

CHANNEL NUT LOAD DATA

FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL



MAXIMUM ALLOWABLE PULL-OUT AND SLIP LOADS

Channel Nut Size/Thread	Gage	Channel	Allowable Pull-Out Strength		Resistance to Slip		Torque	
			Lbs	kN	Lbs	kN	Ft Lbs	N•m
3/4" - 10	12	P1000 P3000 P5000 P5500	2500	11.1	1700	7.6	125*	170
5/8" - 11			2500	11.1	1500	6.7	100*	135
1/2" - 13			2000	8.9	1500	6.7	50	70
7/16" - 14			1400	6.2	1000	4.4	35	50
3/8" - 16			1000	4.4	800	3.6	19	25
5/16" - 18			800	3.6	500	2.2	11	15
1/4" - 20			600	2.7	300	1.3	6	8
1/2" - 13	12	P3300	1500	6.7	1500	6.7	50	70
3/8" - 16			1000	4.4	800	3.6	19	25
5/16" - 18			800	3.6	500	2.2	11	15
1/4" - 20			600	2.7	300	1.3	6	8
1/2" - 13	14	P1100 & P4100	1400	6.2	1000	4.4	50	70
3/8" - 16			1000	4.4	750	3.3	19	25
5/16" - 18			800	3.6	400	1.8	11	15
1/4" - 20			600	2.7	300	1.3	6	8
1/2" - 13	16	P2000 & P4000	1000	4.4	1000	4.4	50	70
3/8" - 16			1000	4.4	750	3.3	19	25
5/16" - 18			800	3.6	400	1.8	11	15
1/4" - 20			600	2.7	300	1.3	6	8

* May require 3/8" or 1/2" thick fitting.

Nut design loads include a minimum safety factor of 3.

Note: Refer to the Channel Nut Selection Chart on the following two pages for the part number.

1 5/8" Channels

Nuts & Hardware

General Fittings

Pipe/Conduit Supports

Electrical Fittings

Concrete Inserts

1 1/4" Framing System

1 3/16" Framing System

Spec. Metals & Fiberglass

Index

BEARING LOADS FOR CHANNEL & COMBINATIONS

FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL



BEARING LOADS ON UNISTRUT CHANNELS

Channel	Bearing Length 1 5/8" (41 mm)		Bearing Length 1 5/8" (41 mm)		Bearing Length 3/4"(92 mm)	
	Maximum Allowable Loads		Maximum Allowable Loads		Maximum Allowable Loads	
	Lbs	kN	Lbs	kN	Lbs	kN
P1000	5000	22.2	3500	15.6	8000	35.6
P1100	3500	15.6	2500	11.1	5500	24.5
P2000	2000	8.9	1500	6.7	3000	13.3
P3000	5000	22.2	3500	15.6	8000	35.6
P3300	6000	26.7	4000	17.8	9000	40.0
P4000	2200	9.8	1700	7.6	3500	15.6
P4100	3400	15.1	2600	11.6	4800	21.4
P5000	4000	17.8	2000	8.9	5500	24.5
P5500	5000	22.2	3500	15.6	8000	35.6
P9000	5000	22.2	3500	15.6	8000	35.6
P9200	5000	22.2	3500	15.6	8000	35.6

