

#### LEGEND:

1" -(12.7)

\_\_\_\_\_4" \_\_\_\_\_ (101.6) Wt∕100 Ft: 130 Lbs

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.

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

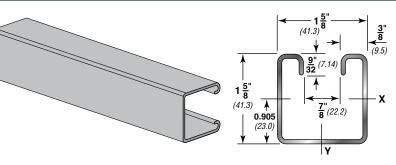


# AS 210

**WIL-STRUT** 

1<sup>5</sup>/8" X 1<sup>5</sup>/8" (41.3 x 41.3mm) 14 Gauge Channel • wt./100 ft. - 145#

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**

								IXI0		X-X Axis					Y-Y Axis				
No.	Lbs.	Kg	Sq. In.	Sq. CM	l in <sup>4</sup>	I cm <sup>4</sup>	S in <sup>3</sup>	S cm <sup>3</sup>	r in.	r cm	l in <sup>4</sup>	l cm <sup>4</sup>	S in <sup>3</sup>	S cm <sup>3</sup>	r in.	r cm			
AS 210	1.45	2.2	0.416	2.684	0.149	6.202	0.166	2.720	0.598	1.519	0.183	7.617	0.225	3.687	0.663	1.684			
AS 210	1.45	2.2		2.684	0.149	-	0.166			-		7.047	0.225			J			

 $I = Moment of Inertia \qquad S = Section Modulus \qquad r = Radius of Gyration$ 

#### **BEAM & COLUMN LOADS**

Span		St	atic Beam L	oad (X-X Axi	s)		Max.	Column Loading Data						
or	Max	Deflection	Uniform Load at Deflection				Allowable	Max. Column Load Applied at C.G.						
Unbraced Height	Allowable Uniform Load	at Uniform Load	Span/180 Deflection	Span/240 Deflection	Span/360 Deflection	Weight of Channel	Load at Slot Face	k=.65	k=.80	k=1.0	k=1.2			
In	Lbs	In	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs			
12	2,790	0.01	2,790	2,790	2,790	1.5	3,050	9,230	9,000	8,640	8,230			
18	1,860	0.03	1,860	1,860	1,860	2.2	2,930	8,690	8,230	7,550	6,830			
24	1,400	0.06	1,400	1,400	1,400	2.9	2,770	8,010	7,310	6,350	5,420			
30	1,120	0.09	1,120	1,120	1,040	3.6	2,590	7,250	6,350	5,200	4,190			
36	930	0.13	930	930	720	4.4	2,390	6,470	5,420	4,190	3,210			
42	800	0.18	800	800	530	5.1	2,180	5,700	4,570	3,350	2,580			
48	700	0.23	700	610	410	5.8	1,980	4,990	3,830	2,760	2,160			
60	560	0.36	520	390	260	7.3	1,620	3,740	2,760	2,050	1,640			
72	470	0.51	360	270	180	8.7	1,370	2,860	2,160	1,640	1,330			
84	400	0.70	270	200	130	10.2	1,190	2,320	1,780	1,370	1,120			
96	350	0.91	200	150	100	11.6	1,050	1,950	1,520	1,180	960			
108	310	1.16	160	120	80	13.1	940	1,690	1,330	1,030	**			
120	280	1.43	130	100	70	14.5	850	1,500	1,180	**	**			
144	230	2.06	90	70	50	17.4	710	1,220	960	**	**			
168	200	2.80	70	50	30	20.3	**	1,020	**	**	**			
180	190	3.21	60	40	30	21.8	**	940	**	**	**			
192	170	3.66	50	40	30	23.2	**	* *	**	* *	**			
216	160	4.63	40	30	NR	26.1	**	**	**	**	**			
240	140	5.72	30	NR	NR	29.0	**	**	**	**	**			

# Bearing Load may limit load

\*\* 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.
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:

4. Refer to the Anvil-Strut Catalog for reduction factors for unbraced lengths

NVIL-STRUT

CHANNEL



Span or Unbraced Height		St	atic Beam L	oad (X-X Ax	is)		Max.					
	Max	Deflection	Uniform Load at Deflection				Allowable	Max. Column Load Applied at C.G.				
	Allowable Uniform Load	at Uniform Load	Span/180 Deflection	Span/240 Deflection	Span/360 Deflection	Weight of Channel	Load at Slot Face	k=.65	k=.80	k=1.0	k=1.2	
mm	Кп	mm	Кп	Кп	Кп	Kg	Кп	Кп	Кп	Кп	Kn	
305	12.4	0.3	12.4	12.4	12.4	0.7	13.6	41.1	40.0	38.4	36.6	
457	8.3	0.8	8.3	8.3	8.3	1.0	13.0	38.7	36.6	33.6	30.4	
610	6.2	1.5	6.2	6.2	6.2	1.3	12.3	35.6	32.5	28.2	24.1	
762	5.0	2.3	5.0	5.0	4.6	1.6	11.5	32.2	28.2	23.1	18.6	
914	4.1	3.3	4.1	4.1	3.2	2.0	10.6	28.8	24.1	18.6	14.3	
1,067	3.6	4.6	3.6	3.6	2.4	2.3	9.7	25.4	20.3	14.9	11.5	
1,219	3.1	5.8	3.1	2.7	1.8	2.6	8.8	22.2	17.0	12.3	9.6	
1,524	2.5	9.1	2.3	1.7	1.2	3.3	7.2	16.6	12.3	9.1	7.3	
1,829	2.1	13.0	1.6	1.2	0.8	3.9	6.1	12.7	9.6	7.3	5.9	
2,134	1.8	17.8	1.2	0.9	0.6	4.6	5.3	10.3	7.9	6.1	5.0	
2,438	1.6	23.1	0.9	0.7	0.4	5.3	4.7	8.7	6.8	5.2	4.3	
2,743	1.4	29.5	0.7	0.5	0.4	5.9	4.2	7.5	5.9	4.6	* *	
3,048	1.2	36.3	0.6	0.4	0.3	6.6	3.8	6.7	5.2	* *	* *	
3,658	1.0	52.3	0.4	0.3	0.2	7.9	3.2	5.4	4.3	* *	* *	
4,267	0.9	71.1	0.3	0.2	0.1	9.2	* *	4.5	**	**	* *	
4,572	0.8	81.5	0.3	0.2	0.1	9.9	* *	4.2	* *	* *	**	
4,877	0.8	93.0	0.2	0.2	0.1	10.5	* *	* *	* *	* *	**	
5,486	0.7	117.6	0.2	0.1	NR	11.8	* *	* *	* *	**	**	
6.096	0.6	145.3	0.1	NR	NR	13.2	* *	* *	* *	* *	* *	

#### **BEAM & COLUMN LOADS - METRIC**

## **CHANNEL SPECIFICATIONS**

## **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 <sup>1</sup>/<sub>8</sub>" 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.