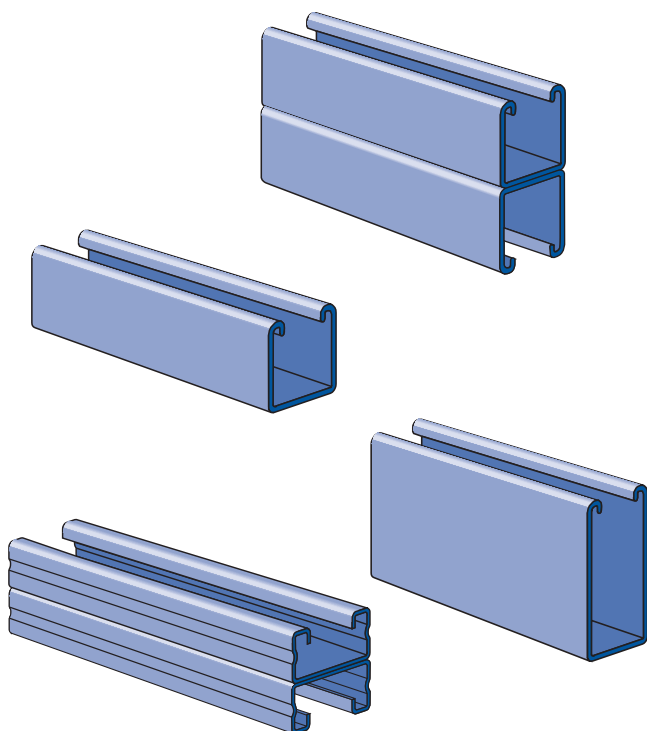




MATERIAL

Unistrut channels are accurately and carefully cold formed to size from low-carbon strip steel.

All spot-welded combination members, except P1001T, are welded 3" (76 mm) maximum on center.

STEEL: PLAIN

12 Ga. (2.7 mm), 14 Ga. (1.9 mm) and
16 Ga. (1.5 mm) ASTM A1011 SS GR 33

STEEL: PRE-GALVANIZED

12 Ga. (2.7 mm), 14 Ga. (1.9 mm) and
16 Ga. (1.5 mm) ASTM A653 GR 33

For other materials, see Special Metals or
Fiberglass sections.

FINISHES

All channels are available in:

- Perma Green III (GR)
- Pre-galvanized (PG), conforming to
ASTM A653 G90
- Hot-dipped galvanized (HG), conforming to
ASTM A123
- Plain (PL)
- Unistrut Defender™ (DF), conforming to
ASTM A1046

Channel Selection Chart	23
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P2000 (16 Gauge)	33 - 35
P3000 (12 Gauge)	36 - 38
P3300 (12 Gauge)	39 - 41
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P4400 (12 Gauge)	48 - 50
P4520 (12 Gauge)	51 - 53
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DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in millimeters and rounded to one decimal place.

STANDARD LENGTHS

Standard lengths are 10 feet (3.05m) and 20 feet (6.10m). Tolerances are $\pm \frac{1}{8}$ " (3 mm). Special lengths are available for a small cutting charge with a tolerance of $\pm \frac{1}{8}$ " (3 mm).

CURVED CHANNEL

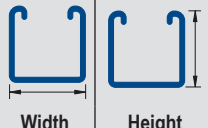
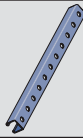
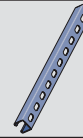
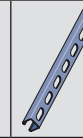
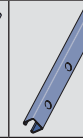
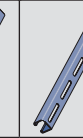
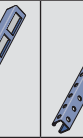
Contact your local Unistrut Service Center or Unistrut Corporation for more information.

LOAD DATA

All beam and column load data pertains to carbon steel and stainless steel channels. 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.