Safety Factor — 2 1/2

1 5/8" Channels

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1 1/4" Framing System

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Index

CHANNEL NUT SELECTION CHART

FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL



1 5/8" Channels

Nuts & Hardware

General Fittings

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1 1/4" Framing System

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Index

Channel Nut Part Number	Nut Size/ Thread	CHANNEL								
		P1000	P1100	P2000	P3000	P3300	P4000	P4100	P5000	P5500
P1006-0832	#8 - 32	■	■	■	■					
P1006-1024	#10 - 24	■	■	■	■					
P1006-1420	1/4" - 20	■	■	■	■					
P1006T1420	1/4" - 20	■	■	■	■	■	■	■	■	■
P1007	5/16" - 18	■	■	■	■					
P1008	3/8" - 16	■	■	■	■					
P1008T	3/8" - 16	■	■	■	■	■	■	■	■	■
P1009	7/16" - 14	■	■	■	■					
P1010	1/2" - 13	■	■	■	■					
P1010T	1/2" - 13	■	■	■	■				■	■
P1012	5/8" - 11	■	■	■	■				■	■
P1012S	5/8" - 11	■	■	■	■					
P1023	3/4" - 10	■	■	■	■				■	■
P1023S	3/4" - 10	■	■	■	■					
P1024	7/8" - 9	■	■	■	■				■	■
P1024S	7/8" - 9	■	■	■	■					
P3006-0832	#8 - 32	■	■	■	■	■	■	■	■	■
P3006-1024	#10 - 24	■	■	■	■	■	■	■	■	■
P3006-1420	1/4" - 20	■	■	■	■	■	■	■	■	■
P3007	5/16" - 18	■	■	■	■	■	■	■	■	■
P3008	3/8" - 16	■	■	■	■	■	■	■	■	■
P3009	7/16" - 14	■	■	■	■	■	■	■	■	■
P3010	1/2" - 13	■	■	■	■				■	■
P3013	1/2" - 13					■	■	■		

CHANNEL NUTS WITH SPRINGS

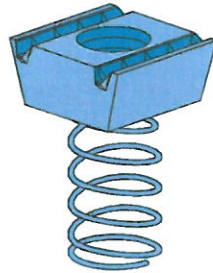
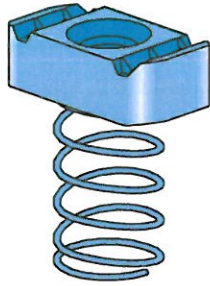
FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL



1 5/8" Channels
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Index

P1006-0832 thru P1024S

CHANNEL NUTS WITH SPRINGS



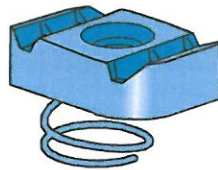
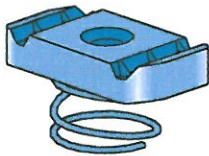
Note: Use with P1000, P1100, P2000 & P3000 channels.

Part Number	Size & Thread	Weight/C	
		Lbs	kg
P1006-0832	#8 - 32	7	3.2
P1006-1024	#10 - 24	7	3.2
P1006-1420	1/4" - 20	7	3.2
P1007	5/16" - 18	6	2.7
P1008	3/8" - 16	10	4.5
P1009	7/16" - 14	9	4.1
P1010	1/2" - 13	12	5.4

P1012S	5/8" - 11	21	9.5
P1023S	3/4" - 10	21	9.5
P1024S	7/8" - 9	21	9.5

P4006-0832 thru P4023S

CHANNEL NUTS WITH SPRINGS



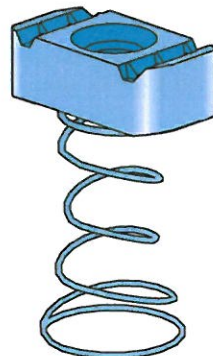
Note: Use with P3300, P4000 & P4100 channels.

Part Number	Size & Thread	Weight/C	
		Lbs	kg
P4006-0832	#8 - 32	7	3.2
P4006-1024	#10 - 24	7	3.2
P4006-1420	1/4" - 20	7	3.2
P4007	5/16" - 18	6	2.7
P4008	3/8" - 16	9	4.1
P4009	7/16" - 14	9	4.1
P4010	1/2" - 13	8	3.6

P4012S	5/8" - 11	11	5.0
P4023S	3/4" - 10	11	5.0

P5506-0832 thru P5510

CHANNEL NUTS WITH SPRINGS



Note: Use with P5500 channels.

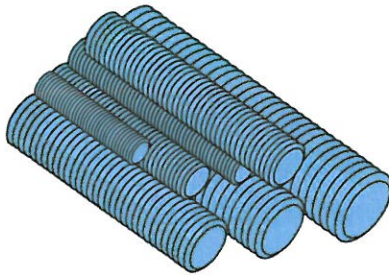
Part Number	Size & Thread	Weight/C	
		Lbs	kg
P5506-0832	#8 - 32	7	3.2
P5506-1024	#10 - 24	7	3.2
P5506-1420	1/4" - 20	7	3.2
P5507	5/16" - 18	6	2.7
P5508	3/8" - 16	10	4.5
P5509	7/16" - 14	10	4.5
P5510	1/2" - 13	12	5.4

