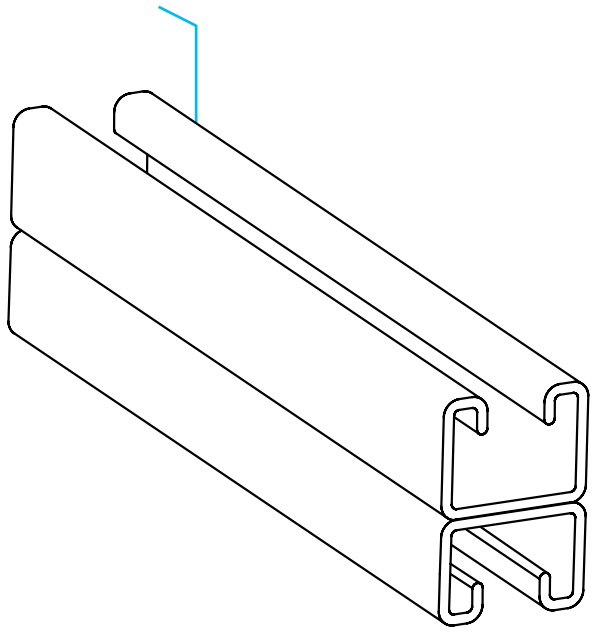
ASC Engineered Solutions

Welded Channel
Fig. AS 300BTB, AS 300



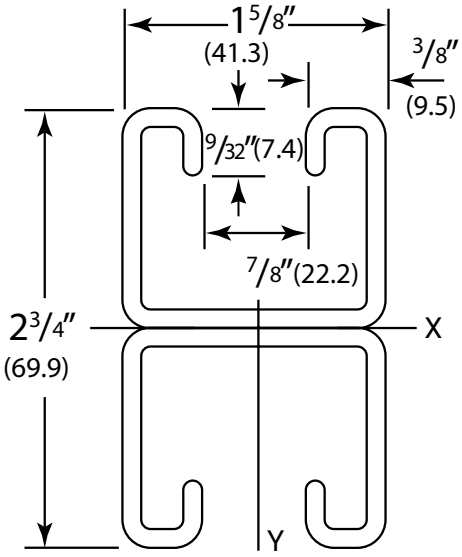
Wt/100 Ft for Solid Back-to-Back: 352 Lbs

Specifications

Size:
2 3/4" X 1 5/8" (69.9 x 41.3mm)
12 Gauge Back-to-Back • wt./100 ft. - 352 lbs

Materials:
Carbon Steel
Stainless Steel
Aluminum

Finishes
Pre-Galvanized
Hot Dip Galvanized - Post Fabrication
Supr-Green Powder Coating
Zinc Trivalent Chromium
PVC



Description

Anvil-Strut channels are manufactured by a series of forming dies, or rolls, which progressively cold work the strip steel into the desired channel configuration. This method produces a cross section of uniform dimensions within a tolerance of plus or minus 0.015", on outside dimensions.

BTB Welded

☐ AS 300 BTB
☐ PL, ☐ GR, ☐ PG, ☐ Other
☐ Solid, ☐ EH, ☐ H, ☐ S, ☐ Other

Other Welded

☐ AS 300 Welded
☐ PL, ☐ GR, ☐ PG, ☐ Other
☐ Solid, ☐ EH, ☐ H, ☐ S, ☐ Other
☐ BTS: Back-to-Side
☐ STS: Side-to-Side
☐ STSR: Side-to-Reverse-Side

LEGEND:
GR: Powder Coated Supr-Green **EG:** Electro-Galvanized **PG:** Pre-Galvanized **AL:** Aluminum
HG: Hot Dipped Galvanized **PL:** Plain **SS:** Stainless Steel **ZTC:** Zinc Trivalent Chromium Stainless Steel (**SS**), Zinc Trivalent Chromium (**ZTC**) and Hot Dipped Galvanized (**HG**) are specialty finishes. Pricing is located in the Specialty Strut Section of the Anvil-Strut price book.

