WEAVER CONSTRUCTION MANAGEMENT, INC.
3679 S. Huron St., Suite 404
Englewood, CO 80110
Phone: (303) 789-4111 FAX: (303) 789-4310

S U B M I T T A L T R A N S M I T A L

December 5, 2011
WGC Submittal No: 16073-001

PROJECT: Harold Thompson Regional WRF
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: GMS, Inc.
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: Lower Fountain Metropolitan
Sewage Disposal District
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: McDade Woodcock, Inc.
7222 Commerce Center Drive, #245
Colorado Springs, CO 80909
719-264-1236

SUBJECT: Submittal for Electrical Hangers and Support System

SPEC SECTION: 16073

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES _x_ NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver Construction Management and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

Contractor's Stamp:	Engineer's Stamp:
Date: 12/05/11 Reviewed by: H.C. Myers (X) Reviewed Without Comments ( ) Reviewed With Comments	

ENGINEER'S
COMMENTS:_____
_____
__

McDade-Woodcock, Inc.

TRANSMITTAL
No. 00012

7222 Commerce Center Dr. Suite 245
Colorado Springs, CO 80919

Phone: 719-264-1236
Fax: 719-264-1450

PROJECT: Harold D. Thompson WRF

DATE: 12/1/2011

TO: Weaver General Construction
,

REF: Electrical Submittal
16073-001
Hangers & Supports Systems
(Electrical Sys)

ATTN: Wes Weaver

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☑ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☑ Review and Comment	☐ Resubmit
☐ Plans		☑ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☑ Attached	☐ Returned for Corrections
☐ Other	☐ Separate Cover Via	☑ Due Date: 12/16/2011

ITEM	PACKAGE	SUBMITTAL	DRAWING	REV.	ITEM NO.	COPIES	DATE	DESCRIPTION	STATUS
					001	1	12/1/2011	Electrical Submittal 16073-001 Hangers & Supports for Electrical Systems	OUT

Remarks: Electrical Submittal for Review and Approval
Via Email Only

CC:

Signed:

Janelle L Smith

Expedition ®

McDADE-WOODCOCK, INC.

HAROLD D. THOMPSON RWRF HEADWORKS BUILDING

McDADE-WOODCOCK INC.
PROJECT NUMBER - 1402

ELECTRICAL SUBMITTAL

HANGERS & SUPPORTS
FOR ELECTRICAL SYSTEMS

16073-001

Owner: Lower Fountain Metropolitan Sewage District
901 S. Santa Fe Avenue
Fountain, CO 80817

General Contractor: Weaver General Construction Co.
3679 S. Huron St. – Suite 404
Englewood, CO 80110

Electrical Contractor: McDade-Woodcock, Inc.
7222 Commerce Center Dr.
#245
Colorado Springs, CO 80919

Engineer: GMS Inc.
611 N. Weber St., Suite 300
Colorado Springs, CO 80903

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MWIEIC.com

McDADE-WOODCOCK, INC.

HAROLD D. THOMPSON RWRF HEADWORKS BUILDING

McDADE-WOODCOCK INC.
PROJECT NUMBER - 1402

ELECTRICAL SUBMITTAL

HANGERS & SUPPORTS
FOR ELECTRICAL SYSTEMS

16073-001

TABLE OF CONTENTS

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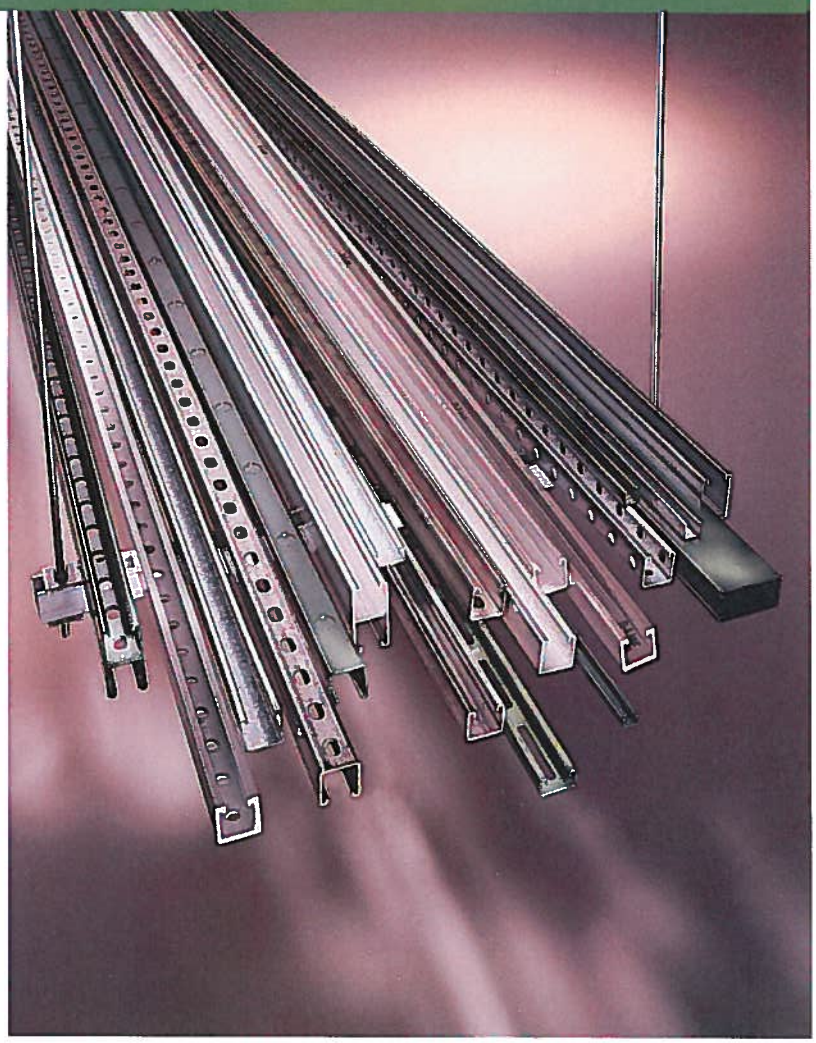
Fax 719-264-1450

