12

*Thread shear values shown represent a 3:1 safety factor.

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 $\frac{3}{8}$ " diameter but can be supplied in other diameters as a special order. Contact the factory for pricing and availability of special diameter square head bolts.



Part Number	Size (in.)	Thread Shear (lbs.)*	Torque (ft./lbs.)*
375V-100	$\frac{3}{8}$ x 1	250	10
375V-125	$\frac{3}{8}$ x $1\frac{1}{4}$	250	10
375V-150	$\frac{3}{8}$ x $1\frac{1}{2}$	250	10
375V-175	$\frac{3}{8}$ x $1\frac{3}{4}$	250	10
375V-200	$\frac{3}{8}$ x 2	250	10
375V-250	$\frac{3}{8}$ x $2\frac{1}{2}$	250	10
375V-300	$\frac{3}{8}$ x 3	250	10
375V-350	$\frac{3}{8}$ x $3\frac{1}{2}$	250	10
375V-400	$\frac{3}{8}$ x 4	250	10

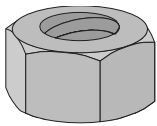
*Thread shear values shown represent a 3:1 safety factor.

Fiberfast Hex Nuts

Aickinstrut hex nuts are available in two styles; hex and hex flange nuts. The Aickinstrut hex nut is similar in design to the conventional hex nut and is preferred for channel fitting connections. The Aickinstrut 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 the factory for pricing and availability.

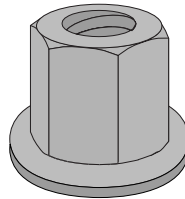
Hex Nuts



Part Number	Size (in.)	Thread		
		Shear (lbs.)*	Height (in.)	Torque (ft./lbs.)
250PU-000	1/4-20	150	0.218	10 in./lbs.
375PU-000	3/8-16	460	0.328	3
500PU-000	1/2-13	800	0.437	8
625PU-000	5/8-11	1,000	0.546	12
750PU-000	3-10	1,000	0.640	15
1000PU-000	1-8	1,100	0.859	17

*Thread shear values shown represent a 3:1 safety factor.

Hex Flange Nuts

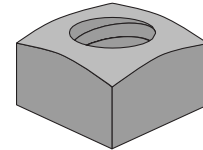


Part Number	Size (in.)	Thread		
		Shear (lbs.)*	Height (in.)	Torque (ft./lbs.)
375PU-FN-000	3/8-16	500	0.750	3
500PU-FN-000	1/2-13	1,200	0.855	8
625PU-FN-000	5/8-11	2,200	1.220	12
750PU-FN-000	3/4-10	2,900	1.590	15
1000PU-FN-000	1-8	2900	1.75	17

*Thread shear values shown represent a 3:1 safety factor.

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.

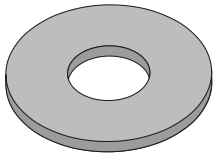


Part Number	Size (in.)	Thread		
		Shear (lbs.)*	Height (in.)	Torque (ft./lbs.)
375V-000	3/8-16	1,300	0.437	10
500V-000	1/2-13	1,700	0.562	10
625V-000	5/8-11	1,700	0.687	10
750V-000	3/4-10	1,700	0.812	10
1000V-000	1-8	1,700	0.937	10

*Thread shear values shown represent a 3:1 safety factor.

Flat Washers

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

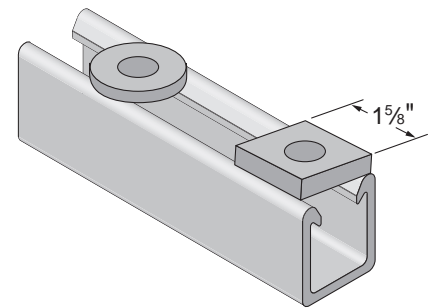


Part Number	Size (in.)	Outside Diameter (in.)
250E-999	1/4	0.49
375E-999	3/8	1.00
500E-999	1/2	1.25
625E-999	5/8	1.50
750E-999	3/4	1.50
1000E-999	1	2.25

All-Thread Washers

Aickinstrut All-Thread Washers are flat fiberglass washers for use with FRP all-thread rods. All-Thread rod washers are 1/4" thick with a 1-7/8" diameter and are available in polyester or vinyl ester resin.

To order vinyl ester, add the suffix "V" to the part number.



Part Number Round Washer*	Part Number Square Washer	All-Thread Rod Size (in.)
WR375	WR375SQ	3/8
WR500	WR500SQ	1/2
WR625	WR625SQ	5/8
WR750	WR750SQ	3/4

* Add the suffix "V" to the part number to specify vinyl ester
Example "WR500V"

* Add the suffix "-SQ" to the part number to specify square washer
Example "WR500-SQ"

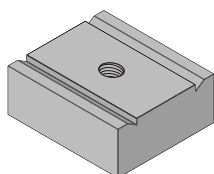


Channel Nuts

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 sizes of Aickinstrut Channel. Heavy duty channel nuts are designed to be used where high thread shear values or

spring nuts are required. Heavy duty channel nuts can not be used with Series 1000 Channel (light duty). All channel nuts are manufactured from glass-reinforced polyurethane and are packaged in bags containing 25 pieces. Channel nuts are also available in PVDF as a special order. Contact the factory for pricing and availability.

