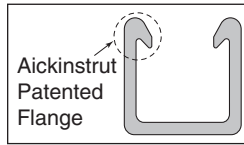


Channel

CHANNEL FRAMING

All Aickinstrut channels, except the SST series, incorporate a patented 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),
- Vinyl Ester (V material) and
- PVC (E material)

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 an 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.

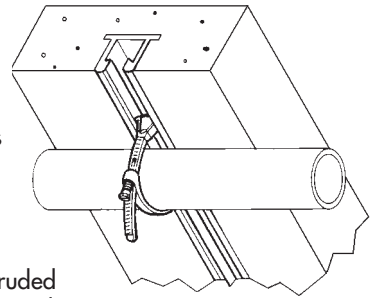
CHANNEL AVAILABILITY CHART

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

Channel Profile	Polyester (P)	Vinyl Ester (V)	PVC (E)
Series 2000, 2200, 2300	X	X	X
Series 1500, 1700, 1800	X	X	N/A
Series 1000, 1200, 1300	X	X	X
Series 2100	X	X	N/A
Series 1600	X	X	N/A
Series 1100	X	X	N/A

CONCRETE EMBEDMENT CHANNEL PART NO. – 20E-2300

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 1⁵/₈" and 1¹/₈" profiles while polyester and vinyl ester embedment channels are available in all three profiles (1⁵/₈", 1¹/₂" & 1¹/₈").



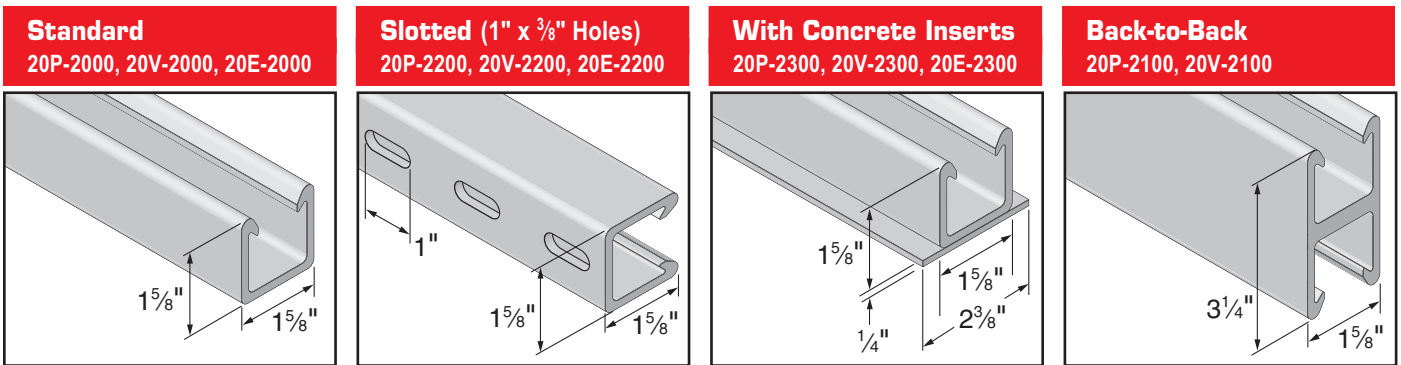
The embedment channel utilizes two continuous protruding flanges in the profile base to retain the channel in the concrete. Mounting the embedment channel flush with the concrete surface is a convenient way to secure piping, conduits or electrical enclosures to a wall or ceiling. The PVC embedment channel 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

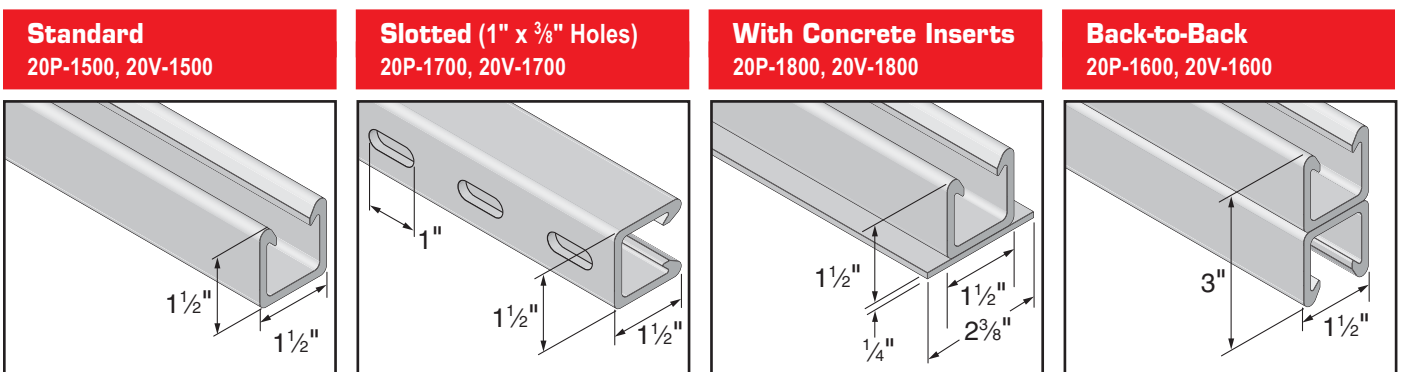
Aickinstrut SST Fiberglass Channel incorporates a standard channel profile that will accommodate metallic pipe straps and clamps. SST channel is available in polyester or vinyl ester resin. All standard styles (solid, slotted, concrete insert and back-to-back) are also available. Please contact the factory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

