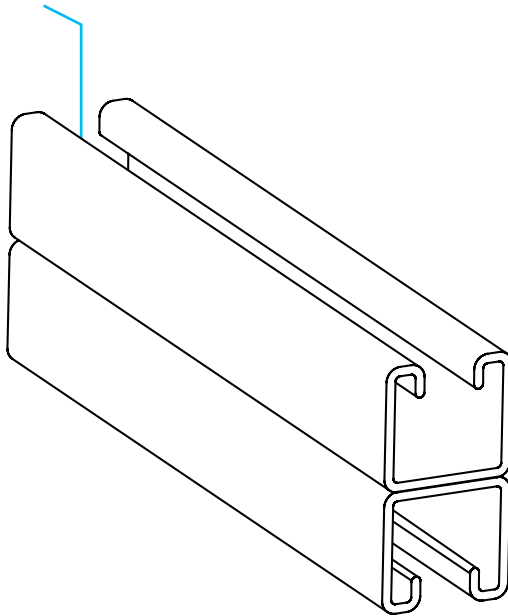


Welded Channel Fig. AS 210BTB, AS 210



Wt/100 Ft for Solid Back-to-Back: 290 Lbs

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 210BTB
PL, GR, PG, SS, ZTC, HG
Solid, EH, H, S, Other

Other Welded

AS 210 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.

Specifications

Size:

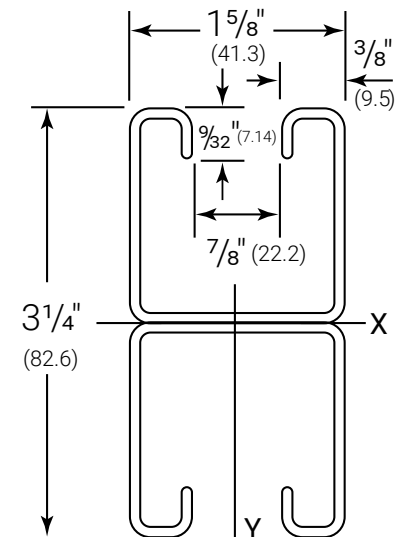
3 1/4" X 1 5/8" (82.6 x 41.3mm)
14 Gauge Back-to-Back • wt./100 ft. - 290 lbs

Materials:

Carbon Steel
Stainless Steel
Aluminum

Finishes

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



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

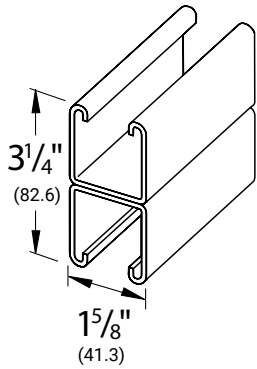
Welded Channel Fig. AS 210BTB, AS 210

Welded Combinations

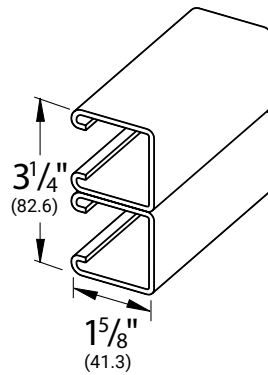
All welded combinations illustrated below are available in any of our Anvil-Strut channels (1⁵/₈" x 1⁵/₈" shown), in any of the following material or finishes: Plain, Pre-Galvanized, powder coated Supr-Green or Stainless Steel.

Note: Slotted channels available in all welded combinations.

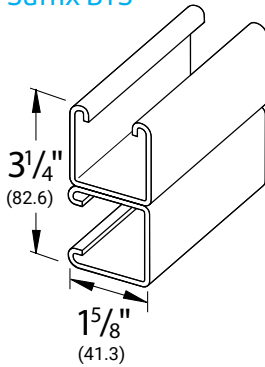
Suffix BTB



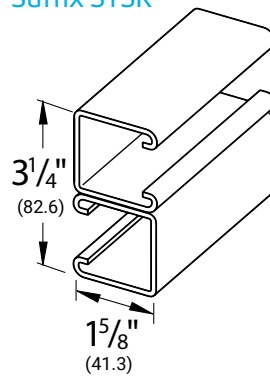
Suffix STS



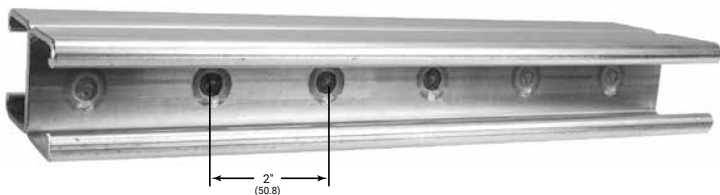
Suffix BTS



Suffix STSR



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



Welded Channel Fig. AS 210BTB, AS 210

3 1/4" X 1 5/8" (82.6 x 41.3mm)
14 Gauge Back-to-Back • wt./100 ft. – 290 lbs
Stocked in pre-galvanized, plain, powder coated
Supr-Green, zinc trivalent chromium, and hot dipped
galvanized, in 10 & 20 ft. lengths.
Note: Also available in Stainless Steel 304 & 316 Alloys. 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 210 BTB	2.9	4.3	0.832	5.368	0.741	30.843	0.456	7.473	0.944	2.398	0.366	15.234	0.45	7.374	0.663	1.684