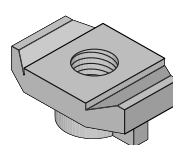
Heavy Duty Channel Nuts



Part Number	Size (in.)	Thread Shear (lbs.)*	Torque (ft./lbs.)
375PU-CNHD	3/8-16	1,400	8
500PU-CNHD	1/2-13	1,400	8
625PU-CNHD	5/8-11	1,400	10
750PU-CNHD	3/4-10	1,400	10
10PU-CNMHD	10 mm	1,400	8
12PU-CNMHD	12 mm	1,400	8
16PU-CNMHD	16 mm	1,400	10
20PU-CNMHD	20 mm	1,400	10

*Thread shear values shown represent a 3:1 safety factor.

Standard Duty Channel Nuts

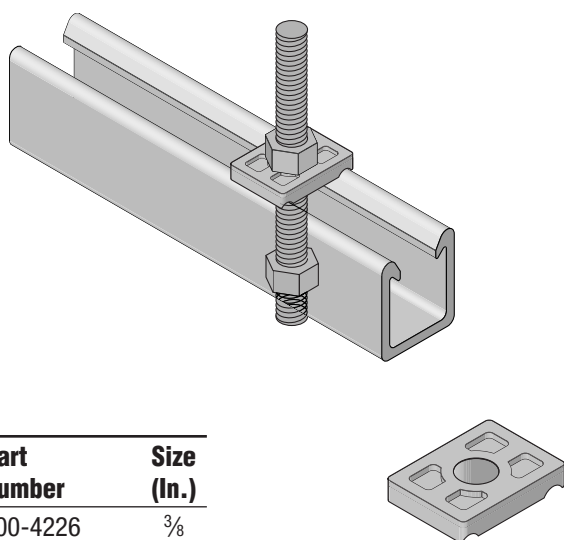


Part Number	Size (in.)	Thread Shear (lbs.)*	Torque (ft./lbs.)
250PU-CN	1/4-20	460	2
312PU-CN	5/16-18	460	2
375PU-CN	3/8-16	460	3
500PU-CN	1/2-13	460	3
10PU-CN	10 mm	460	3
12PU-CN	12 mm	460	3
10PU-CNS	#10 Screw	460	N/A

*Thread shear values shown represent a 3:1 safety factor.

Saddle Clips

Aickinstrut Saddle Clips make fastening through Aickinstrut channel 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 25 pieces.

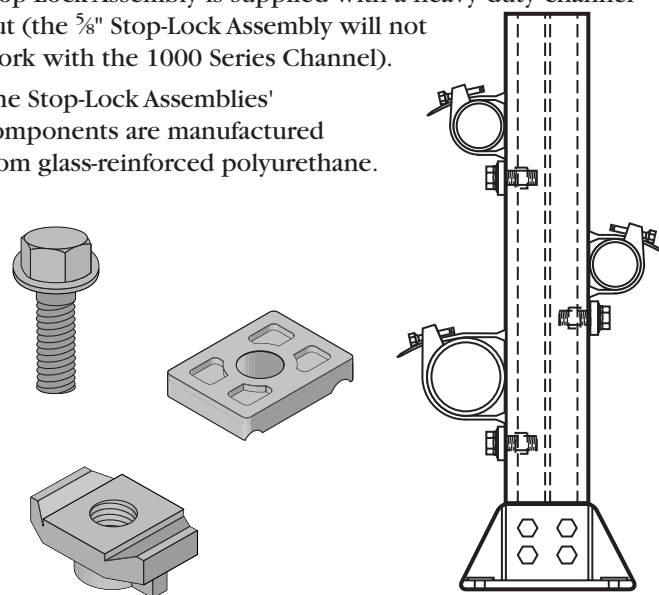


Part Number	Size (In.)
200-4226	3/8
200-4217	1/2
200-4341	5/8
200-4342	3/4

Stop-Lock Assemblies

Aickinstrut 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 offered with a 3/8", 1/2" and 5/8" bolt size. The 5/8" Stop-Lock Assembly is supplied with a heavy duty channel nut (the 5/8" Stop-Lock Assembly will not work with the 1000 Series Channel).

The Stop-Lock Assemblies' components are manufactured from glass-reinforced polyurethane.



Part Number	Size (in.)	Force Resistance (lbs.)*	Torque (ft./lbs.)
200-4227	3/8	200	7
200-4219	1/2	220	12
200-4343	5/8	250	15

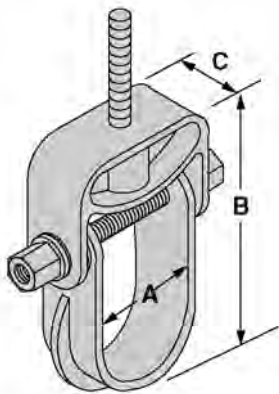
*Force resistance values shown represents a 3:1 safety factor.

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 sizes ½"

through 6". The hand lay-up clevis hangers are manufactured from glass-reinforced polyester and are available for sizes 1" through 24".

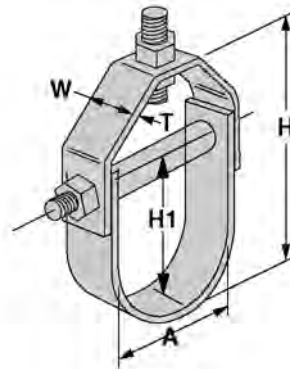
Molded Clevis Hangers



Part Number	Nominal Diameter (in.)	Max. Pipe O.D. (in.)	"A" Dim.	"B" Dim.	"C" Dim.	Hanger Rod (in.)	Load (lbs.)*
CVHPU-100	½ - 1	1	1.500	4.25	1.25	½	670
CVHPU-150	1¼ - 1½	1½	2.000	5.14	1.25	½	670
CVHPU-200	1½ - 2	2	2.500	6.52	1.25	½	730
CVHPU-400	2½ - 4	4	5.125	10.00	1.50	½	1,150
CVHPU-600	4½ - 6	6	6.750	12.33	1.50	½	1,170

*Design load values shown represent a 3:1 safety factor.