ANVIL-STRUT
An ASC Engineered Solution

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

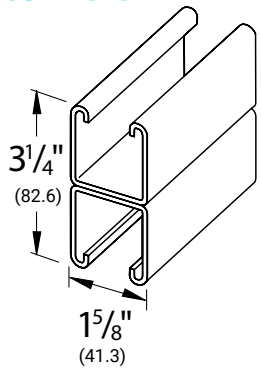
Welded Channel
Fig. AS 300BTB, AS 300

Welded Combinations

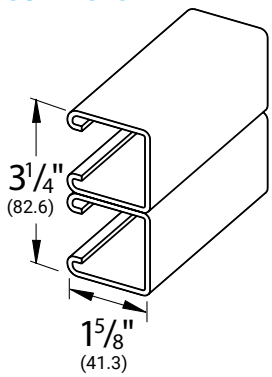
All welded combinations illustrated below are available in any of our Anvil-Strut channels (1⅝" x 1⅝" shown), in any of the following material or finishes: Plain, Pre-Galvanized, powder coated Supr-Green or Stainless Steel.

Note: Slotted channels available in all welded combinations.

Suffix BTB



Suffix STS



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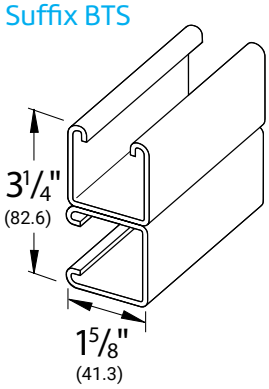
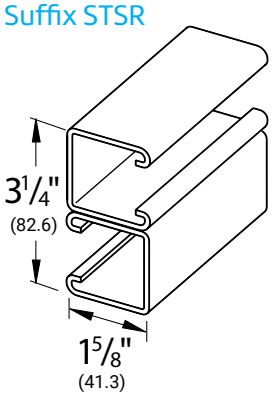
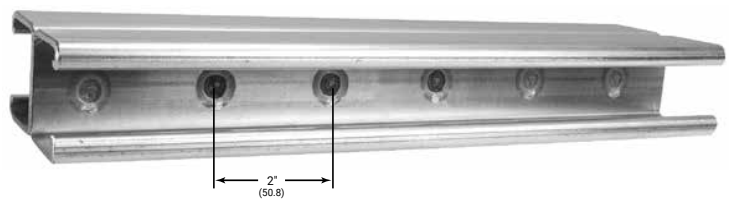


Suffix STSR



Our welded channels are spot welded 2" (50.8mm) on center, dimensions shown are for welded variations of any channelwith or without slotted holes.



ASC Engineered Solutions

Welded Channel **Fig. AS 300BTB, AS 300**

$2^{3}/_{4}$" X $1^{5}/_{8}$" (69.9 x 41.3mm)
12 Gauge Back-to-Back • wt./100 ft. - 352 lbs

Stocked in pre-galvanized, plain & powder coated Supr-Green, in both 10 & 20 ft. lengths. Other materials, finishes & lengths are available upon request.

Properties of Section

Catalog Number	Wt./Ft.		Area of Selection		X-X Axis						Y-Y Axis					
	Lbs.	Kg.	Sq. In.	Sq. CM	I in^4	I cm^4	S in^3	S cm^3	r in	r cm	I in^4	I cm^4	S in^3	S cm^3	r in	r cm
AS 300 BTB	3.52	5.2	1.001	6.458	0.607	25.265	0.441	7.227	0.779	1.979	0.413	17.190	0.508	8.325	0.642	1.631