MWIEIC.com

Metal Framing Channels



Channel
Cooper B-Line's metal framing channel is cold formed on our modern rolling mills from 12 Ga. (2.6mm), 14 Ga. (1.9mm), and 16 Ga. (1.5mm) low carbon steel strips. A continuous slot with inturned lips provides the ability to make attachments at any point.

Lengths
Standard lengths are 10' (3.05m) and 20' (6.09m) with length tolerance of ±1/8" (+3.2mm). Custom lengths are available upon request.

Slots
Cooper B-Line's slotted series of channels offer full flexibility. A variety of pre-punched slot patterns eliminate the need for precise field measuring for hole locations. Slots offer wide adjustments in the alignment and bolt sizing.

Holes
A variety of pre-punched 9/16" (14.3 mm) diameter hole patterns are available in Cooper B-Line channels. These hole patterns provide an economical alternative to costly field drilling required for many applications.

Knockouts
When used with series B217-20 Closure Strips, Cooper B-Line's knockout channels can be used to provide an economical U.L. listed surface raceway. Channels are furnished with 7/8" (22.2 mm) knockouts on 6" (152 mm) centers, allowing for perfect fixture alignment on spans up to 20' (6.09 m).

Materials & Finishes (Unless otherwise noted)
Steel: Plain
12 Ga. (2.6), 14 Ga. (1.9) and 16 Ga. (1.5)
Steel: Pre-galvanized
12 Ga. (2.6), 14 Ga. (1.9) and 16 Ga. (1.5)

Finish Code	Finish	Specification
PLN	Plain	ASTM A1011, 33,000 PSI min. yield
GRN	Dura-Green	
GALV	Pre-Galvanized	ASTM A653 33,000 PSI min. yield
HDG	Hot-Dipped Galvanized	ASTM A123
YZN	Yellow Zinc Chromate	ASTM B633 SC3 Type II
SS4	Stainless Steel Type 304	ASTM A240
SS6	Stainless Steel Type 316	ASTM A240
AL	Aluminum	Aluminum 6063-T6

Note: A minimum order may apply on special material and finishes.

Design Load (Steel & Stainless Steel)
The design loads given for strut beam loads are based on a simple beam condition using an allowable stress of 25,000 psi. This allowable stress results in a safety factor of 1.68. This is based upon virgin steel minimum yield strength of 33,000 psi cold worked during rolling to an average yield stress of 42,000 psi.
For aluminum channel loading multiple steel loading by a factor of 0.38.

Welding
Weld spacing is maintained between 2 1/2 inches (63.5 mm) and 4 inches (101.6 mm) on center. Through high quality control testing of welded channels and continuous monitoring of welding equipment, Cooper B-Line provides the most consistent combination channels available today.

Metric
Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

SELECTION CHART

for Channels, Materials and Hole Patterns

Channel Type	Channel Dimensions				Material & Thickness *				Channel Hole Pattern **				
	Height		Width		Steel 1	Alum. 2	Stainless Steel Type 304 3	Stainless Steel Type 316 4	SH 9/16" x 1 1/8" slots on 2" centers	S 13/32" x 3" slots	H17/8 9/16" diameter holes	TH 9/16" diameter on 1 7/8" centers	KO6 7/8" diameter knockouts
B11	3 1/4"	(82.5)	1 5/8"	(41.3)	12 Ga.	–	–	–	1	1	1	–	1
B12	2 7/16"	(61.9)	1 5/8"	(41.3)	12 Ga.	.105	–	–	1 2	1	1 2	–	1 2
B22	1 5/8"	(41.3)	1 5/8"	(41.3)	12 Ga.	.105	12 Ga.	12 Ga.	1 2 3 4	1 3	1 2 3	1	1 2
B24	1 5/8"	(41.3)	1 5/8"	(41.3)	14 Ga.	.080	14 Ga.	14 Ga.	1 2 3 4	1	1 2 3	–	1 2
B26	1 5/8"	(41.3)	1 5/8"	(41.3)	16 Ga.	–	–	–	1	1	1	–	1
B32	1 3/8"	(34.9)	1 5/8"	(41.3)	12 Ga.	–	12 Ga.	–	1 3	1	1 3	–	1
B42	1"	(25.4)	1 5/8"	(41.3)	12 Ga.	–	12 Ga.	–	1 3	1	1 3	–	1
B52	13/16"	(20.6)	1 5/8"	(41.3)	12 Ga.	–	12 Ga.	–	1	1	1	–	1
B54	13/16"	(20.6)	1 5/8"	(41.3)	14 Ga.	.080	14 Ga.	14 Ga.	1 2 3 4	1	1 2 3 4	–	1 2
B56	13/16"	(20.6)	1 5/8"	(41.3)	16 Ga.	–	–	–	1	1	1	–	1
B62	13/16"	(20.6)	13/16"	(20.6)	18 Ga.	–	–	–	–	–	–	–	–
B72	13/32"	(10.3)	13/16"	(20.6)	18 Ga.	–	–	–	–	–	–	–	–
E7016	3/4"	(19.0)	5/8"	(15.9)	16 Ga.	–	–	–	–	–	–	–	–

The selection has been prepared to provide a reference for available channel, materials and hole patterns. Material types available for various hole patterns are defined by numbers 1 thru 4.
Some stainless steel channels with hole patterns are available on special order only.