Hand Lay-Up Clevis Hangers



Part Number	Size Range (In.)		Dimensions (in.)				Hanger Rod (in.)	Trans Rod (in.)	Spreader Rod O.D. (in.)	Loads (lbs.)*
	A	T	H	H1	W					
100-1500	1 - 1½	⅛	2¾	1⅞	1½	½	⅜	½	60	
100-1501	1½ - 2	⅛	3½	2⅝	1½	½	⅜	½	60	
100-1502	2 - 2⅝	⅛	4¾	3	2	½	⅜	½	90	
100-1503	2½ - 3¼	⅛	5½	3⅝	2	½	⅜	½	120	
100-1504	3 - 3⅞	⅛	7	4¼	2	⅝	⅜	½	160	
100-1505	4 - 5⅛	⅜	8½	5⅝	2	⅝	⅜	½	250	
100-1506	6 - 7⅞	⅜	10⅞	7½	3	⅝	⅜	½	300	
100-1507	8 - 9¼	¼	14	9¾	3	⅝	⅜	½	350	
100-1508	10 - 11⅜	¼	18	12	4	⅝	½	¾	450	
100-1509	12 - 13½	¼	21½	14⅞	5	⅝	½	¾	600	
100-1510	14 - 15¾	¼	24½	16½	5	¾	½	¾	700	
100-1511	16 - 18	⅜	27⅝	19½	6	¾	¾	1	750	
100-1512	19 - 21	⅜	34½	22½	6	¾	¾	1	800	
100-1513	21 - 22	½	35½	24	6	¾	¾	1	850	
100-1514	22 - 24	½	41	28	6	¾	¾	1	900	

*Design load values shown represent a 3:1 safety factor.

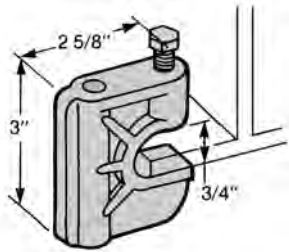
Beam Clamps

Aickinstrut beam clamps are available in two styles; molded and fabricated. The molded beam clamps are manufactured from glass-reinforced polyurethane and can accommodate $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{5}{8}$ " 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 $\frac{1}{4}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " thick beam flanges. Each fabricated beam clamp assembly includes four (4) $\frac{1}{2}$ " standard duty channel nuts, four (4) $\frac{1}{2}$ " Polyurethane bolts and two (2) attachment clips.

All Aickinstrut beam clamps allow easy attachment of threaded rod to "I" beams or other structural assemblies.

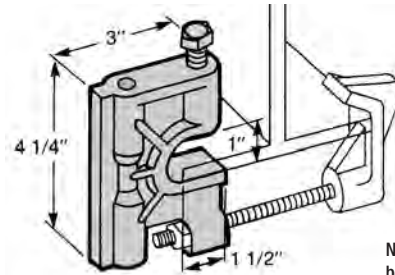
Molded Beam Clamps



Part Number	Size (in.)	Thread Shear (lbs.)*	Torque (ft./lbs.)
375PU-BC	$\frac{3}{8}$	400	10
500PU-BC	$\frac{1}{2}$	400	10

*Design load values shown represent a 3:1 safety factor.

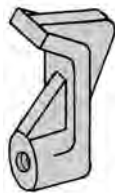
Cope-Glas Beam Clamps



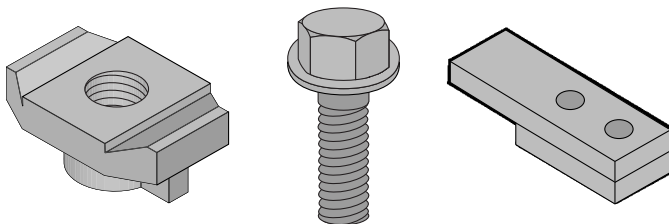
Note: Beam clamp clip must be purchased separately. Illustration purpose only

Part Number	Size (in.)	Thread Shear (lbs.)*	Torque (ft./lbs.)
RGBC1	$\frac{3}{8}$	500	10
RGBC2	$\frac{1}{2}$	500	10
RGBC3	$\frac{5}{8}$	500	10

Beam Clip – 375PU-BCCLP ($\frac{3}{8}$ "

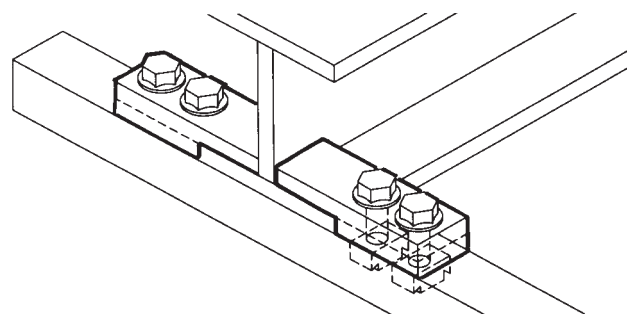


Fabricated Beam Clamps



Part Number	Flange Thickness (in.)	Thread Shear (lbs.)*	Torque (ft./lbs.)
20V-2BC-25	$\frac{1}{4}$	600	10
20V-2BC-37	$\frac{3}{8}$	600	10
20V-2BC-50	$\frac{1}{2}$	600	10

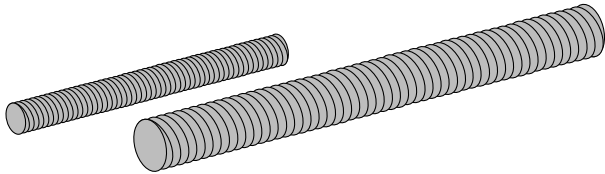
*Design load values shown represent a 3:1 safety factor.
Bolts and channel nuts are $\frac{1}{2}$ " diameter.



