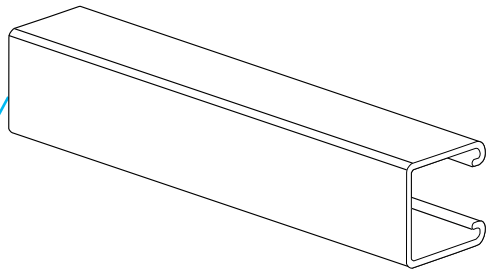
ASC Engineered Solutions

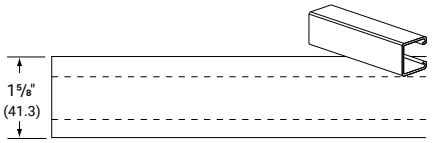
Channel
Figs. AS 300, AS 300EH, AS 300KO, AS 300H, AS 300S



Description

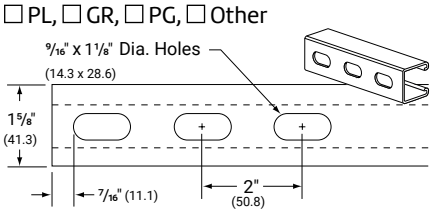
Anvil-Strut channels are manufactured by a series of forming dies, or rolls, which progressively cold work the strip steel into the desired channel configuration. This method produces a cross section of uniform dimensions within a tolerance of plus or minus 0.015", on outside dimensions.

Solid ☐ AS 300
☐ PL, ☐ GR, ☐ PG, ☐ Other



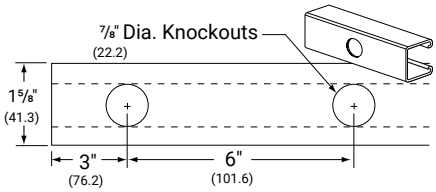
Wt/100 Ft: 176 Lbs

With Elongated Holes ☐ AS 300EH
☐ PL, ☐ GR, ☐ PG, ☐ Other



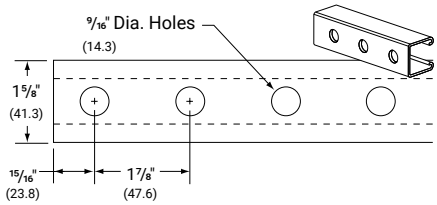
Wt/100 Ft: 171 Lbs

With Knock Out ☐ AS 300KO
☐ PL, ☐ GR, ☐ PG, ☐ Other



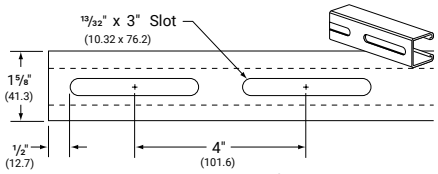
Wt/100 Ft: 176 Lbs

With Holes ☐ AS 300H
☐ PL, ☐ GR, ☐ PG, ☐ Other



Wt/100 Ft: 171 Lbs

With Long Slots ☐ AS 300S
☐ PL, ☐ GR, ☐ PG, ☐ Other



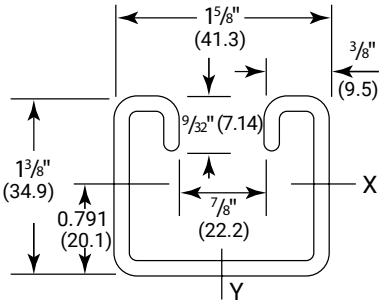
Wt/100 Ft: 161 Lbs

Specifications

Size:
1⅜" X 1⅝" (34.9 x 41.3mm)
12 Gauge Channel • wt./100 ft. - 176 lbs.