*Metric equivalent for thicknesses shown in chart.
12 Ga. = 2.6 mm
14 Ga. = 1.9 mm
16 Ga. = 1.5 mm
18 Ga. = 1.2 mm
.105 = 2.6 mm
.080 = 2.0 mm

**1 - Steel
2 - Aluminum
3 - Type 304 Stainless Steel
4 - Type 316 Stainless Steel

Properties may vary due to commercial tolerances of the material.

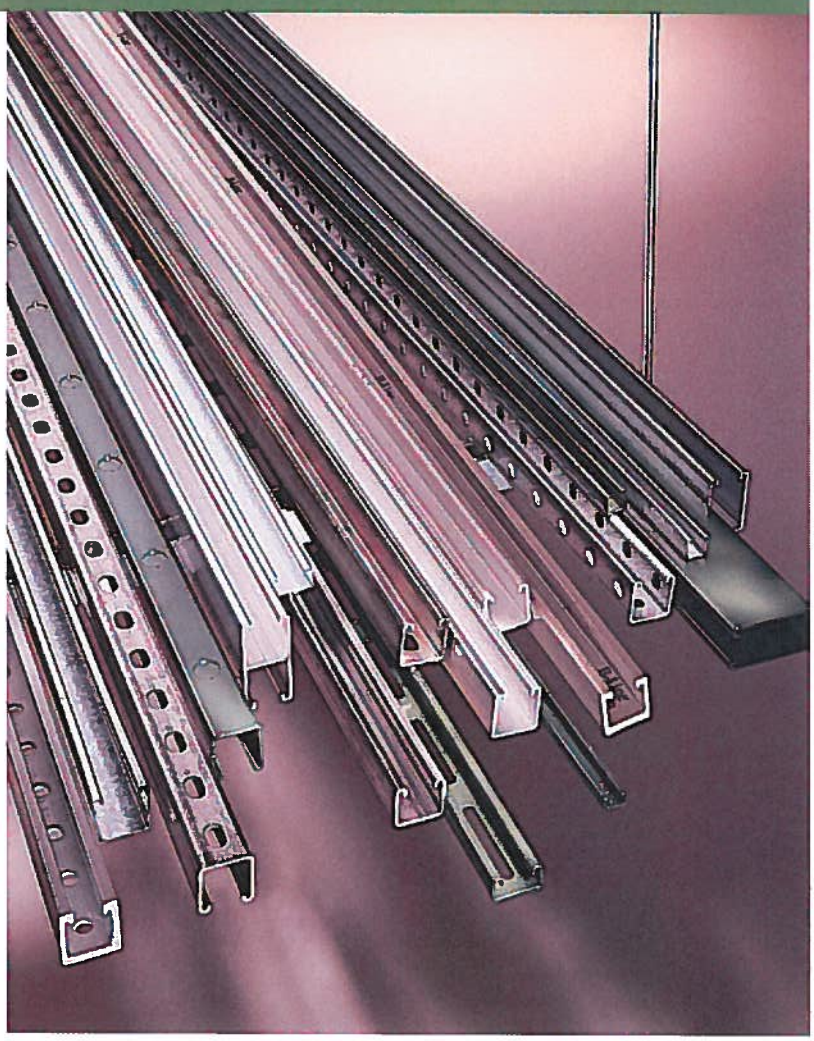
Channel Part Numbering Example:
B22 SH SS4 120

Channel Type	Hole Patterns	Material/Finish	Length
B11	SH (pg. 40)	GRN	120
B12	S (pg. 40)	GALV	240
B22 †	H178 (pg. 40)	HDG	
B24 †	TH (pg. 41)	YZN	
B26	K06 (pg. 41)	SS4	
B32	SHA (pg. 41)	SS6	
B42	S58 (pg. 42)	AL	
B52 †	M (pg. 42)		
B54 †	H25 (pg. 43)		
B56	H112 † (pg. 42)		
B62	* Leave blank for no hole pattern		
B72			
E7016			

† BK style channel available in four (4) channel sizes and one (1) hole pattern only. (Example BK22H112)

Reference page 14 for general fitting and standard finish specifications.

Aluminum & Stainless Steel



Aluminum

Aluminum channels, fittings and accessories offer excellent corrosion resistance and are suitable for many indoor and outdoor applications. Aluminum's high strength to weight ratio greatly reduces overall cost of installation through ease of handling and cutting. Cooper B-Line's channels are extruded from aluminum alloy 6063-T6. Closure strips are extruded from aluminum alloy 6063-T5. Fittings and accessories are made from aluminum alloy 5052-H32.

Stainless Steel

Where corrosion problems persist and other material and fittings are ineffective, we recommend use of Cooper B-Line's corrosion resistant stainless steel channels and accessories. Channels and fittings are available in two types of stainless steel:

SS4-AISI Type 304
SS6-AISI Type 316

Fittings

Most fittings, as shown in this catalog, can be supplied in aluminum or stainless steel. Consult factory for possible minimum production quantities and set-up charges.