Type of Load	Safety Factor to Yield Strength
Beam Loads	1.67
Column Load	1.80

CHANNEL SELECTION CHART

Channel	Channel Dimensions		Material & Thickness			Hole Pattern Styles						
			Steel gauge	Stainless Steel gauge	Alum. In (mm)							
	Width	Height				HS	T	WT	KO	SL	DS	H3
	In (mm)	In (mm)							Steel Only			
P1000	1½ (41.3)	1½ (41.3)	12 ga	12 ga	0.109 (2.8)	■	■	■	■	■	■	■
P1100	1½ (41.3)	1½ (41.3)	14 ga	14 ga	—	■	■	■	■	■	—	—
P2000	1½ (41.3)	1½ (41.3)	16 ga	—	—	■	■	■	■	■	—	—
P3000	1½ (41.3)	1½ (34.9)	12 ga	—	—	■	■	■	■	■	—	—
P3300	1½ (41.3)	¾ (22.2)	12 ga	12 ga	—	■	■	■	—	■	—	—
P4000	1½ (41.3)	1¾ (20.6)	16 ga	16 ga	0.078 (2.0)	■	■	■	—	■	—	—
P4100	1½ (41.3)	1¾ (20.6)	14 ga	—	—	■	■	■	—	■	—	—
P4400	1½ (41.3)	1 (25.4)	12 ga	—	—	■	■	■	—	■	—	—
P4520	1½ (41.3)	1¾ (20.6)	12 ga	—	—	■	■	■	—	■	—	—
P5000	1½ (41.3)	3¼ (82.6)	12 ga	12 ga	—	■	■	■	■	■	—	—
P5500	1½ (41.3)	2¾ (61.9)	12 ga	—	0.109 (2.8)	■	■	■	■	■	—	—

CHANNELS & COMBINATIONS IN DESCENDING ORDER OF STRENGTH

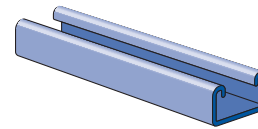
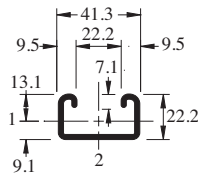
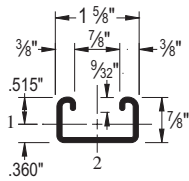
Channel	Area In ² (cm ²)	Weight lbs/ft (kg/m)	I In ⁴ (cm ⁴)	s In ³ (cm ³)	Allow. Moment In-lbs (N·m)
P5001	1.793 11.57	6.10 9.1	6.227 259.2	1.916 31.4	48,180 5,440
P1004A	1.965 12.68	6.68 9.9	4.068 169.3	1.669 27.4	41,980 4,740
P5501	1.452 9.37	4.94 7.3	2.805 116.8	1.151 18.9	28,940 3,270
P1001C41	2.221 14.33	7.55 11.2	1.856 77.2	1.142 18.7	28,720 3,250
P5000	0.897 5.78	3.05 4.5	1.098 45.7	0.627 10.3	15,770 1,780
P1001	1.111 7.16	3.78 5.6	0.928 38.6	0.571 9.4	14,360 1,620
P1101	0.835 5.39	2.84 4.2	0.733 30.5	0.451 7.4	11,340 1,280
P3001	1.000 6.45	3.40 5.1	0.591 24.6	0.430 7.0	10,810 1,220
P5500	0.726 4.68	2.47 3.7	0.522 21.7	0.390 6.4	9,820 1,110
P2001	0.684 4.41	2.32 3.5	0.618 25.7	0.381 6.2	9,570 1,080
P9200	0.489 3.16	2.23 3.3	0.279 11.6	0.297 4.9	7,480 850
P4401	0.849 5.48	5.77 8.5	0.26 10.6	0.26 4.2	6,410 725
A1001	0.609 3.93	2.07 3.1	0.302 12.6	0.242 4.0	6,070 690
P9000	0.387 2.50	1.88 2.8	0.166 6.9	0.205 3.4	5,150 580
P1000	0.555 3.58	1.89 2.8	0.185 7.7	0.202 3.3	5,070 570
P3301	0.790 5.10	2.69 4.0	0.176 7.3	0.201 3.3	5,060 570
P4521	0.77 4.97	2.62 3.9	0.15 6.1	0.18 2.9	4,538 513