HARDWARE

FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL



STEEL THREADED ROD



Part Number	Size	Thread per Inch	Weight/C Ft.	
			Lbs	kg
HTHR025	1/4"	20	13	5.9
HTHR031	5/16"	18	20	9.1
HTHR037	3/8"	16	30	13.6
HTHR044	7/16"	14	30	13.6
HTHR050	1/2"	13	53	24.0
HTHR062	5/8"	11	84	38.1
HTHR075	3/4"	10	124	56.2
HTHR087	7/8"	9	170	77.1
HTHR100	1"	8	223	101.2

Load Carrying Capacity of Threaded Hot Rolled Steel Conforming to ASTM A575 and A576

Nominal Diameter	Root Area		Maximum Safe Load at 650°F (343°C)	
	In ²	mm ²	Lbs	kN
3/8	0.068	43.9	610	2.7
1/2	0.126	81.3	1,130	5.0
5/8	0.202	130.3	1,810	8.0
3/4	0.302	194.8	2,710	12.0
7/8	0.419	270.3	3,770	16.8
1	0.552	356.1	4,960	22.1
1 1/8	0.693	447.1	6,230	27.7
1 1/4	0.889	573.5	8,000	35.6
1 3/8	1.053	679.4	9,470	42.1
1 1/2	1.293	834.2	11,630	51.7
1 5/8	1.515	977.4	13,630	60.6
1 3/4	1.714	1105.8	15,690	69.8
1 7/8	2.048	1321.3	18,430	82.0
2	2.292	1478.7	20,690	92.0

"Extracted from American Standard Code for pressure piping (ASA B31.1-1973, with permission of the publisher, the American Society of Mechanical Engineers, United Engineering Center, 345 E. 47th Street, New York, New York)."

DESIGN LOAD DATA FOR TYPICAL UNISTRUT CHANNEL CONNECTIONS

90° Fittings (When used in position shown)										
Channel Thickness	P1026		P1026		P1325 P2235		P1458 P1579		P1346	
	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
12 ga.	1500	6.7	1000	4.4	2000	8.9	1500	6.7	2000	8.9
14 ga.	1000	4.4	650	2.9	2000	8.9	1000	4.4	1500	6.7
16 ga.	750	3.3	500	2.2	1500	6.7	1000	4.4	900	4.0

90° Fittings (When used in position shown)									Flat Plate Fittings	
Channel Thickness	P2484		P1068		P1326		P1346		P1065	
	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN	Lbs	kN
12 ga.	3000	13.3	500	2.2	500	2.2	1200	5.3	1000	4.4
14 ga.	2000	8.9	500	2.2	500	2.2	1200	5.3	800	3.6
16 ga.	1500	6.7	500	2.2	500	2.2	1000	4.4	600	2.7

Both ends of beams supported.

Load diagrams indicate up to three design loads, one for 12 gage sections (P1000), one for 14 gage sections (P1100), and one for 16 gage sections (P2000).

Load data is based on P1010 nut and ½" bolt.

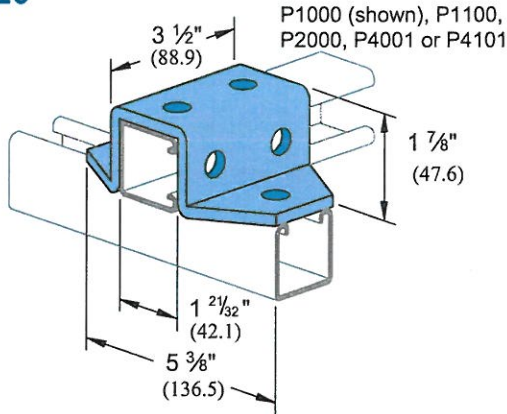
Safety factor = 2½ based on ultimate strength of connection.