Load Data

Aluminum

Channel's approximate load data can be determined by multiplying load data in the steel channel section of this catalog by a factor of 0.38.

Stainless Steel

Channel load data is the same as the data in the steel channel section of this catalog.

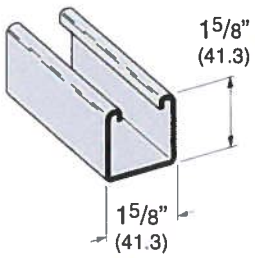
Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

Stainless Steel

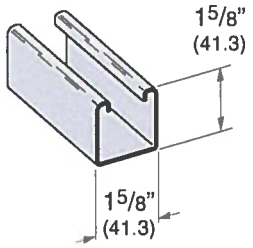
B22SS*

- *Substitute 4 for Stainless Steel Type 304 or 6 for Stainless Steel Type 316
- Thickness: 12 Ga. (2.6 mm)
- Standard Length: 10' (3.05 m) and 20' (6.09 m)
- Material: SS4, SS6
- Weight: 1.90 Lbs./Ft. (2.83 kg/m)



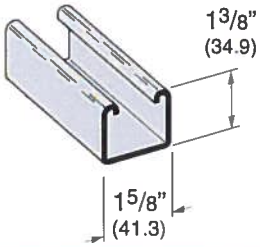
B24SS*

- *Substitute 4 for Stainless Steel Type 304 or 6 for Stainless Steel Type 316
- Thickness: 14 Ga. (1.9 mm)
- Standard Length: 10' (3.05 m) and 20' (6.09 m)
- Material: SS4, SS6
- Weight: 1.40 Lbs./Ft. (2.08 kg/m)



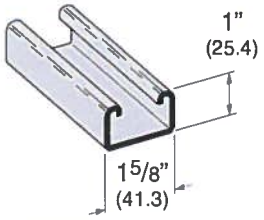
B32SS4

- Thickness: 12 Ga. (2.6 mm)
- Standard Length: 10' (3.05 m) and 20' (6.09 m)
- Material: SS4
- Weight: 1.70 Lbs./Ft. (2.53 kg/m)



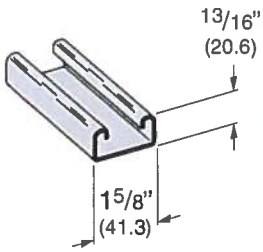
B42SS4

- Thickness: 12 Ga. (2.6 mm)
- Standard Length: 10' (3.05 m) and 20' (6.09 m)
- Material: SS4
- Weight: 1.44 Lbs./Ft. (2.14 kg/m)

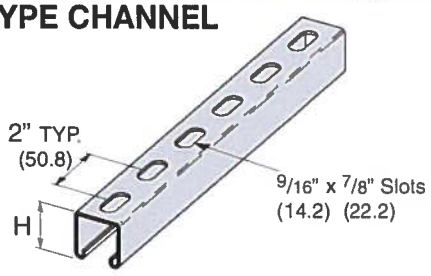


B54SS*

- *Substitute 4 for Stainless Steel Type 304 or 6 for Stainless Steel Type 316
- Thickness: 14 Ga. (1.9 mm)
- Standard Length: 10' (3.05 m) and 20' (6.09 m)
- Material: SS4, SS6
- Weight: .97 Lbs./Ft. (1.44 kg/m)

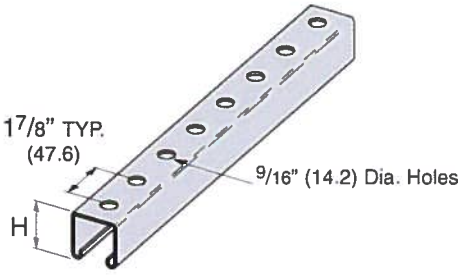


SH TYPE CHANNEL



Part No.	Thickness		H		Wt./C Lbs./Ft.	kg/m
B22SH SS4	12 Ga.	(2.6)	1 5/8"	(41.3)	1.82	(2.70)
B22SH SS6	12 Ga.	(2.6)	1 5/8"	(41.3)	1.82	(2.70)
B24SH SS4	14 Ga.	(1.9)	1 5/8"	(41.3)	1.34	(1.99)
B24SH SS6	14 Ga.	(1.9)	1 5/8"	(41.3)	1.34	(1.99)
B32SH SS4	12 Ga.	(2.6)	1 3/8"	(34.9)	1.62	(2.41)
B42SH SS4	12 Ga.	(2.6)	1"	(25.4)	1.36	(2.02)
B54SH SS4	14 Ga.	(1.9)	13/16"	(20.6)	.91	(1.35)
B54SH SS6	14 Ga.	(1.9)	13/16"	(20.6)	.91	(1.35)