Threaded Rod

Pultruded threaded rods are an excellent choice for hanging and fastening Aickinstrut Channel. These rods can also be used with either the Aickinstrut vinyl ester square nuts, polyurethane hex nuts, hex flange nuts and Aickinstrut channel nuts. All FRP threaded rod is manufactured from pultruded vinyl ester resin and is gray in color.

The standard rod lengths are 4' and 8'.



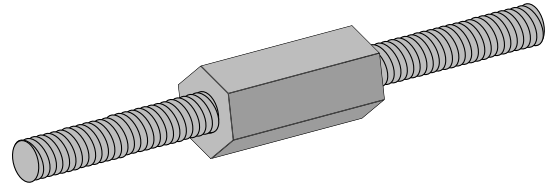
Part Number	Size (in.)	Weight (lbs.)	Thread Shear (lbs.)*	Torque (ft./lbs.)
200-3827	3/8-16	0.07	415	5
200-3828	1/2-13	0.12	570	10
200-3829	5/8-11	0.18	1,260	40
200-3830	3/4-10	0.28	1,700	50
200-3831	1-8	0.50	3,000	60

* Thread shear values shown represent a 3:1 safety factor.

* To order eight foot lengths, add suffix "-96" to part number (EX: 200-3827-96)

A-Konnector Rod Couplers

A-Konnectors provide an excellent means for extending Aickinstrut FRP all-thread rods beyond their standard lengths. A-Konnectors are manufactured from glass-reinforced polyurethane and are colored gray. A-Konnectors are packaged in bags containing 25 pieces.



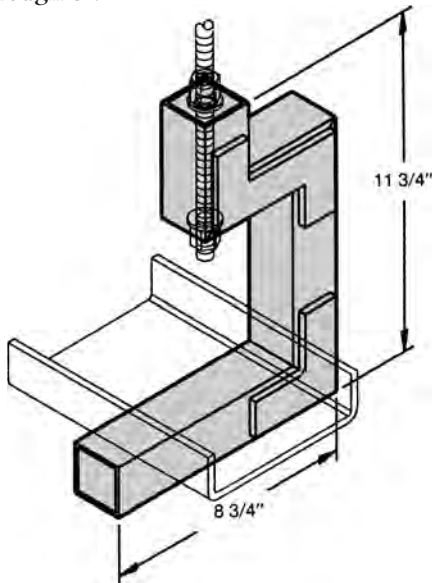
Part Number	Size (in.)	Length (in.)	Thread Shear (lbs.)*
200-3840	3/8-16	2 1/4	800
200-3841	1/2-13	2 1/4	870
200-3842	5/8-11	2 1/4	1,500
200-3843	3/4-10	2 1/4	1,500

* Thread shear values shown represent a 3:1 safety factor.

Channel Hangers

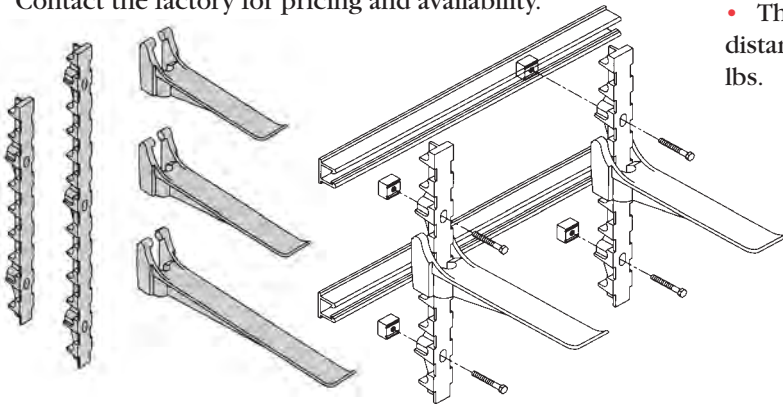
AIC-CH-P (Polyester)
AIC-CH-V (Vinyl Ester)

The Aickin-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 Aickin-Channel Hanger is available in either polyester or vinyl ester resin and is simply supported from a 1/2" FRP all-thread rod and beam clamp (not provided). The Channel Hanger will accommodate "C" channel width sizes 2" through 8".



Power-Rack Stanchions

The Power-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 Power-Rack Stanchions makes them the logical choice over metallic cable supports. The Power-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 14¼" stanchions and fourteen on the 17½" stanchion. Glass-reinforced polyurethane stanchions are available as a special order. Contact the factory for pricing and availability.



Dimensions – The stanchion back is designed with ¼" wide x 1½" long holes to accept fasteners for mounting. There are two mounting holes in the 21¾" long stanchion and three mounting holes in the 33⅝" long stanchion. Thickness at the slotted mounting holes is 1⅞". The mounting holes are spaced on 12" centers and require ½" diameter fasteners.