I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Beam and Column Loads

Span or Unbraced Height	Static Beam Load (X-X Axis)						Max. Allowable Load at Slot Face	Column Loading Data			
	Max Allowable Uniform Load	Deflection at Uniform Load	Uniform Load at Deflection					Max. Column Load Applied at C.G.			
			Span/180 Deflection	Span/240 Deflection	Span/360 Deflection	Weight of Channel		k=.65	k=.80	k=1.0	k=1.2
In	Lbs	In	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs
12	2,960*	0.01	2,960*	2,960*	2,960*	3.5	5,950	23,150	23,040	22,870	22,660
18	2,960*	0.02	2,960*	2,960*	2,960*	5.3	5,890	22,890	22,660	22,280	21,820
24	2,960*	0.04	2,960*	2,960*	2,960*	7.0	5,810	22,540	22,130	21,470	20,690
30	2,960*	0.06	2,960*	2,960*	2,960*	8.8	5,710	22,090	21,470	20,470	19,320
36	2,470	0.08	2,470	2,470	2,470	10.6	5,590	21,560	20,690	19,320	17,770
42	2,110	0.11	2,110	2,110	2,110	12.3	5,460	20,940	19,800	18,040	16,110
48	1,850	0.15	1,850	1,850	1,660	14.1	5,310	20,260	18,820	16,670	14,370
60	1,480	0.23	1,480	1,480	1,060	17.6	4,970	18,700	16,670	13,790	10,940
72	1,230	0.33	1,230	1,110	740	21.1	4,590	16,950	14,370	10,940	7,850
84	1,060	0.46	1,060	810	540	24.6	4,190	15,100	12,060	8,300	5,770
96	930	0.60	830	620	410	28.2	3,780	13,210	9,850	6,360	4,410
108	820	0.75	660	490	330	31.7	3,360	11,360	7,850	5,020	**
120	740	0.93	530	400	270	35.2	2,990	9,590	6,360	4,070	**
144	620	1.34	370	280	180	42.2	2,400	6,690	4,410	**	**
168	530	1.82	270	200	140	49.3	**	4,910	**	**	**
180	490	2.09	240	180	120	52.8	**	4,280	**	**	**
192	460	2.38	210	160	100	56.3	**	3,760	**	**	**
216	410	3.01	160	120	80	63.4	**	**	**	**	**
240	370	3.72	130	100	NR	70.4	**	**	**	**	**

Bearing Load may limit load
* Load limited by spot weld shear
** Not recommended – KL/r exceeds 200

Notes
1. The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
2. Refer to the Anvil-Strut Catalog for reduction factors for unbraced lengths
3. Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
4. The above chart shows beam capacities for strut without holes. For strut with holes, multiply by the following:
   EH by 88%, S by 90%,
   H ($^{9}/_{16}$ holes) by 88%, KO by 82% .

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Beam and Column Loads – Metric

Span or Unbraced Height	Static Beam Load (X-X Axis)						Max. Allowable Load at Slot Face	Column Loading Data			
	Max Allowable Uniform Load	Deflection at Uniform Load	Uniform Load at Deflection					Max. Column Load Applied at C.G.			
			Span/180 Deflection	Span/240 Deflection	Span/360 Deflection	Weight of Channel		k=.65	k=.80	k=1.0	k=1.2
mm	Kn	mm	Kn	Kn	Kn	Kg	Kn	Kn	Kn	Kn	Kn
305	13.2*	0.3	13.2*	13.2*	13.2*	1.6	26.5	103.0	102.5	101.7	100.8
457	13.2*	0.5	13.2*	13.2*	13.2*	2.4	26.2	101.8	100.8	99.1	97.1
610	13.2*	1.0	13.2*	13.2*	13.2*	3.2	25.8	100.3	98.4	95.5	92.0
762	13.2*	1.5	13.2*	13.2*	13.2*	4.0	25.4	98.3	95.5	91.1	85.9
914	11.0	2.0	11.0	11.0	11.0	4.8	24.9	95.9	92.0	85.9	79.0
1,067	9.4	2.8	9.4	9.4	9.4	5.6	24.3	93.1	88.1	80.2	71.7
1,219	8.2	3.8	8.2	8.2	7.4	6.4	23.6	90.1	83.7	74.2	63.9
1,524	6.6	5.8	6.6	6.6	4.7	8.0	22.1	83.2	74.2	61.3	48.7
1,829	5.5	8.4	5.5	4.9	3.3	9.6	20.4	75.4	63.9	48.7	34.9
2,134	4.7	11.7	4.7	3.6	2.4	11.2	18.6	67.2	53.6	36.9	25.7
2,438	4.1	15.2	3.7	2.8	1.8	12.8	16.8	58.8	43.8	28.3	19.6
2,743	3.6	19.1	2.9	2.2	1.5	14.4	14.9	50.5	34.9	22.3	**
3,048	3.3	23.6	2.4	1.8	1.2	16.0	13.3	42.7	28.3	18.1	**
3,658	2.8	34.0	1.6	1.2	0.8	19.1	10.7	29.8	19.6	**	**
4,267	2.4	46.2	1.2	0.9	0.6	22.4	**	21.8	**	**	**
4,572	2.2	53.1	1.1	0.8	0.5	23.9	**	19.0	**	**	**
4,877	2.0	60.5	0.9	0.7	0.4	25.5	**	16.7	**	**	**
5,486	1.8	76.5	0.7	0.5	0.4	28.8	**	**	**	**	**
6,096	1.6	94.5	0.6	0.4	NR	31.9	**	**	**	**	**