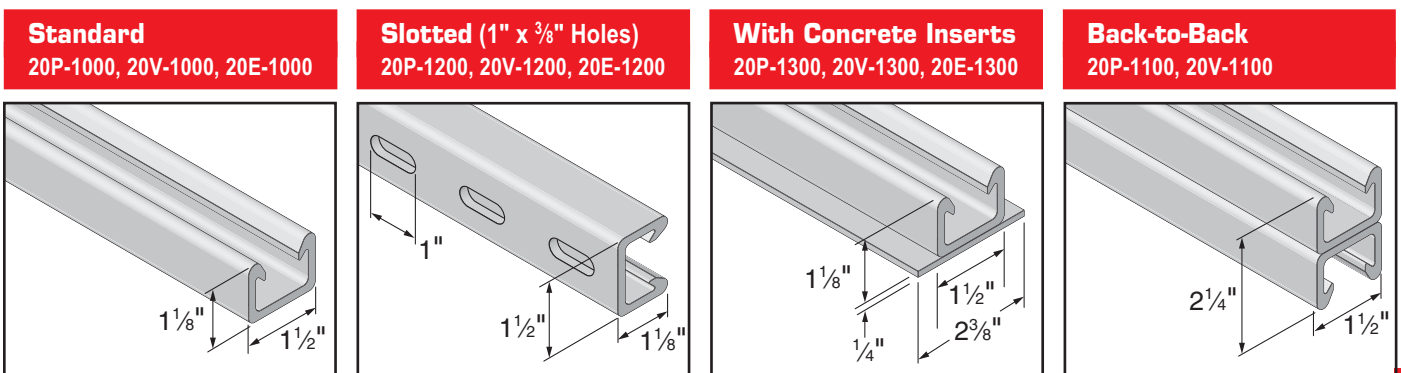
HEAVY DUTY CHANNEL – AICKINSTRUT PROFILE



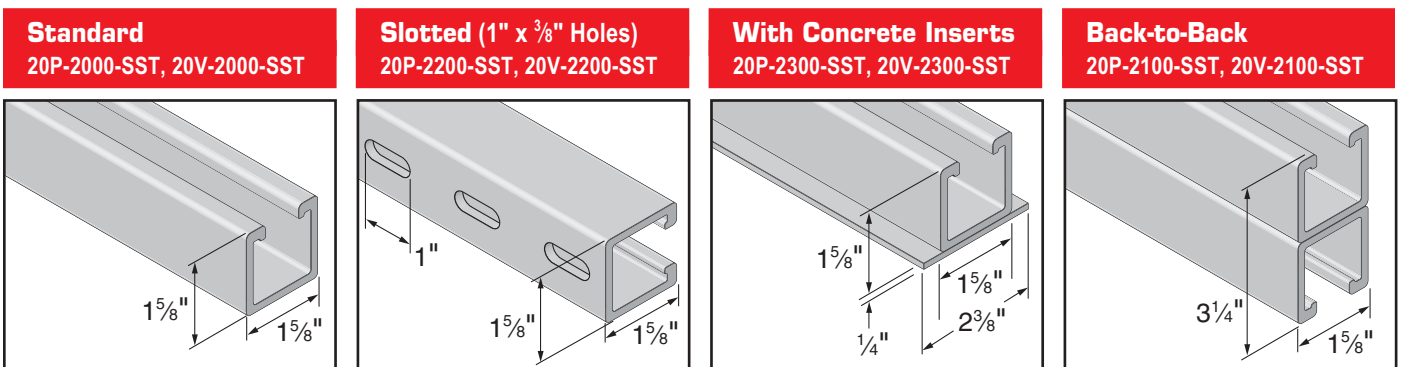
MEDIUM DUTY CHANNEL – AICKINSTRUT PROFILE



LIGHT DUTY CHANNEL – AICKINSTRUT PROFILE



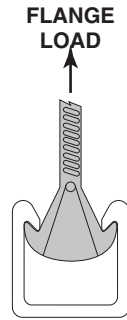
HEAVY DUTY CHANNEL – STANDARD PROFILE



Channel Loading

Flange Loading

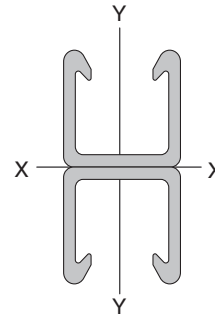
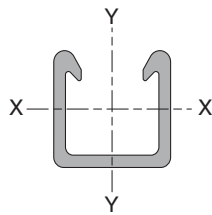
Pull-out strength is the channel's resistance to a clamp or fastener inserted under the flange and put under tension. For additional information concerning specific channels, materials and their pull-out strengths, refer to the channel flange pull-out chart on the right.



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 Axis				Y - Y Axis		
					I (in. ⁴)	R (in.)	C ¹ (in.)	C ² (in.)	I (in. ⁴)	R (in.)	C (in.)
2000	1½	1½	0.82	1.06	0.31	0.54	0.70	0.93	0.42	0.63	0.82
2100	3½	1½	1.64	2.12	1.77	0.91	1.63	1.63	0.85	0.63	0.82
1500	1½	1½	0.55	0.71	0.19	0.52	0.62	0.88	0.25	0.59	0.75
1600	3	1½	1.10	1.42	1.02	0.85	1.50	1.50	0.49	0.59	0.75
1000	1½	1½	0.47	0.61	0.10	0.40	0.51	0.62	0.22	0.60	0.75
1100	2½	1½	0.94	1.22	0.42	0.59	1.13	1.13	0.44	0.60	0.75

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"

Polyester/Vinyl Ester Beam Loading Chart

Span	Part No.	Max. Uniform Beam Load (Safety Factor - 3:1) Load (lbs.)	Uniform Load at Defl. of 1/360 Span Deflection (in.)	Maximum Column Load (lbs.)	Deflection (in.)	Load (lbs.)
12" Span	20P/V-2100	5,559	0.028	5,559	0.033	9,454
	20P/V-1600	4,836	0.043	3,778		7,007