H-17/8 TYPE CHANNEL



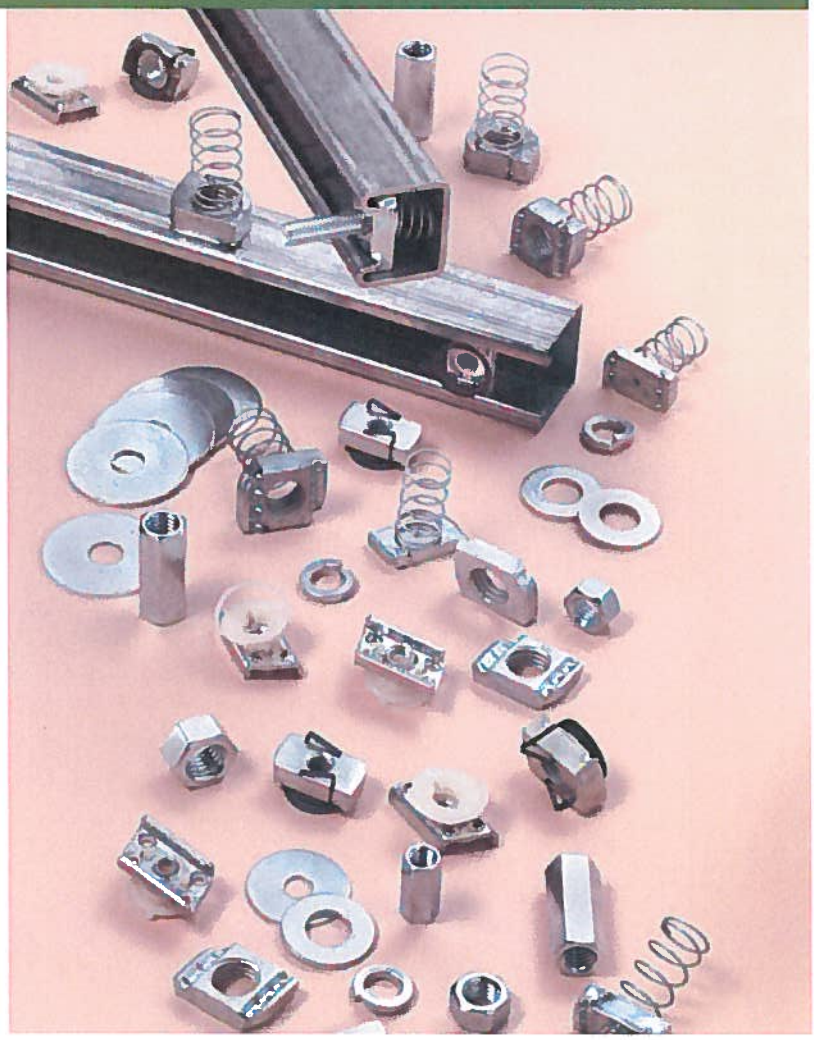
Part No.	Thickness		H		Wt./C Lbs./Ft.	kg/m
B22H17/8 SS4	12 Ga.	(2.6)	1 5/8"	(41.3)	1.85	(2.75)
B24H17/8 SS4	14 Ga.	(1.9)	1 5/8"	(41.3)	1.36	(2.02)
B24H17/8 SS6	14 Ga.	(1.9)	1 5/8"	(41.3)	1.36	(2.02)
B32H17/8 SS4	12 Ga.	(2.6)	1 3/8"	(34.9)	1.65	(2.45)
B42H17/8 SS4	12 Ga.	(2.6)	1"	(25.4)	1.39	(2.07)
B54H17/8 SS4	14 Ga.	(1.9)	13/16"	(20.6)	.93	(1.38)
B54H17/8 SS6	14 Ga.	(1.9)	13/16"	(20.6)	.93	(1.38)

Reference page 168 for general fitting specifications.Other channel combinations available-see steel section for styles.

Channel Nuts & Hardware

Channel Nuts

Cooper B-Line's channel nut is one of the main components of our metal framing system. It is designed to provide essential gripping power and ease during installation. Channel nuts are press formed, machined and hardened from steel which meets the requirements of ASTM A108 or ASTM A36 for our larger sizes.



Bolts, Screws, and Nuts

All bolts, screws and nuts meet the physical and chemical requirements of ASTM A307, SAE J429 or ASTM A563, and have unified inch screw threads (coarse, UNC). ISO metric threads are also available on special request.

Recommended Torque

Bolt Size	1/4"-20	5/16"-18	3/8"-16	1/2"-13
Foot/Lbs.	6	11	19	50
Nm	8	15	26	68

Bolt Size	M6x1	M8 x1.25	M10 x 1.5	M12x1.75
NM	12	17	36	62
Foot/Lbs.	9	13	27	46

Materials & Finishes*

Finish Code	Finish	Specification
PLN	Plain	ASTM A108/A307 Gr. A, ASTM A563, SAE J429
ZN	Electro-Plated Zinc	ASTM B633 SC1 Type III
CZ	Chromium Zinc	ASTM F1136 Gr. 3
HDG	Hot-Dipped Galvanized	ASTM A153
SS4	Stainless Steel Type 304	ASTM F593
SS6	Stainless Steel Type 316	MPIF 35/ASTM A593
AL	Aluminum	ASTM F468 S4

*Unless otherwise noted.
Note: Channel nuts are not available in HDG or Aluminum

Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

STANDARD CHANNEL NUTS

Numbering Example: **N 7 25 (*) WO**

Nut Type	Channel Type	Thread Size	Stud Length	Suffix
N = Standard Nut	7 = Tall Channels	21 = #8-32	* = Specify Length of stud below for Stud Nut or Twirl Stud Nuts	WO = Without Spring
TN = Twirl Nut	B11	22 = #10-24		** = Twirl Nuts or nuts with springs have blank suffix
SN = Stud Nut	B12	27 = #10-32		
STN = Stud Twirl Nut	2 = Medium Channels	24 = 1/4-20		
NW = Combo Nut Washer	B22	23 = 5/16-18		
	B24	28 = 3/8-16		
	B26	26 = 7/16-14		
	B32	25 = 1/2-13		
	5 = Short Channels	55 = 5/8-11		
	B42	75 = 5/8-11		
	B52	78 = 7/8-9		
	B54			
	B56			