Installation – The Power-Rack Stanchions can be anchored into existing concrete structures using any good quality

industrial anchoring system. For new concrete structures, the Power-Rack Stanchions can be mounted to Aickinstrut concrete embedment channel and attached with ½" channel nuts and ½"x 3" Fiberfast Bolts.

Fire Retardance – Power-Rack materials meet or exceed the requirements of UL94 HB.

Loading – The recommended allowable loads on Power-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 1200 in./lbs.

Example – A cable weighing 200 lbs. is positioned on an arm at a distance of 5" 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 1200 in./lbs., then the system is adequate. In this case,

Total load (200 < 800 lbs) = OK

Tot. moment (200x5 in. = 1000 < 1200 in./lbs.) = OK

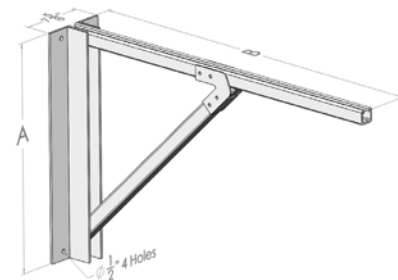
Part No.	Description	Weight (lbs.)	Load (lbs.)*
20N-ARM08	8" Arm	1.00	800
20N-ARM14	14¼" Arm	1.16	800
20N-ARM17	17½" Arm	1.45	800
20N-ARM23	23⅞" Arm	1.86	800
20N-STA21	21¾" Stanchion	1.49	N/A
20N-STA33	33⅝" Stanchion	2.31	N/A

*Design load values shown represent a 3:1 safety factor.

Wall Brackets

Constructed of Aickinstrut fiberglass components, Wall Support Brackets are an alternative tray hanging system. The Aickinstrut product line offers a complete line of fasteners that can be used with the wall brackets in many different tray clamping schemes. Installation guidelines for wall brackets are located in the installation Procedures Section of this catalog. To specify vinyl ester, add suffix "V" to part number.

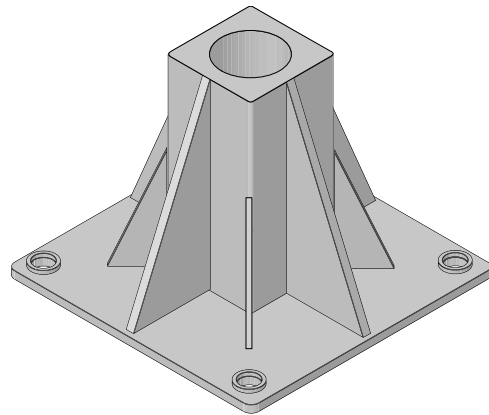
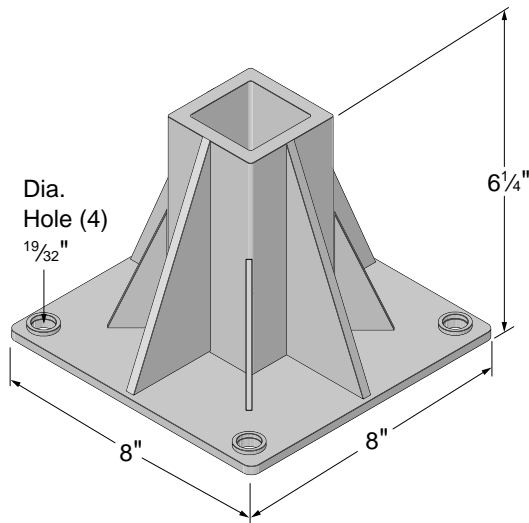
Part No.	Tray Width	Dim. A	Dim. B
CTB06A	06"	11"(279mm)	10"(254mm)
CTB09A	09"	14"(356mm)	12"(305mm)
CTB12A	12"	17"(432mm)	13"(330mm)
CTB18A	18"	23"(584mm)	16"(406mm)
CTB24A	24"	29"(737mm)	19"(483mm)
CTB30A	30"	35"(889mm)	22"(559mm)
CTB36A	36"	41"(1041mm)	25"(635mm)



Heavy Duty Post Base

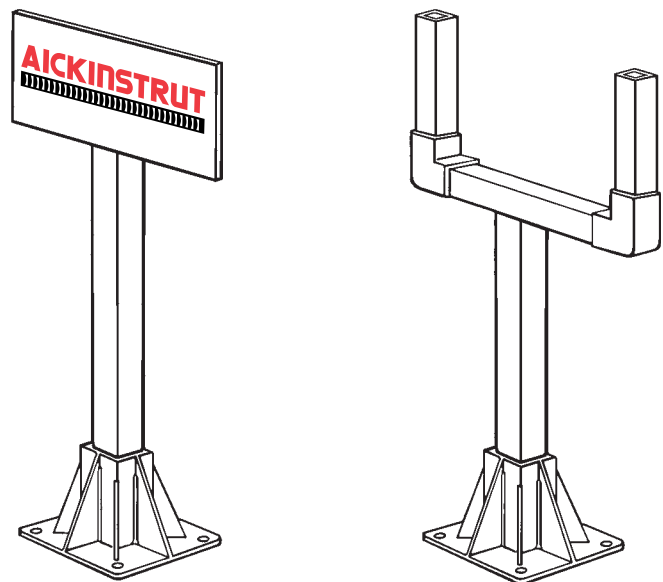
20PU-5852 (2" Square), 20PU-5852 RD (2" Round)
20PU-5853 HD (1 $\frac{5}{8}$ " Sq.), 20PU-5854 HD (1 $\frac{1}{2}$ " Sq.),
20PU-5853 (1 $\frac{5}{8}$ " Sq.)