Channel	Area In ² (cm ²)	Weight lbs/ft (kg/m)	I In ⁴ (cm ⁴)	s In ³ (cm ³)	Allow. Moment In-lbs (N·m)
P1100	0.418 2.69	1.42 2.1	0.145 6.0	0.162 2.6	4,060 460
P3000	0.500 3.23	1.70 2.5	0.120 5.0	0.153 2.5	3,850 430
P4101	0.579 3.74	1.97 2.9	0.117 4.9	0.143 2.4	3,610 410
P2000	0.342 2.21	1.16 1.7	0.125 5.2	0.140 2.3	3,520 400
P4001	0.478 3.14	1.66 2.5	0.104 4.3	0.128 2.1	3,210 360
A3301	0.459 2.96	1.56 2.3	0.077 3.2	0.103 1.7	2,590 290
P4400	0.424 2.74	2.89 4.3	0.053 2.2	0.092 1.5	2,300 260
A1000	0.305 1.96	1.04 1.5	0.061 2.5	0.086 1.4	2,170 250
P3300	0.395 2.55	1.34 2.0	0.037 1.5	0.072 1.2	1,800 200
P4520	0.384 2.48	1.31 1.9	0.031 1.3	0.064 1.0	1,615 183
A4001	0.264 1.70	0.90 1.3	0.037 1.5	0.058 1.0	1,470 170
P6001	0.213 1.38	0.73 1.1	0.045 1.9	0.055 0.9	1,400 160
P4100	0.290 1.87	0.98 1.5	0.026 1.1	0.054 0.9	1,360 150
P4000	0.244 1.57	0.83 1.2	0.023 0.9	0.049 0.8	1,230 140
A3300	0.230 1.48	0.78 1.2	0.017 0.7	0.038 0.6	950 110
P6000	0.107 0.69	0.36 0.5	0.009 0.4	0.020 0.3	510 60
P7001	0.148 0.96	0.50 0.8	0.007 0.3	0.018 0.3	460 50
P7000	0.074 0.48	0.25 0.4	0.002 0.1	0.007 0.1	170 20

Combinations not shown in catalog are available on special order.
Consult factory for more details.

P3300

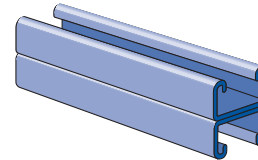
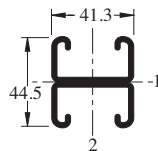
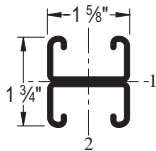
DF GR PG PL



Wt/100 Ft: 134 Lbs (200 kg/100 m)
Allowable Moment 1,800 In-Lbs (200 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

P3301

DF GR PG

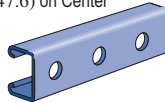


Wt/100 Ft: 269 Lbs (400 kg/100 m)
Allowable Moment 5,060 In-Lbs (570 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

P3300 HS

GR PG

9/16" (14.3) Dia. Holes
1 7/8" (47.6) on Center

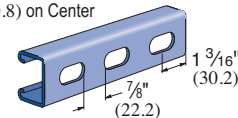


Wt/100 Ft: 130 Lbs (193 kg/100 m)

P3300 T

DF GR PG

Slots are
1 1/8" (28.6) x 9/16" (14.3)
2" (50.8) on Center

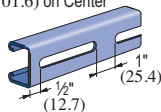


Wt/100 Ft: 130 Lbs (193 kg/100 m)

P3300 SL

GR PG

Slots are
3" (76.2) x 1 3/32" (10.3)
4" (101.6) on Center

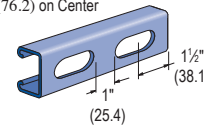


Wt/100 Ft: 130 Lbs (193 kg/100 m)

P3300 WT

DF GR HG PG PL

Slots are
2" (50.8) x 1 1/16" (17.5)
3" (76.2) on Center



Wt/100 Ft: 130 Lbs (193 kg/100 m)

CHANNEL NUTS (REFER TO PAGES 73,74 FOR DETAILS)