3/4 = 3/4"	
1 = 1"	
1 1/4 = 1 1/4"	
1 1/2 = 1 1/2"	

METRIC CHANNEL NUTS

Numbering Example: **BMS 6 M**

Nut Type	Metric Thread Size	Suffix
BMS = Spring Nut	3 = M3.5	S = Short Spring
BMS-D = Spring Nut (1/2" thick)	4 = M4	M = Medium Spring
BMT = Twirl Nut	5 = M5	L = Long Spring
BMT-D = Twirl Nut (1/2" thick)	6 = M6	* = Twirl Nuts and nuts without springs have blank suffix
BMM = Spring Nut (Mini channel)	8 = M8	
	10 = M10	
	12 = M12	

SPRING NUT

NUT WITHOUT SPRING

TWIRL-NUT™

COMBO NUT WASHER

STUD NUT WITH SPRING

STUD NUT WITHOUT SPRING

TWIRL STUD NUT

Reference page 44 for general fitting and standard finish specifications.

Note: See page 50 for resistance to slip & page 51 for pull-out strength.


700 Series


200 Series


500 Series

SPRING NUT

Part No.	Thread Size	Fits Channel Sizes	Nut Thickness		Wt./C Lbs.	kg
N721	#8-32	B11 & B12	1/4"	(6.3)	7.0	(3.17)
N221	#8-32	B22, B24, B26, B32	1/4"	(6.3)	7.0	(3.17)
N521	#8-32	B42, B52, B54, B56	1/4"	(6.3)	7.0	(3.17)
N727	#10-32	B11 & B12	1/4"	(6.3)	7.0	(3.17)
N227	#10-32	B22, B24, B26, B32	1/4"	(6.3)	7.0	(3.17)
N527	#10-32	B42, B52, B54, B56	1/4"	(6.3)	7.0	(3.17)
N722	#10-24	B11 & B12	1/4"	(6.3)	7.0	(3.17)
N222	#10-24	B22, B24, B26, B32	1/4"	(6.3)	7.0	(3.17)
N522	#10-24	B42, B52, B54, B56	1/4"	(6.3)	7.0	(3.17)
N724	1/4-20	B11 & B12	1/4"	(6.3)	6.7	(3.04)
N224	1/4-20	B22, B24, B26, B32	1/4"	(6.3)	6.7	(3.04)
N524	1/4-20	B42, B52, B54, B56	1/4"	(6.3)	6.7	(3.04)
N723	5/16-18	B11 & B12	1/4"	(6.3)	6.7	(3.04)
N223	5/16-18	B22, B24, B26, B32	1/4"	(6.3)	6.7	(3.04)
N523	5/16-18	B42, B52, B54, B56	1/4"	(6.3)	6.7	(3.04)
N728	3/8-16	B11 & B12	3/8"	(9.5)	9.3	(4.22)
N228	3/8-16	B22, B24, B26, B32	3/8"	(9.5)	9.3	(4.22)
N528	3/8-16	B42, B52, B54, B56	3/8"	(9.5)	9.3	(4.22)
N726	7/16-14	B11 & B12	3/8"	(9.5)	8.8	(3.99)
N226	7/16-14	B22, B24, B26, B32	3/8"	(9.5)	8.8	(3.99)
N526	7/16-14	B42, B52, B54, B56	3/8"	(9.5)	8.8	(3.99)
N725	1/2-13	B11 & B12	1/2"	(12.7)	11.6	(5.26)
N225	1/2-13	B22, B24, B26, B32	1/2"	(12.7)	11.6	(5.26)
N525	1/2-13	B42, B52, B54, B56	3/8"	(9.5)	8.8	(3.99)
N755	5/8-11	B11 & B12	1/2"	(12.7)	16.4	(7.44)
N255	5/8-11	B22, B24, B26, B32	1/2"	(12.7)	16.4	(7.44)
N555	5/8-11	B42, B52, B54, B56	3/8"	(9.5)	10.2	(4.62)
N775	3/4-10	B11 & B12	1/2"	(12.7)	14.5	(6.58)
N275	3/4-10	B22, B24, B26, B32	1/2"	(12.7)	14.5	(6.58)
N575	3/4-10	B42, B52, B54, B56	3/8"	(9.5)	8.8	(3.99)
N778	7/8-9	B11 & B12	1/2"	(12.7)	12.5	(5.67)
N278	7/8-9	B22, B24, B26, B32	1/2"	(12.7)	12.5	(5.67)
Metric Threads						
BMS-6L	M6 x 1	B11 & B12	1/4"	(6.3)	6.9	(3.13)
BMS-6M	M6 x 1	B22, B24, B26, B32	1/4"	(6.3)	6.9	(3.13)
BMS-6S	M6 x 1	B42, B52, B54, B56	1/4"	(6.3)	6.9	(3.13)
BMS-8L	M8 x 1.25	B11 & B12	1/4"	(6.3)	6.7	(3.04)
BMS-8M	M8 x 1.25	B22, B24, B26, B32	1/4"	(6.3)	6.7	(3.04)
BMS-8S	M8 x 1.25	B42, B52, B54, B56	1/4"	(6.3)	6.7	(3.04)
BMS-10L	M10 x 1.5	B11 & B12	3/8"	(9.5)	9.6	(4.35)
BMS-10M	M10 x 1.5	B22, B24, B26, B32	3/8"	(9.5)	9.6	(4.35)
BMS-10S	M10 x 1.5	B42, B52, B54, B56	3/8"	(9.5)	9.6	(4.35)
BMS-12M	M12 x 1.75	B22, B24, B26, B32	3/8"	(9.5)	9.2	(4.17)
BMS-12S	M12 x 1.75	B42, B52, B54, B56	3/8"	(9.5)	9.2	(4.17)
BMS-D-12L	M12 x 1.75	B11 & B12	1/2"	(12.7)	12.2	(5.53)
BMS-D-12M	M12 x 1.75	B22, B24, B26, B32	1/2"	(12.7)	12.2	(5.53)

Note: For mini channel nut information see page 195.