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



Instrument & Pipe Stands

Aickin-Instrument and Pipe Stands are available in polyester or vinyl ester resin types and are designed to meet specific customer requirements. These stands are ideal for supporting instruments and enclosures in corrosive environments. The stands utilize the Aickinstrut Heavy Duty Post Base and either 2" x 2" x 1/4" square tube or 2" Schedule 80 pipe to support the instruments or enclosures. These stands can be designed or configured to meet any application. Consult the factory for design, pricing and availability information.

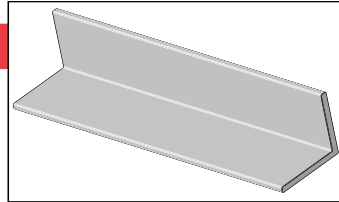


AICKINSHAPE® STRUCTURAL SHAPES

General purpose pultruded structural shapes can be used as a complement to Aickinstrut Channel Framing projects. The shapes are ideal for structural bracing, handrails, handrail kickplates, shims and supporting grating. Structural shapes are available in either polyester or vinyl ester resin and are provided in 20' lengths. Additional structural shapes not listed in this catalog are available. Contact the factory for pricing, availability and minimums. Special sizes and colors can be run based upon quantity.

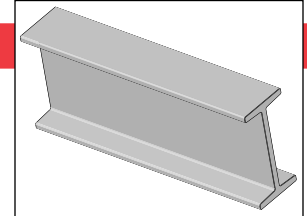
NOTES
 ST - Standard Isophthalic Polyester Resin; O = (Olive Green)
 FR - Isophthalic Polyester Fire Retardant Resin; P = (Dark Gray)
 VE - Vinyl Ester Fire Retardant Resin; V = (Beige)
 ■ Stock Item; ◆ Stocked in Yellow
 In part numbers shown below, replace "X" with resin and color code (O, P, V).
 I.E.: 18P-1200-20 Polyester Gray 2" x 1/4" Equal Leg Angle

Equal Leg Angle



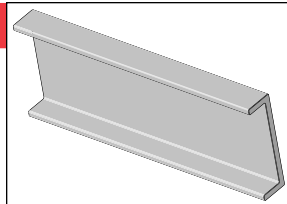
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1 x 1/8	■	■	■	0.21	18X-1100-20
1 1/4 x 1/8	-	-	-	0.23	18X-1110-20
1 1/2 x 3/16	■	■	■	0.37	18X-1120-20
1 1/2 x 1/4	■	■	■	0.51	18X-1130-20
2 x 1/4	■	■	■	0.68	18X-1200-20
3 x 1/4	■	■	■	1.04	18X-1300-20
3 x 3/8	■	■	■	1.65	18X-1310-20
3 x 1/2	-	-	-	2.15	18X-1320-20
4 x 1/4	■	■	■	1.41	18X-1400-20
4 x 3/8	■	■	■	2.23	18X-1410-20
4 x 1/2	■	■	■	2.92	18X-1420-20
6 x 3/8	■	■	■	3.44	18X-1500-20
6 x 1/2	■	■	■	4.50	18X-1510-20

I-Beam



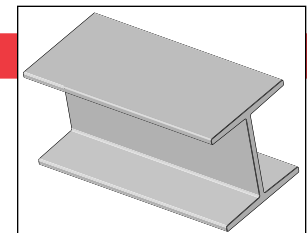
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
3 x 2 x 1 1/2 x 1/4	-	-	-	1.18	18X-2100-20
3 x 1 1/2 x 1/4	-	-	-	1.11	18X-2300-20
4 x 2 x 1/4	■	■	■	1.46	18X-2400-20
6 x 3 x 1/4	■	■	■	2.24	18X-2600-20
6 x 3 x 3/8	-	-	-	3.29	18X-2800-20
8 x 4 x 3/8	■	■	■	4.46	18X-2110-20
8 x 4 x 1/2	-	-	-	5.85	18X-2130-20
10 x 5 x 3/8	-	-	-	5.78	18X-2160-20
10 x 5 x 1/2	-	■	■	7.41	18X-2180-20
12 x 6 x 1/2	-	-	-	8.97	18X-2210-25
18 x 3/8 x 4 1/2 x 1/2	-	-	-	8.48	18X-2230-20
24 x 3/8 x 7 1/2 x 3/4	-	-	-	15.20	18X-2240-20

Channel



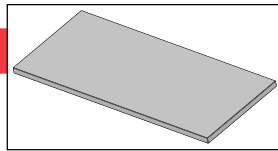
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
2 x 9/16 x 1/8	■	■	-	0.25	18X-2916-20
3 x 7/8 x 1/4	■	■	-	0.77	18X-3078-20
3 x 1 x 1/4	■	■	■	0.87	18X-3114-20
3 x 1 1/2 x 1/4	-	■	■	1.07	18X-3112-20
3 x 1/2 x 1 3/16 x 1/8	-	-	-	0.65	18X-31316-20
4 x 1 1/8 x 1/4	■	■	■	1.11	18X-4118-20
4 x 1 3/8 x 3/16	■	■	■	0.86	18X-4138-20
6 x 1 5/8 x 1/4	■	■	■	1.64	18X-6158-20
6 x 1 11/16 x 3/8	■	■	■	2.52	18X-61116-20
8 x 2 3/16 x 3/8	■	■	■	3.40	18X-82316-20
10 x 2 3/4 x 1/2	■	■	■	5.65	18X-10234-20