"U" AND WING SHAPE FITTINGS

FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL

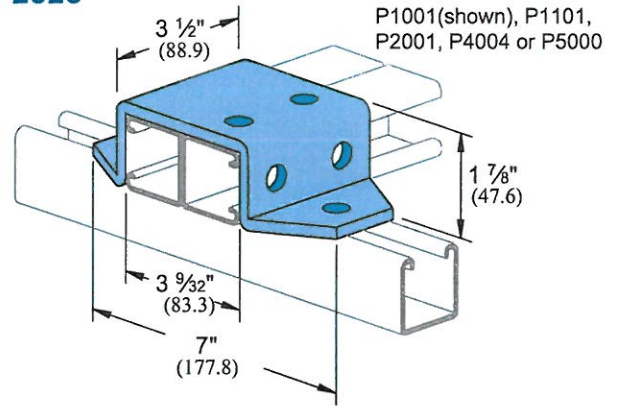


P2326



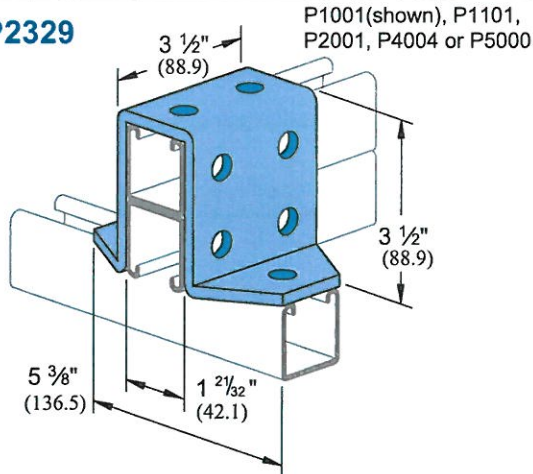
W/C 171 Lbs (77.6 kg)

P2328



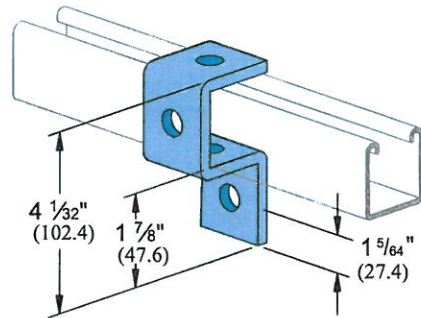
W/C 209 Lbs (94.8 kg)

P2329



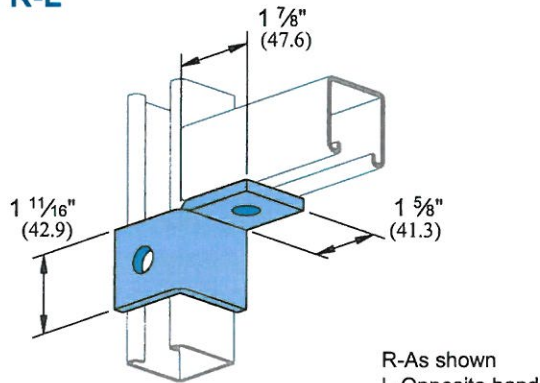
W/C 257 Lbs (116.6 kg)

P1046 A



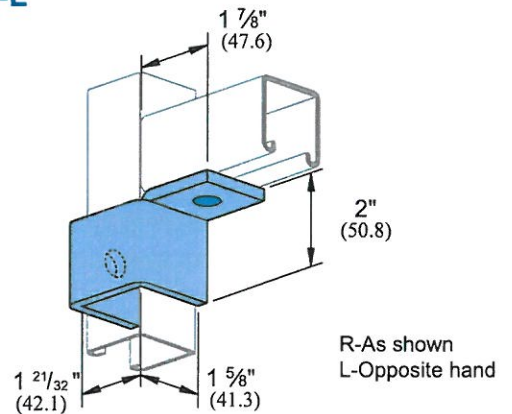
W/C 76 Lbs (34.5 kg)

P2341 R-L



W/C 60 Lbs (27.2 kg)

P2472 R-L



W/C 75 Lbs (34.0 kg)

Hole Size	Hole Spacing	Width	Thickness
5/16" Diameter 14.3 mm	13/16" (20.6 mm) From End 1 1/8" (47.6 mm) On Center	1 5/8" 41.3 mm	1/4" 6.4 mm

