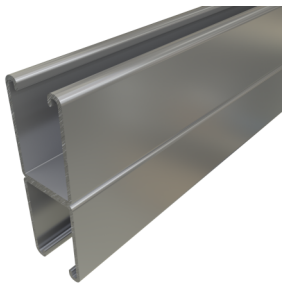

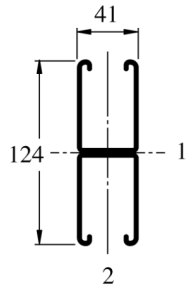

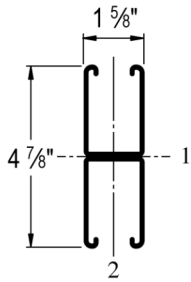

P5501 - 1-5/8" x 4 7/8", 12 Gauge, Back-to-Back, Solid

12 Gauge Welded Strut Channel P5501 (back-to-back solid) channel is our 12 gauge channel that 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 4 7/8" tall x 12 ga. thick, solid
- Punched holes are also available for ease of installation
- The advantage of a back-to-back channel is the versatile connection points and superior load capabilities
- OPM pre-approved for seismic applications
- 2-sided attachment
- Our P5501 is available in the following finishes: Pre-Galvanized (PG), Atkore Defender (DF), Hot-Dip Galvanized (HG), Plain (PL), Green (GR), Zinc Dichromate (ZD) and Aluminum (EA).
- Made in the USA

Standard Lengths:
- **10 feet:** 10' or 10' 1/8" (3.05m) ± 1/8" (3 mm)
- **20 feet:** 20' or 20' 3/8" (6.11m) ± 1/8" (3 mm)

Special Lengths:

- Available with a tolerance of ±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.

Welds:

- Welded channels are spot welded 2" (51 mm) or 3" (76 mm) on-center.

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

P5501

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)
P5501 10DF	10	12	Steel	Defender	4.94	150	741
P5501 10GR	10	12	Steel	Green E-Coat	4.94	150	741
P5501 10HG	10	12	Steel	Hot-Dip Galvanized	4.94	150	741
P5501 10PG	10	12	Steel	Pre-Galvanized	4.94	150	741
P5501 10PL	10	12	Steel	Plain/Oil	4.94	150	741
P5501 20DF	20	12	Steel	Defender	4.94	300	1482
P5501 20GR	20	12	Steel	Green E-Coat	4.94	300	1482
P5501 20HG	20	12	Steel	Hot-Dip Galvanized	4.94	300	1482
P5501 20PG	20	12	Steel	Pre-Galvanized	4.94	300	1482
P5501 20PL	20	12	Steel	Plain/Oil	4.94	300	1482
P5501 20ZD	20	12	Steel	Zinc Dichromate	4.94	300	1482
P5501 24GR SE	24	12	Steel	Green E-Coat	4.94		

Beam Loading - P5501

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	*5,220	0.01	*5,220	*5,220	*5,220	1.00
36	*5,220	0.04	*5,220	*5,220	*5,220	1.00
48	4,820	0.08	4,820	4,820	4,820	0.98
60	3,860	0.13	3,860	3,860	3,860	0.93
72	3,220	0.19	3,220	3,220	3,220	0.87
84	2,760	0.26	2,760	2,760	2,500	0.81
96	2,410	0.34	2,410	2,410	1,920	0.76
108	2,140	0.42	2,140	2,140	1,510	0.70
120	1,930	0.52	1,930	1,840	1,230	0.64
144	1,610	0.76	1,610	1,280	850	0.53
168	1,380	1.03	1,250	940	630	0.45
192	1,210	1.35	960	720	480	0.39
216	1,070	1.70	760	570	380	0.34
240	960	2.09	610	460	310	0.30
Note	*Load limited by weld shear					

Refer to the General Specifications for loading information.

Column Loading - P5501

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	8,580	31,810	30,880	29,520	28,100
36	8,350	29,700	28,100	26,000	24,070
48	8,080	27,390	25,330	22,910	20,940
60	7,720	25,170	22,910	20,510	17,170
72	7,270	23,190	20,940	17,170	12,700
84	6,780	21,510	18,740	13,430	9,330
96	6,130	20,110	15,630	10,290	7,150
108	5,450	17,750	12,700	8,130	5,650
120	4,800	15,260	10,290	6,590	KL/r>200
144	3,760	10,830	7,150	KL/r>200	KL/r>200
168	2,970	7,950	5,250	KL/r>200	KL/r>200

Refer to the General Specifications for loading information.

Elements of Section - P5501

Area of Section	$1.452\ in^2\ (9.4\ cm^2)$	
	Axis 1-1	Axis 2-2
Moment of Inertia (I)	$2.805\ in^4\ (116.8\ cm^4)$	$0.669\ in^4\ (27.8\ cm^4)$
Section Modulus (S)	$1.151\ in^3\ (18.9\ cm^3)$	$0.823\ in^3\ (13.5\ cm^3)$
Radius of Gyration (r)	1.39 in (3.5 cm)	0.679 in (1.7 cm)