Wide Flange I-Beam



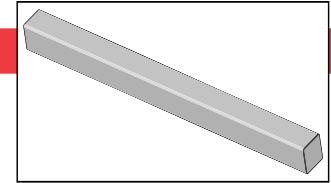
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
3 x 3 x 1/4	■	■	■	1.69	18X-2200-20
4 x 4 x 1/4	■	■	■	2.10	18X-2500-20
6 x 6 x 1/4	■	■	■	3.41	18X-2700-20
6 x 6 x 3/8	■	■	■	5.05	18X-2900-20
8 x 8 x 3/8	■	■	■	6.49	18X-2120-20
8 x 8 x 1/2	-	■	■	8.70	18X-2140-20
10 x 10 x 3/8	-	-	-	8.74	18X-2170-20
10 x 10 x 1/2	-	■	■	10.90	18X-2190-25
12 x 12 x 1/2	-	■	■	13.20	18X-2220-25

Flat Sheet



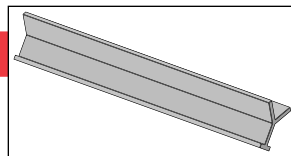
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1/8 x 48 x 96	■	■	■	1.14	18X-4100
3/16 x 48 x 96	■	■	■	1.71	18X-4200
1/4 x 48 x 96	■	■	■	2.34	18X-4300
3/8 x 48 x 96	■	■	■	3.54	18X-4400
1/2 x 48 x 96	■	■	■	4.68	18X-4500
5/8 x 48 x 96	-	-	-	5.79	18X-4600
3/4 x 48 x 96	-	-	-	6.94	18X-4700
1 x 48 x 96	-	-	-	9.27	18X-4800

Square Bar



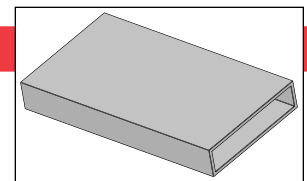
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1 x 1	■	-	-	0.87	18X-5100-20
1 1/4 x 1 1/4	-	◆	-	1.31	18X-5125-20
1 1/2 x 1 1/2	-	◆	-	1.98	18X-5150-20
2 x 2	-	-	-	3.12	18X-5200-20

Embedment Angle



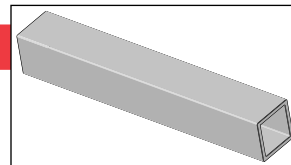
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1 x 1 1/2 x 1/4	-	-	■	1.00	18X-111214-20
1 1/2 x 1 1/2 x 1/4	-	-	■	1.10	18X-11211214-20
2 x 1 1/2 x 1/4	-	-	■	1.20	18X-211214-20

Rectangular Tube



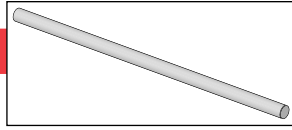
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
4 x 1 x 1/8	-	-	-	0.85	18X-4118-20
4 x 1/8 x 2 x 1/4	■	■	■	1.52	18X-418214-20
4 3/8 x 1 3/8 x 1/8 x 3/16	-	-	-	1.18	18X-438138-20
4 1/2 x 1 3/4 x 1/8 x 3/16	-	-	-	1.29	18X-412138-20
5 x 2 x 1/8	-	-	-	1.32	18X-5218-20
5 1/8 x 2 7/8 x 3/16	-	-	-	1.32	18X-518218-20
6 1/2 x 1 1/4 x 2 x 1/2	-	-	-	3.77	18X-612212-20
6 x 4 x 1/4	-	■	-		18X-6414-20

Square Tube



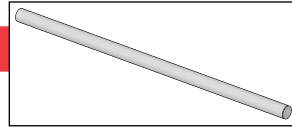
Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1 x 1/8	■	■	■	0.32	18X-3100-20
1 1/8 x 1/8	-	-	-	0.37	18X-3200-20
1 1/4 x 1/8	-	-	-	0.41	18X-3300-20
1 1/4 x 1/4	-	-	-	0.68	18X-3310-20
1 1/2 x 1/8	■	◆	◆	0.54	18X-3400-20
1 1/2 x 1/4	-	-	■	0.98	18X-3410-20
1 3/4 x 1/8	-	◆	◆	0.63	18X-3500-20
1 3/4 x 1/4	-	◆	◆	1.10	18X-3510-20
2 x 1/8	■	◆	◆	0.69	18X-3600-20
2 x 1/4	■	◆	◆	1.40	18X-3610-20
2 1/4 x 1/8	-	◆	-	0.83	18X-3800-20
2 1/4 x 1/4	-	-	-	1.56	18X-3810-20
2 1/2 x 1/4	-	◆	-	1.79	18X-3900-20
3 x 1/8	-	-	-	1.12	18X-3110-20
3 x 1/4	■	■	■	2.15	18X-3111-20
4 x 1/4	■	■	■	2.93	18X-3120-20
4 x 3/8	■	-	-	4.24	18X-3121-20
6 x 3/8	■	■	■	6.42	18X-3140-20