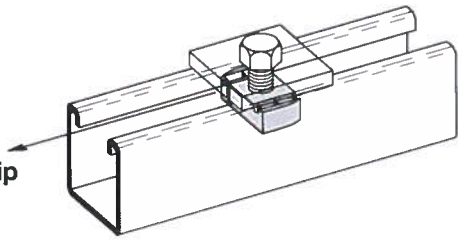
Reference page 44 for general fitting and standard finish specifications.

RESISTANCE TO SLIP

• With Safety Factor of 3

Thread Size	Nut Part Numbers	Resistance to Slip					
		12 ga. Channel		14 ga. Channel		16 ga. Channel	
		Lbs.	N	Lbs.	N	Lbs.	N
#8-32	**N221, N221WO,N521, N721, TN221**	50	220	50	220	50	220
#10-24	**N222, N222WO, N522, N722, TN222**	100	440	100	440	100	440
#10-32	**N227, N227WO, N527, N727, TN227**	100	440	100	440	100	440
1/4"-20	**NW524*, N224, N224WO, N524, N724, TN224, STN224, SN224WO, SN224, SN524, SN724**	300	1330	300	1330	300	1330
5/16"-18	**N223, N223WO, N523, N723, TN223**	450	2000	450	2000	450	2000
3/8"-16	**NW528*, N228, N228WO, N528, N728 TN228, STN228, SN228WO, SN228, SN528, SN728**	800	3560	600	2670	600	2670
7/16"-14	**N226, N226WO, N526, N726, TN226**	1000	4450	800	3560	800	3560
1/2"-13	**N225, N225WO, N725, TN225, STN225, SN225WO, SN225, SN725**	1500	6670	1000	4450	1000	4450
	NW525*, N525, N525WO, TN525, STN525, SN525WO, SN525	1500	6670	1000	4450	1000	4450
5/8"-11	**N255, N255WO, N755, TN255**	1500	6670	1000	4450	1000	4450
	N555, N555WO	1500	6670	1000	4450	1000	4450
3/4"-10	**N275, N275WO, N775**	1500	6670	1000	4450	1000	4450
	N575, N575WO	1500	6670	1000	4450	1000	4450
7/8"-9	**N278, N278WO, N778**	1500	6670	1000	4450	1000	4450
Metric Threads							
M6 x 1	**BMS-6, BMS-6L, BMS-6M, BMS-6S, BMT-6**	300	1330	300	1330	300	1330
M8 x 1.25	**BMS-8, BMS-8L, BMS-8M, BMS-8S, BMT-8**	450	2000	450	2000	450	2000
M10 x 1.50	**BMS-10, BMS-10L, BMS-10M, BMS-10S, BMT-20**	800	3560	600	2760	600	2760
M12 x 1.75	**BMS-D-12, BMS-D-12L, BMS-D-12M, BMT-D-12**	1500	6670	1000	4450	1000	4450
	BMS-12, BMS-12M, BMS-12S, BMT-12	1500	6670	1000	4450	1000	4450

* Combo Nut Washer (see page 49)



Resistance to Slip of Channel Nut

Note: For mini channel nut information see page 195.

Reference page 44 for general fitting and standard finish specifications.

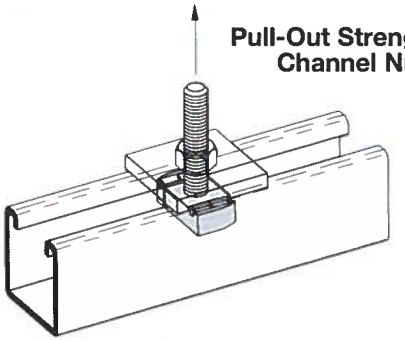
PULL-OUT STRENGTH

- With Safety Factor of 3
- Maximum pullout strength for B11 & B12 channels is limited to 1500 lbs. (6670 N).

