



P5000 - 1-5/8" x 3-1/4", 12 Gauge, Solid

12 Gauge Solid Strut Channel P5000 is commonly used for trapeze supports, seismic bracing, ceiling grids, pipe, conduit, duct and cable tray supports, racks, and other general framing. For application examples, refer to our Application Showcase.

Features

- Product dimensions are 1 5/8" wide x 3 1/4" tall x 12 ga. thick, solid.
- Punched holes are also available for ease of installation
- The advantage of a deeper, heavier gauge profile is to support heavier loads and mitigate deflection under load.
- OPM pre-approved for seismic applications
- UL and CSA listed
- Our P5000 is available in the following finishes: Pre-Galvanized (PG), Atkore Defender (DF), Hot-Dip Galvanized (HG), Plain (PL), Green (GR), Zinc Dichromate (ZD) and Stainless Steel (SS or ST).
- Made in the USA

Standard Lengths:

- 10 feet:** 10' or 10' 1/8" (3.05m) \pm 1/8" (3 mm)
- 20 feet:** 20' or 20' 3/8" (6.11m) \pm 1/8" (3 mm)

Special Lengths:

- Available with a tolerance of \pm 1/8" (3 mm). Request quote.

Curved Channel:

- Many Unistrut channel sections can be supplied with a curve. Click here for our ordering form, specifications, and instructions.

Load Data:

- All beam and column load data pertains to carbon steel and stainless steel channels.
- Load tables apply only to UNISTRUT brand channel. Look for "UNISTRUT" on the product.
- Load tables and charts are constructed to be in accordance with the SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007 EDITION published by the AMERICAN IRON AND STEEL INSTITUTE USING ASD METHOD.
- Loads are based on 33 ksi steel cold formed to 42 ksi.
- Safety Factor to Yield Strength is 1.67 for Beam Loads and 1.80 for Column Loads.
- Beam loads are based on a simple beam and are given as a total uniform load (W) in pounds. For proper calculation procedures, refer to our Beam Load Calculation Guide under Resources.
- For bearing loads, reference our Bearing Loads Page.

Materials & Finishes - Standard:

- Pregalvanized (PG):** Conforms to ASTM A653 SS GR 33, G90.
- Unistrut Defender (DF):** Conforms to ASTM A1046 SS GR 33
- Hot Dip Galvanized (HG):** Steel conforms to ASTM A1011 SS GR 33, Finish conforms to ASTM A123
- Perma-Green (GR):** Steel conforms to ASTM A1011 SS GR 33, E-Coat finish
- Perma-Gold (ZD):** Steel conforms to ASTM A1011 SS GR 33, Finish conforms to ASTM B633, Type II SC3
- Plain (PL):** Conforms to ASTM A1011 SS GR 33

Materials & Finishes - Special Metals:

- Stainless Steel, Type 304 (SS):** ASTM A240, Type 304 *
- Stainless Steel, Type 316 (ST):** ASTM A240, Type 316 *
- Aluminum (EA):** ASTM B221, Type 6063-T6 (Extruded) *

* These materials have different physical properties and performance characteristics. Please contact us for design support.



Catalog Number	Length (ft)	Gauge	Material Type	Surface Finish	Part Weight (lb/ft)	Standard Package Qty (ft)	Standard Package Weight (lb)
P5000 10DF	10	12	Steel	Defender	3.05	250	762.5
P5000 10GR	10	12	Steel	Green E-Coat	3.07	250	767.5
P5000 10HG	10	12	Steel	Hot-Dip Galvanized	3.07	250	767.5
P5000 10PG	10	12	Steel	Pre-Galvanized	3.07	250	767.5
P5000 10PL	10	12	Steel	Plain/Oil	3.05	250	762.5
P5000 10SS	10	12	Stainless Steel - 304		3.07	250	767.5
P5000 20DF	20	12	Steel	Defender	3.05	500	1525
P5000 20GR	20	12	Steel	Green E-Coat	3.07	500	1535
P5000 20HG	20	12	Steel	Hot-Dip Galvanized	3.07	500	1535
P5000 20PG	20	12	Steel	Pre-Galvanized	3.05	500	1525
P5000 20PL	20	12	Steel	Plain/Oil	3.07	500	1535
P5000 20SS	20	12	Stainless Steel - 304		3.07	500	1535
P5000 20ST	20	12	Stainless Steel - 316		3.07	500	1535
P5000 20ZD	20	12	Steel	Zinc Dichromate	3.05	500	1525

Beam Loading - P5000						
Span (in)	Max Allow. Uniform Load (lbs)	Deflection at Uniform Load (in)	Uniform Loading at Deflection			Lateral Bracing Reduction Factor
			Span/180 (lbs)	Span/240 (lbs)	Span/360 (lbs)	
24	5,260	0.03	5,260	5,260	5,260	0.98
36	3,500	0.07	3,500	3,500	3,500	0.85
48	2,630	0.12	2,630	2,630	2,630	0.70
60	2,100	0.18	2,100	2,100	1,920	0.55
72	1,750	0.26	1,750	1,750	1,330	0.44
84	1,500	0.36	1,500	1,470	980	0.38
96	1,310	0.47	1,310	1,120	750	0.33
108	1,170	0.59	1,170	890	590	0.30
120	1,050	0.73	960	720	480	0.28
144	880	1.06	670	500	330	0.24
168	750	1.43	490	370	240	0.22
192	660	1.88	370	280	190	0.21
216	580	2.35	300	220	150	0.19
240	530	2.95	240	180	120	0.18
Note	Bearing load may govern capacity.					

Refer to the General Specifications for loading information.

Column Loading - P5000					
Unbraced Height (in)	Allowable Load at Slot Face (lbs)	Max Column Load Applied at C.G.			
		K=0.65 (lbs)	K=0.80 (lbs)	K=1.0 (lbs)	K=1.2 (lbs)
24	5,650	16,870	15,180	12,850	10,600
36	4,690	13,140	10,600	7,650	5,660
48	3,560	9,550	6,860	4,790	3,660
60	2,730	6,680	4,790	3,450	2,710
72	2,160	4,980	3,660	2,710	2,170
84	1,760	3,950	2,960	2,240	1,820
96	1,500	3,270	2,500	1,930	1,580
108	1,310	2,800	2,170	1,690	1,390
120	1,170	2,450	1,930	1,510	KL/r>200
144	980	1,980	1,580	KL/r>200	KL/r>200
168	850	1,670	1,340	KL/r>200	KL/r>200

Refer to the General Specifications for loading information.

Elements of Section - P5000		
Area of Section	0.897 in ² (5.8 cm ²)	
	Axis 1-1	Axis 2-2
Moment of Inertia (I)	1.098 in ⁴ (45.7 cm ⁴)	0.433 in ⁴ (18 cm ⁴)
Section Modulus (S)	0.627 in ³ (10.3 cm ³)	0.533 in ³ (8.7 cm ³)
Radius of Gyration (r)	1.107 in (2.8 cm)	0.695 in (1.8 cm)