SEE PAGE 73, 74



P4006-0832
P4006-1024
P4006-1420
P4007
P4008
P4009
P4010



P4010T



P4012
P4023



P3006-0832
P3006-1024
P3006-1420
P3007
P3008
P3009
P3013



P3016-0632
P3016-0832
P3016-1024
P3016-1420

Channel Finishes: DF, PL, GR, HG, PG, ZD; Standard Lengths: 10' & 20'



P3300 - BEAM LOADING

Span In	Max Allowable Uniform Load Lbs	Defl. at Uniform Load In	Uniform Loading at Deflection		
			Span/180 Lbs	Span/240 Lbs	Span/360 Lbs
24	600	0.10	600	600	400
36	400	0.22	360	270	180
48	300	0.40	200	150	100
60	240	0.62	130	100	60
72	200	0.89	90	70	40
84	170	1.20	70	50	30
96	150	1.59	50	40	30
108	130	1.96	40	30	20
120	120	2.48	30	20	20

P3301 - BEAM LOADING

Span In	Max Allowable Uniform Load Lbs	Defl. at Uniform Load In	Uniform Loading at Deflection		
			Span/180 Lbs	Span/240 Lbs	Span/360 Lbs
24	1,690	0.06	1,690	1,690	1,690
36	1,130	0.13	1,130	1,130	860
48	840	0.23	840	720	480
60	680	0.37	620	460	310
72	560	0.52	430	320	210
84	480	0.71	310	240	160
96	420	0.93	240	180	120
108	380	1.20	190	140	100
120	340	1.47	150	120	80
144	280	2.09	110	80	50

P3300 - COLUMN LOADING

Unbraced Height In	Maximum Allowable Load at Slot Face Lbs	Maximum Column Load Applied at C.G.			
		K = 0.65 Lbs	K = 0.80 Lbs	K = 1.0 Lbs	K = 1.2 Lbs
24	2,360	7,740	7,260	6,350	5,390
36	2,120	6,470	5,390	3,990	2,810
48	1,760	4,910	3,550	2,270	1,580
60	1,380	3,440	2,270	1,460	**
72	1,080	2,390	1,580	**	**

P3301 - COLUMN LOADING

Unbraced Height In	Maximum Allowable Load at Slot Face Lbs	Maximum Column Load Applied at C.G.			
		K = 0.65 Lbs	K = 0.80 Lbs	K = 1.0 Lbs	K = 1.2 Lbs
24	4,290	16,990	16,580	15,770	14,720
36	4,150	15,890	14,720	12,980	11,120
48	3,940	14,160	12,360	9,880	7,510
60	3,650	12,210	9,880	6,940	4,820
72	3,270	10,190	7,510	4,820	3,350
84	2,800	8,220	5,530	3,540	**
96	2,410	6,420	4,240	**	**
108	2,080	5,070	3,350	**	**

P3300/P3301 - ELEMENTS OF SECTION

Parameter	P3300		P3301	
Area of Section	0.395	In ²	0.790	In ²
Axis 1-1				
Moment of Inertia (I)	0.037	In ⁴	0.176	In ⁴
Section Modulus (S)	0.072	In ³	0.201	In ³
Radius of Gyration (r)	0.306	In	0.472	In
Axis 2-2				
Moment of Inertia (I)	0.143	In ⁴	0.285	In ⁴
Section Modulus (S)	0.176	In ³	0.351	In ³
Radius of Gyration (r)	0.601	In	0.601	In

Notes:

* Load limited by spot weld shear.

** KL/r > 200

NR = Not Recommended.

- Beam loads are given in total uniform load (W Lbs) not uniform load (w lbs/ft or w lbs/in).
- Beam loads are based on a simple span and assumed to be adequately laterally braced. Unbraced spans can reduce beam load carrying capacity. Refer to Page 62 for reduction factors for unbraced lengths.
- For pierced channel, multiply beam loads by the following factor:
"KO" Series.....95% **"T" Series85%**
"HS" Series90% **"SL" Series85%**
"WT" Series.....85%
- Deduct channel weight from the beam loads.
- For concentrated midspan point loads, multiply beam loads by 50% and the corresponding deflection by 80%. For other load conditions refer to page 18.
- All beam loads are for bending about Axis 1-1.