Materials:
Carbon Steel
Stainless Steel
Aluminum

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



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:	

Channel
Figs. AS 300, AS 300EH, AS 300KO, AS 300H, AS 300S

1 3/8" X 1 5/8" (34.9 x 41.3mm)
12 Gauge Channel • wt./100 ft. - 176 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	1.76	2.6	0.5	3.226	0.123	5.120	0.159	2.606	0.496	1.260	0.206	8.574	0.253	4.146	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	2,660	0.02	2,660	2,660	2,660	1.8	3,450	11,080	10,810	10,390	9,940
18	1,770	0.04	1,770	1,770	1,770	2.6	3,310	10,450	9,940	9,220	8,510
24	1,330	0.07	1,330	1,330	1,330	3.5	3,140	9,700	8,980	8,060	7,220
30	1,060	0.10	1,060	1,060	860	4.4	2,960	8,930	8,060	7,030	6,140
36	890	0.15	890	890	600	5.3	2,780	8,170	7,220	6,140	5,260
42	760	0.20	760	660	440	6.2	2,600	7,470	6,480	5,400	4,510
48	670	0.26	670	500	340	7.0	2,430	6,840	5,830	4,750	3,890
60	530	0.41	430	320	220	8.8	2,110	5,760	4,750	3,710	3,010
72	440	0.59	300	220	150	10.6	1,830	4,870	3,890	3,010	2,340
84	380	0.81	220	160	110	12.3	1,600	4,130	3,260	2,470	**
96	330	1.06	170	130	80	14.1	1,410	3,550	2,790	1,890	**
108	300	1.34	130	100	70	15.8	1,230	3,100	2,340	**	**
120	270	1.65	110	80	50	17.6	1,070	2,740	1,890	**	**
144	220	2.38	70	60	40	21.1	**	1,990	**	**	**
168	190	3.23	50	40	30	24.6	**	**	**	**	**
180	180	3.71	50	40	NR	26.4	**	**	**	**	**
192	170	4.22	40	30	NR	28.2	**	**	**	**	**
216	150	5.35	NR	NR	NR	31.7	**	**	**	**	**
240	130	6.60	NR	NR	NR	35.2	**	**	**	**	**

Bearing Load may limit load
** 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. 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%.
3. 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%.
4. Refer to the Anvil-Strut Catalog for reduction factors for unbraced lengths.

ANVIL-STRUT
An ASC Engineered Solution

Channel
Figs. AS 300, AS 300EH, AS 300KO, AS 300H, AS 300S

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	11.8	0.5	11.8	11.8	11.8	0.8	15.3	49.3	48.1	46.2	44.2
457	7.9	1.0	7.9	7.9	7.9	1.2	14.7	46.5	44.2	41.0	37.9
610	5.9	1.8	5.9	5.9	5.9	1.6	14.0	43.1	39.9	35.9	32.1
762	4.7	2.5	4.7	4.7	3.8	2.0	13.2	39.7	35.9	31.3	27.3
914	4.0	3.8	4.0	4.0	2.7	2.4	12.4	36.3	32.1	27.3	23.4
1,067	3.4	5.1	3.4	2.9	2.0	2.8	11.6	33.2	28.8	24.0	20.1
1,219	3.0	6.6	3.0	2.2	1.5	3.2	10.8	30.4	25.9	21.1	17.3
1,524	2.4	10.4	1.9	1.4	1.0	4.0	9.4	25.6	21.1	16.5	13.4
1,829	2.0	15.0	1.3	1.0	0.7	4.8	8.1	21.7	17.3	13.4	10.4
2,134	1.7	20.6	1.0	0.7	0.5	5.6	7.1	18.4	14.5	11.0	**
2,438	1.5	26.9	0.8	0.6	0.4	6.4	6.3	15.8	12.4	8.4	**
2,743	1.3	34.0	0.6	0.4	0.3	7.2	5.5	13.8	10.4	**	**
3,048	1.2	41.9	0.5	0.4	0.2	8.0	4.8	12.2	8.4	**	**
3,658	1.0	60.5	0.3	0.3	0.2	9.6	**	8.9	**	**	**
4,267	0.8	82.0	0.2	0.2	0.1	11.2	**	**	**	**	**
4,572	0.8	94.2	0.2	0.2	NR	12.0	**	**	**	**	**
4,877	0.8	107.2	0.2	0.1	NR	12.8	**	**	**	**	**
5,486	0.7	135.9	NR	NR	NR	14.4	**	**	**	**	**
6,096	0.6	167.6	NR	NR	NR	16.0	**	**	**	**	**

Channel
Figs. AS 300, AS 300EH, AS 300KO, AS 300H, AS 300S

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.