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)							Column Loading Data			
	Max Allowable Uniform Load	Deflection at Uniform Load	Uniform Load at Deflection				Max. Allowable Load at Slot Face	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	2,180*	0.01	2,180*	2,180*	2,180*	2.9	5,140	19,250	19,170	19,030	18,870
18	2,180*	0.02	2,180*	2,180*	2,180*	4.4	5,100	19,050	18,870	18,570	18,210
24	2,180*	0.03	2,180*	2,180*	2,180*	5.8	5,040	18,780	18,460	17,940	17,320
30	2,180*	0.05	2,180*	2,180*	2,180**	7.3	4,970	18,430	17,940	17,160	16,250
36	2,180*	0.07	2,180*	2,180*	2,180*	8.7	4,880	18,010	17,320	16,250	15,030
42	2,180*	0.10	2,180*	2,180*	2,180*	10.2	4,780	17,530	16,630	15,240	13,700
48	1,910	0.13	1,910	1,910	1,910	11.6	4,670	16,990	15,860	14,150	12,310
60	1,530	0.20	1,530	1,530	1,300	14.5	4,420	15,760	14,150	11,840	9,530
72	1,270	0.28	1,270	1,270	900	17.4	4,120	14,370	12,310	9,530	6,960
84	1,090	0.39	1,090	990	660	20.3	3,800	12,890	10,450	7,360	5,110
96	960	0.50	960	760	510	23.2	3,460	11,380	8,640	5,630	3,910
108	850	0.64	800	600	400	26.1	3,100	9,870	6,960	4,450	3,090
120	760	0.79	650	490	320	29.0	2,770	8,420	5,630	3,610	**
144	640	1.13	450	340	220	34.8	2,230	5,930	3,910	**	**
168	550	1.54	330	250	170	40.6	**	4,350	**	**	**
180	510	1.77	290	220	140	43.5	**	3,790	**	**	**
192	480	2.01	250	190	130	46.4	**	3,330	**	**	**
216	420	2.55	200	150	100	52.2	**	**	**	**	**
240	380	3.15	160	120	80	58.0	**	**	**	**	**

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

- Notes
- 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.
 - Refer to the Anvil-Strut Catalog for reduction factors for unbraced lengths
 - 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%.
 - 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 (1/16 holes) by 88%, KO by 82%.

Welded Channel Fig. AS 210BTB, AS 210

Beam and Column Loads – Metric

Span or Unbraced Height	Static Beam Load (X-X Axis)							Column Loading Data			
	Max Allowable Uniform Load	Deflection at Uniform Load	Uniform Load at Deflection			Max. Allowable Load at Slot Face	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	9.7*	0.3	9.7*	9.7*	9.7*	1.3	22.9	85.6	85.3	84.6	83.9
457	9.7*	0.5	9.7*	9.7*	9.7*	2.0	22.7	84.7	83.9	82.6	81.0
610	9.7*	0.8	9.7*	9.7*	9.7*	2.6	22.4	83.5	82.1	79.8	77.0
762	9.7*	1.3	9.7*	9.7*	9.7*	3.3	22.1	82.0	79.8	76.3	72.3
914	9.7*	1.8	9.7*	9.7*	9.7*	3.9	21.7	80.1	77.0	72.3	66.9
1,067	9.7*	2.5	9.7*	9.7*	9.7*	4.6	21.3	78.0	74.0	67.8	60.9
1,219	8.5	3.3	8.5	8.5	8.5	5.3	20.8	75.6	70.5	62.9	54.8
1,524	6.8	5.1	6.8	6.8	5.8	6.6	19.7	70.1	62.9	52.7	42.4
1,829	5.6	7.1	5.6	5.6	4.0	7.9	18.3	63.9	54.8	42.4	31.0
2,134	4.8	9.9	4.8	4.4	2.9	9.2	16.9	57.3	46.5	32.7	22.7
2,438	4.3	12.7	4.3	3.4	2.3	10.5	15.4	50.6	38.4	25.0	17.4
2,743	3.8	16.3	3.6	2.7	1.8	11.8	13.8	43.9	31.0	19.8	13.7
3,048	3.4	20.1	2.9	2.2	1.4	13.2	12.3	37.5	25.0	16.1	**
3,658	2.8	28.7	2.0	1.5	1.0	15.8	9.9	26.4	17.4	**	**
4,267	2.4	39.1	1.5	1.1	0.8	18.4	**	19.3	**	**	**
4,572	2.3	45.0	1.3	1.0	0.6	19.7	**	16.9	**	**	**
4,877	2.1	51.1	1.1	0.8	0.6	21.0	**	14.8	**	**	**
5,486	1.9	64.8	0.9	0.7	0.4	23.7	**	**	**	**	**
6,096	1.7	80.0	0.7	0.5	0.4	26.3	**	**	**	**	**

Welded Channel Fig. AS 210BTB, AS 210

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.