P3300 - BEAM LOADING (METRIC)

Span mm	Max Allowable Uniform Load kN	Defl. at Uniform Load mm	Uniform Loading at Deflection		
			Span/180 kN	Span/240 kN	Span/360 kN
600	2.7	2	2.7	2.7	1.9
750	2.2	4	2.2	1.8	1.2
1,000	1.6	7	1.3	1.0	0.7
1,250	1.3	10	0.8	0.6	0.4
1,500	1.1	15	0.6	0.4	0.3
1,750	0.9	21	0.4	0.3	0.2
2,000	0.8	27	0.3	0.3	0.2
2,500	0.7	43	0.2	0.2	0.1
3,000	0.5	60	0.1	0.1	0.1
3,500	0.4	79	0.1	0.1	NR

P3301 - BEAM LOADING (METRIC)

Span mm	Max Allowable Uniform Load kN	Defl. at Uniform Load mm	Uniform Loading at Deflection		
			Span/180 kN	Span/240 kN	Span/360 kN
600	7.6	1	7.6	7.6	7.6
750	6.1	2	6.1	6.1	5.6
1,000	4.6	4	4.6	4.6	3.2
1,250	3.6	6	3.6	3.1	2.0
1,500	3.1	9	2.8	2.1	1.4
1,750	2.6	12	2.1	1.6	1.0
2,000	2.3	16	1.6	1.2	0.8
2,500	1.8	25	1.0	0.8	0.5
3,000	1.5	36	0.7	0.5	0.4
3,500	1.3	48	0.5	0.4	0.3
4,000	1.2	65	0.4	0.3	0.2

P3300 - COLUMN LOADING (METRIC)

Unbraced Height mm	Maximum Allowable Load at Slot Face kN	Maximum Column Load Applied at C.G.			
		K = 0.65 kN	K = 0.80 kN	K = 1.0 kN	K = 1.2 kN
600	10.5	34.6	32.6	28.6	24.4
750	10.1	32.3	28.6	23.3	18.2
1,000	9.1	26.9	21.6	15.0	10.5
1,250	7.6	21.2	15.0	9.6	6.7
1,500	6.3	15.8	10.5	6.7	**
1,750	5.1	11.6	7.6	**	**

P3301 - COLUMN LOADING (METRIC)

Unbraced Height mm	Maximum Allowable Load at Slot Face kN	Maximum Column Load Applied at C.G.			
		K = 0.65 kN	K = 0.80 kN	K = 1.0 kN	K = 1.2 kg
600	19.1	75.7	73.9	70.5	66.0
750	18.9	73.8	70.5	64.7	58.4
1,000	18.2	68.6	62.7	53.9	44.8
1,250	17.4	62.1	53.9	42.6	31.9
1,500	16.4	55.0	44.8	31.9	22.2
1,750	15.0	47.6	36.0	23.4	16.3
2,000	13.3	40.3	28.0	17.9	**
2,250	11.8	33.4	22.2	14.1	**
2,500	10.4	27.2	17.9	**	**
2,750	9.2	22.5	14.8	**	**

P3300/P3301 - ELEMENTS OF SECTION (METRIC)

Parameter	P3300	P3301
Area of Section	2.55 cm ²	5.10 cm ²
Axis 1-1		
Moment of Inertia (I)	1.54 cm ⁴	7.33 cm ⁴
Section Modulus (S)	1.18 cm ³	3.30 cm ³
Radius of Gyration (r)	0.78 cm	1.20 cm
Axis 2-2		
Moment of Inertia (I)	5.94 cm ⁴	11.87 cm ⁴
Section Modulus (S)	2.88 cm ³	5.75 cm ³
Radius of Gyration (r)	1.53 cm	1.53 cm

Notes:

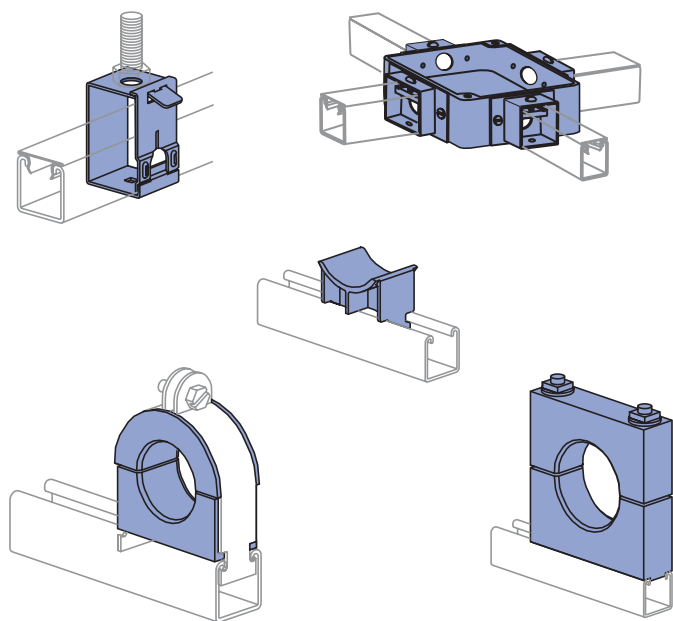
* Load limited by spot weld shear.

** KL/r > 200

NR = Not Recommended.

- Beam loads are given in total uniform load (W Lbs) not uniform load (w lbs/ft or w lbs/in).
- Beam loads are based on a simple span and assumed to be adequately laterally braced. Unbraced spans can reduce beam load carrying capacity. Refer to Page 62 for reduction factors for unbraced lengths.
- For pierced channel, multiply beam loads by the following factor:

"KO" Series.....95%	"T" Series85%
"HS" Series90%	"SL" Series85%
"WT" Series.....85%	
- Deduct channel weight from the beam loads.
- For concentrated midspan point loads, multiply beam loads by 50% and the corresponding deflection by 80%. For other load conditions refer to page 18.
- All beam loads are for bending about Axis 1-1.



MATERIAL

Unistrut fittings, unless noted, are made from hot-rolled, pickled and oiled steel plates, strip, bar or coil, and conform to one or more of the following specifications:

ASTM A575, A576, A635, A1011 SS GR 33, A1011 HSLAS GR 45 or A36. The fitting steel also meets or exceeds the physical requirements of ASTM A1011 SS GR 33.

Maple cable saddles, cable clamps and bus bar clamps are made from kiln-dry maple treated with paraffin to a depth of $\frac{1}{16}$ " (1.6mm). Special sizes of clamps can be fabricated upon request. Cable saddles are fiberglass-reinforced polyester.

CHANNEL RACEWAYS

The Unistrut Metal Framing System includes an exclusive combination of channel, fittings and hardware listed under new UL classification 5B. This classification covers strut-type channel raceways and fittings for use in accordance with Article 384 of the National Electrical Code, NFPA 70. Included are metal strut-type channel raceways at least .071 inch (1.81mm) thick and metal or non-metal closure strips at least .040 inch (1.02mm) thick.

The Unistrut system requires no welding, drilling or other complex fabrication techniques. This means faster, easier solutions for virtually any electrical support problem.

Unistrut channel offers structural and spanning capabilities not available with conventional surface raceway products and is available in continuous lengths of up to 20 feet. Just as important, it is part of an integrated system that can be used for raceways, trapeze hangers, cable-tray supports, lighting grids, fluorescent-fixture supports and countless other electrical applications.

Electrical Fittings.....	128 - 130
Receptacles.....	131
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CHANNEL COMPATABILITY

All of the electrical components in this section are intended for use with any of the $1\frac{5}{8}$ " wide channel. They are not intended for use with $1\frac{1}{4}$ " or $1\frac{3}{16}$ " framing systems.