Welded Channel
Fig. AS 300BTB, AS 300

Materials

Carbon Steel: Channels are formed from high-quality, structural grade carbon steel which has been manufactured in accordance with ASTM A-1011-04- SS Grade 33 (hot rolled), or ASTM 366 (cold rolled), with mechanical properties of 33 ksi minimum yield and 52 ksi minimum tensile strength. The precision roll-forming process by which the channels are formed "cold works" the steel, thereby increasing its mechanical properties.

Stainless Steel: Channels are formed from chromium-nickel stainless steel sheet manufactured in accordance with ASTM A-240 specification, offered in both AISI Type 304 and 316 material to provide protection in varying corrosive conditions.

Aluminum: Extruded aluminum channel is produced from 6063-T6 alloy, and fittings are produced from 5052-H32 alloy, both in accordance with ASTM B-221 specifications. Aluminum is suitable for use in various corrosive environments.

Finishes

Pre-Galvanized: Hot dip, mill galvanized coating produced through a process of continuously passing the steel through a bath of molten zinc. This process is performed in accordance with ASTM A-653. The thickness of the zinc coating conforms with ASTM G-90 which represents a coating thickness of .90 ounces of zinc per square foot. This coating is applied to the steel master coils prior to slitting and fabrication.

Hot Dip Galvanized – Post Fabrication: The finished channel is completely immersed in a bath of molten zinc, resulting in the complete coating of all surfaces of the product, including edges and welds. Strut channels that are hot dip galvanized, have a total coating weight of 3.0 ounces of zinc per square foot in accordance with ASTM A-123 specification. This coating provides superior results in applications calling for prolonged outdoor exposure.

Supr-Green Powder Coating: Strut channels are coated after fabrication with polyester powder finish. This coating is applied using an electrostatic spray process, beginning with cleaning and phosphating, through a bonderite pretreatment process, and ending with oven curing. The resulting finish provides a high quality appearance and durability. Powder Coating is in accordance with ASTM B-117 (standard practice for operating salt spray (fog) apparatus) to 500 hours with less than $^{1}/_{8}$" scribe creep.

Zinc Trivalent Chromium: The finished channel undergoes a multi-step process consisting of electrogalvanizing, in accordance with ASTM B-633-85, followed by an application of zinc trivalent chromium, which provides the distinctive gold coloration of the finish. All surfaces are coated because the process is performed after fabrication.

PVC: A corrosive resistant PVC (polyvinyl chloride) coating is applied over the completed strut channel. The coating process consists of surface pretreatment, followed by preheating of the part, which is then passed through a fluidized bed of vinyl plastic powder. The powder melts onto the heated channel forming a smooth coating which undergoes a final heat curing.