	20P/V-1100	3,804	0.082	1,556		5,961
	20P/V-2000	3,561	0.102	1,159		5,160
	20P/V-1500	1,950	0.093	700		3,439
	20P/V-1000	1,629	0.151	359		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		6,501
	20P/V-1100	2,536	0.183	691		5,509
	20P/V-2000	2,374	0.230	515		4,704
	20P/V-1500	1,300	0.209	311		3,136
	20P/V-1000	1,086	0.340	160		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		5,909
	20P/V-1100	1,902	0.326	389		4,979
	20P/V-2000	1,781	0.410	290		4,168
	20P/V-1500	975	0.371	175		2,778
	20P/V-1000	815	0.605	90		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		5,236
	20P/V-1100	1,522	0.509	249		4,375
	20P/V-2000	1,424	0.640	185		3,553
	20P/V-1500	780	0.580	112		2,369
	20P/V-1000	652	0.945	57		1,298
36" Span	20P/V-2100	1,853	0.254	730	0.100	6,451
	20P/V-1600	1,612	0.384	420		4,482
	20P/V-1100	1,268	0.734	173		3,698
	20P/V-2000	1,187	0.922	129		2,859
	20P/V-1500	650	0.836	78		1,906
	20P/V-1000	543	1.360	40		901
48" Span	20P/V-2100	1,390	0.452	410	0.133	4,534
	20P/V-1600	1,209	0.683	236		2,809
	20P/V-1100	951	1.304	97		2,254
	20P/V-2000	890	1.638	72		1,636
	20P/V-1500	488	1.486	44		1,091
	20P/V-1000	407	2.418	22		507
60" Span	20P/V-2100	1,112	0.707	262	0.167	2,902
	20P/V-1600	967	1.067	151		1,798
	20P/V-1100	761	2.038	62		1,442
	20P/V-2000	712	2.560	46		1,047
	20P/V-1500	390	2.321	28		698
	20P/V-1000	326	3.779	14		324
72" Span	20P/V-2100	927	1.018	182	0.200	2,015
	20P/V-1600	806	1.536	105		1,248
	20P/V-1100	634	2.935	43		1,001
	20P/V-2000	594	3.686	32		727
	20P/V-1500	325	3.343	19		485
	20P/V-1000	272	5.441	10		225



Fiberglass