FINISHES

Components listed in this section are available in:

- Electro-galvanized (EG), conforming to ASTM B633 Type III SC1;
- Hot-dipped galvanized (HG), conforming to ASTM A123 or A153,
- Green Powder Coat (GR), conforming to commercial standards for Powder Coating
- Plain (PL)

Note: Many Unistrut Metal Framing components, when used with appropriate closures, are UL® listed, and CSA approved.

DESIGN LOAD

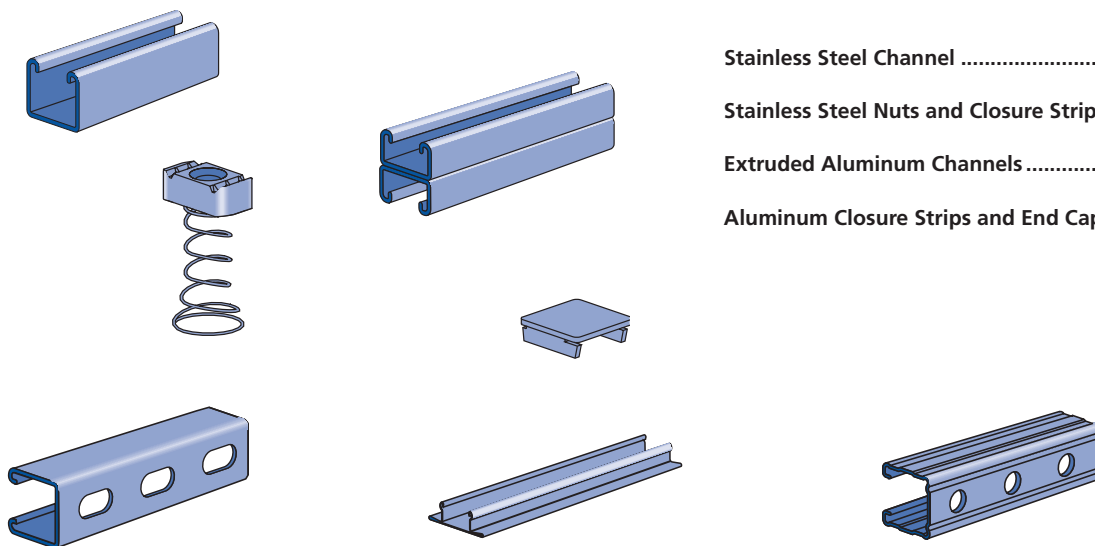
Design load data, where shown, is based on the ultimate strength of the connection with a safety factor of 2.5, unless otherwise noted.

DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parenthesis or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

LISTINGS

UL File No. - E19459	Channel & Closure Strips
UL File No. - E25629	Fittings
CSA File No. - 013669	All Products



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MATERIAL

STAINLESS STEEL

Channels: ASTM A 240 (Type 304)

Sintered nuts: ASTM B783 (Type SS316N1-25)

Fittings:

ASTM A240 (Type 304 or Type 316) or ASTM A276 (Type 304 or Type 316)

Contact factory for specific material availability.

ALUMINUM

Channels (Extruded): ASTM B221 (Type 6063-T6)

Fittings: ASTM B209 (Type 1100F or Type 5052-H32)

Nuts: Stainless steel nuts are recommended for Aluminum channel

EXTRUDED ALUMINUM

To determine nut slip resistance, multiply load data for appropriate nut by 75%. To determine nut pull-out load, multiply load data for appropriate nut by 50%.

STAINLESS STEEL

For design assistance, consult Unistrut customer engineering.

PRODUCT AVAILABILITY

Most fittings and channels shown in this catalog, are available in aluminum or stainless steel. Consult factory for ordering information.

DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parenthesis or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

LOAD DATA (BEAM & COLUMN)

To determine maximum allowable beam and column loading for channels in this section, multiply the load data in the appropriate mild steel channel sections of this catalog by the following factors:

Channel Material	Beam Load % Factor	Column Load % Factor
Extruded Aluminum	33%	33%
Stainless Steel	100%	100%

LOAD DATA (SLIP & PULL OUT)