Round Rod



Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1/8	■	-	-	0.01	18X-70018-20
3/16	■	-	-	0.02	18X-700316-20
1/4	■	-	-	0.04	18X-70014-20
5/16	■	-	-	0.07	18X-700516-20
0.35	-	-	-	0.08	18X-70035-20
3/8	■	-	■	0.09	18X-70038-20
1/2	■	-	■	0.17	18X-70012-20
5/8	■	-	■	0.27	18X-70058-20
3/4	■	-	■	0.39	18X-70034-20
13/16	-	-	-	0.46	18X-7001316-20
1	■	-	■	0.66	18X-70100-20
1 1/4	■	-	-	1.08	18X-70114-20
1 1/2	■	-	-	1.56	18X-70112-20
2	-	-	-	2.56	18X-70200-20
2 1/2	-	-	-	4.10	18X-70212-20
3	-	-	-	5.70	18X-70300-20

Round Tube



Size (In.)	Resin			#/Lin. Ft.	Part No.
	ST	FR	VE		
1 x .100	-	-	-	0.22	18X-7100-20
1 x 1/8	■	■	-	0.25	18X-7118-20
1 1/4 x 3/32	-	-	-	0.27	18X-7114332-20
1 1/4 x 1/8	-	-	-	0.32	18X-711418-20
1 1/4 x 1/4	-	-	-	0.60	18X-711414-20
1 1/2 x 1/8	■	■	-	0.45	18X-711218-20
1 1/2 x 1/4	-	■	-	0.79	18X-711214-20
1 3/4 x 1/8	-	-	-	0.47	18X-713418-20
1 3/4 x 1/4	-	-	-	0.94	18X-713414-20
2 x 1/4	■	■	■	1.12	18X-7214-20
3 x .100	-	-	-	0.89	18X-7300-20
3 x 1/4	-	-	-	1.68	18X-7314-20
3 x 1/2	■	-	-	2.98	18X-7312-20
4.89 x 1/8	-	-	-	2.32	18X-7418-20
4.89 x 3/16	-	-	-	2.97	18X-74316-20

Channel Framing 10-15

20E-1000	11
20E-1200	11
20E-2000	11
20E-2200	11
20E-2300	11
20P-1000	11
20P-1100	11
20P-1200	11
20P-1300	11
20P-1500	11
20P-1600	11
20P-1700	11
20P-1800	11
20P-2000	11
20P-2000-SST	11
20P-2100	11
20P-2100-SST	11
20P-2200	11
20P-2200-SST	11
20P-2300	11
20P-2300-SST	11
20V-1000	11
20V-1100	11
20V-1200	11
20V-1300	11
20V-1500	11
20V-1600	11
20V-1700	11
20V-1800	11
20V-2000	11
20V-2000-SST	11
20V-2100	11
20V-2100-SST	11
20V-2200	11
20V-2200-SST	11
20V-2300	11
20V-2300-SST	11

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20E-5000	23
20P-2500	16
20P-2502	16
20P-2504	16
20P-2506	16
20P-2508	16
20P-2510	17
20P-2512	17
20P-2514	17
20P-2516	17
20P-2518	17
20P-2520	17
20P-2522	17
20P-2524	17
20P-2526	17
20P-2528	18
20P-2530	18
20P-2534	18
20P-2540	18
20P-2542	18
20P-2541	18
20P-2800	16
20P-2802	16
20P-2804	16
20P-2806	16
20P-2808	16
20P-2810L/R	17
20P-2812	17
20P-2814	17
20P-2816L/R	17
20P-2818	17
20P-2820	17

20P-2822	17
20P-2824	17
20P-2826	17
20P-2828	18
20P-2830	18
20P-2834	18
20P-2840	18
20PP-5853	19
20PP-5854	19
20PP-5855	19
20PP-5903	19
20PP-5904	19
20PP-5905	19
20PU-5853	19
20PU-5854	19
20PU-5855	19
20PU-5903	19
20PU-5904	19
20PU-5905	19
20V-2500	16
20V-2502	16
20V-2504	16
20V-2506	16
20V-2508	16
20V-2510	17
20V-2512	17
20V-2514	17
20V-2516	17
20V-2518	17
20V-2520	17
20V-2522	17
20V-2524	17
20V-2526	17
20V-2528	18
20V-2530	18
20V-2534	18
20V-2540	18
20V-2541	18
20V-2800	16
20V-2802	16
20V-2804	16
20V-2806	16
20V-2808	16
20V-2810L/R	17
20V-2812	17
20V-2814	17
20V-2816L/R	17
20V-2818	17
20V-2820	17
20V-2822	17
20V-2824	17
20V-2826	17
20V-2828	18
20V-2830	18
20V-2834	18
20V-2840	18
20V-2542	18
20V-2541	18
50PU-1508	19
50PU-2008	19
50PU-2045	19
50PU-2090	19
50PU-2538	19
50PU-2538	18
50PU-2611	18
50PU-2611-SP	18
50PU-2613	18
50PU-2616	16
50PU-2636	19
50PU-2636A	19
50PU-2636B	19
50PU-2936	19

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10PU-CNS	25
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250PU-000	24
250PU-CN	25
312PU-CN	25
375E-999	24
375PU Series Bolts	23
375PU-000	24
375PU-CN	25
375PU-CNHD	25
375PU-FN-000	24
375V Series Bolts	23
375V-000	24
500E-999	24
500PU Series Bolts	23
500PU-000	24
500PU-CN	25
500PU-CNHD	25
500PU-FN-000	24
500V-000	24
625E-999	24
625PU Series Bolts	23
625PU-000	24
625PU-CNHD	25
625PU-FN-000	24
625V-000	24
750E-999	24
750PU-000	24
750PU-CNHD	25
750PU-FN-000	24
750V-000	24
1000E-999	24
1000PU-000	24
1000PU-FN-000	24
1000V-000	24
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