1 5/8" Channels

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1 1/4" Framing System

1 3/8" Framing System

Spec. Metals & Fiberglass

Index

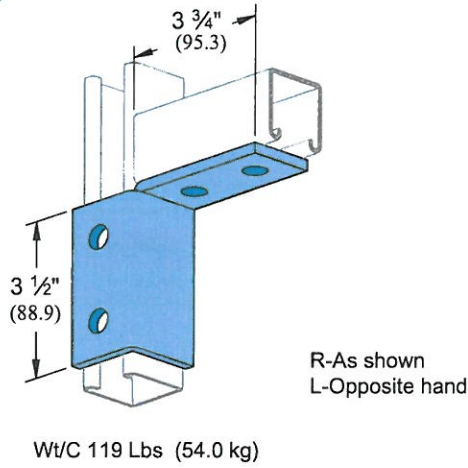
WING SHAPE FITTINGS

FOR 1 5/8" (41 MM) WIDTH SERIES CHANNEL

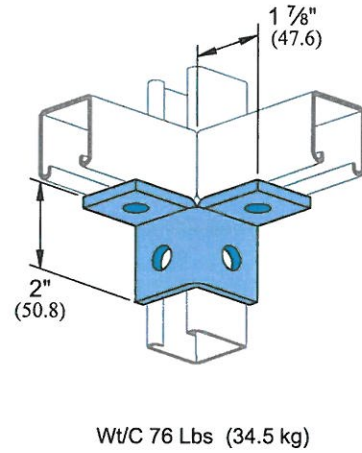


1 5/8" Channels
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 1/4" Framing System
 13/16" Framing System
 Spec. Metals & Fiberglass
 Index

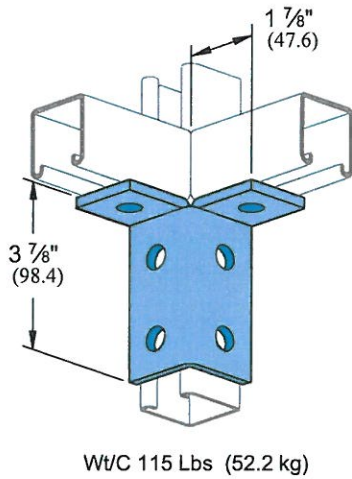
P2343 R-L



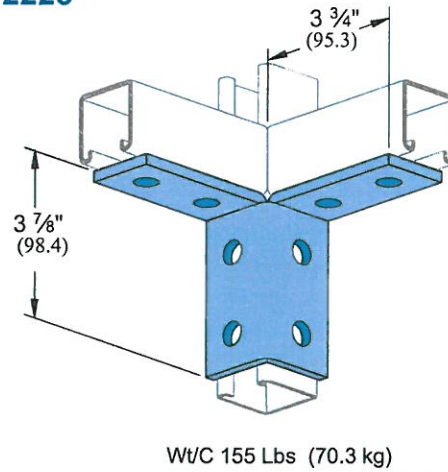
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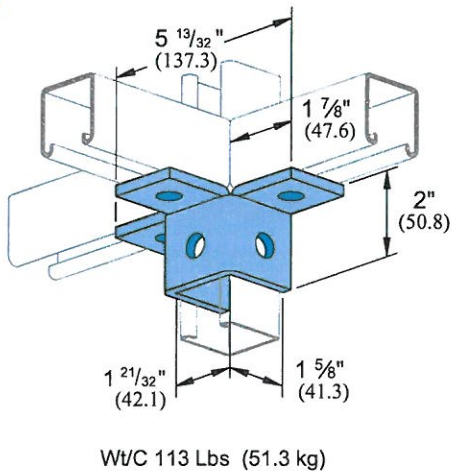
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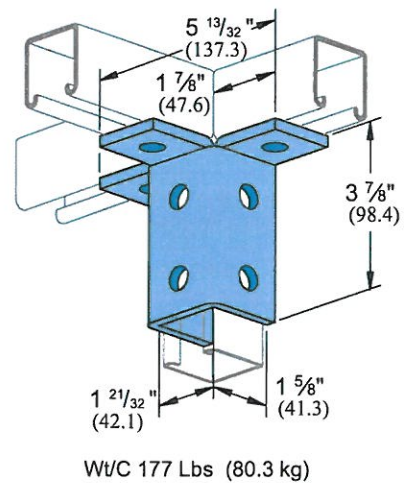
P2225



P2227



P2228



Hole Size	Hole Spacing	Width	Thickness
5/16" Diameter 14.3 mm	13/16" (20.6 mm) From End 1 7/8" (47.6 mm) On Center	1 5/8" 41.3 mm	1/4" 6.4 mm