Thread Size	Nut Part Numbers	Pull-Out Strength					
		12 ga. Channel		14 ga. Channel		16 ga. Channel	
		Lbs.	N	Lbs.	N	Lbs.	N
#8-32	**N221, N221WO,N521, N721, TN221**	200	890	200	890	200	890
#10-24	**N222, N222WO, N522, N722, TN222**	250	1110	250	1110	250	1110
#10-32	**N227, N227WO, N527, N727, TN227**	250	1110	250	1110	250	1110
1/4"-20	**NW524*, N224,N224WO, N524, N724, TN224, STN224, SN224WO, SN224, SN524, SN724**	450	2000	450	2000	450	2000
5/16"-18	**N223, N223WO, N523, N723, TN223**	750	3330	750	3330	750	3330
3/8"-16	**NW528*, N228, N228WO, N528, N728 TN228, STN228, SN228WO, SN228, SN528, SN728**	1100	4890	1000	4450	1000	4450
7/16"-14	**N226, N226WO, N526, N726, TN226**	1500	6670	1200	5340	1000	4450
1/2"-13	**N225, N225WO, N725, TN225, STN225, SN225WO, SN225, SN725**	2000	8900	1400	6230	1000	4450
	NW525*, N525, N525WO, TN525, STN525, SN525WO, SN525	1500	6670	1400	6230	1000	4450
5/8"-11	**N255, N255WO, N755, TN255**	2000	8900	1400	6230	1000	4450
	N555, N555WO	1500	6670	1400	6230	1000	4450
3/4"-10	**N275, N275WO, N775**	2000	8900	1400	6230	1000	4450
	N575, N575WO	1500	6670	1400	6230	1000	4450
7/8"-9	**N278, N278WO, N778**	1500	6670	1400	6230	1000	4450
M6 x 1	**BMS-6, BMS-6L, BMS-6M, BMS-6S, BMT-6**	450	2000	450	2000	450	2000
M8 x 1.25	**BMS-8, BMS-8L, BMS-8M, BMS-8S, BMT-8**	750	3330	750	3330	750	3330
M10 x 1.50	**BMS-10, BMS-10L, BMS-10M, BMS-10S, BMT-20**	1100	4890	1000	4450	1000	4450
M12 x 1.75	**BMS-D-12, BMS-D-12L, BMS-D-12M, BMT-D-12**	2000	8900	1400	6230	1000	4450
	BMS-12, BMS-12M, BMS-12S, BMT-12	1500	6670	1400	6230	1000	4450

Metric Threads

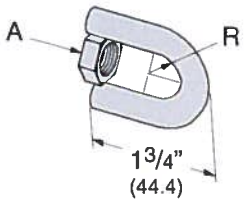
* Combo Nut Washer (see page 49)



Note: For mini channel nut information see page 195.

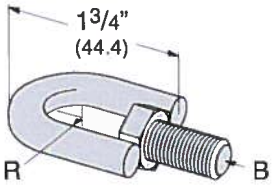
Reference page 44 for general fitting and standard finish specifications.

B446A
SWIVEL HANGER (FEMALE ONLY)
- Design Load:
  (3/8)-610 Lbs. (2.71 kN)
  (1/2)-1130 Lbs. (5.02 kN)
- Safety Factor of 3
- Standard finish: ZN



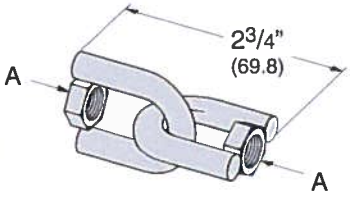
Part No.	A	R		Wt./C Lbs.	kg
B446A-3/8	3/8"-16 HN	9/32"	(7.1)	13	(5.9)
B446A-1/2	1/2"-13 HN	3/8"	(9.5)	15	(6.8)

B446B
SWIVEL HANGER (MALE ONLY)
- Design Load:
  (3/8)-610 Lbs. (2.71 kN)
  (1/2)-1130 Lbs. (5.02 kN)
- Safety Factor of 3
- Standard finish: ZN



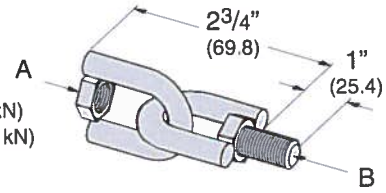
Part No.	B	R		Wt./C Lbs.	kg
B446B-3/8	3/8"-16 HHCS	9/32"	(7.1)	16	(7.2)
B446B-1/2	1/2"-13 HHCS	3/8"	(9.5)	20	(9.1)

B446C
SWIVEL HANGER (FEMALE-FEMALE)
- Design Load:
  (3/8)-610 Lbs. (2.71 kN)
  (1/2)-1130 Lbs. (5.02 kN)
- Safety Factor of 3
- Standard finish: ZN



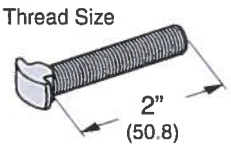
Part No.	A	Wt./C Lbs.	kg
B446C-3/8	3/8"-16 HN	26	(11.8)
B446C-1/2	1/2"-13 HN	31	(14.0)

B446
SWIVEL HANGER (FEMALE-MALE)
- Design Load:
  (3/8)-610 Lbs. (2.71 kN)
  (1/2)-1130 Lbs. (5.02 kN)
- Safety Factor of 3
- Standard finish: ZN



Part No.	A	B	Wt./C Lbs.	kg
B446-3/8	3/8"-16 HN	3/8"-16 HHCS	28	(12.7)
B446-1/2	1/2"-13 HN	1/2"-13 HHCS	36	(16.3)

B617
SHOULDER BOLT
- Standard finish: ZN
- Wt./C 6 Lbs. (2.7 kg)



HN
HEX NUTS
- Standard finish: Zinc-Plated, Stainless Steel

Part No.	Wt./C Lbs.	kg
1/4" HN	.7	(.32)
5/16" HN	1.0	(.45)
3/8" HN	1.5	(.68)
1/2" HN	3.6	(1.63)
5/8" HN	7.2	(3.26)
3/4" HN	11.1	(5.03)
7/8" HN	17.9	(8.12)
1" HN	27.2	(12.34)

MSQN
MACHINE SQUARE NUT
- For use with B755 Beam Clamp
- Standard finish: Zinc-Plated

Part No.	Wt./C Lbs.	kg
MSQN 1/4"	.6	(.27)
MSQN 5/16"	1.2	(.54)
MSQN 3/8"	1.8	(.81)

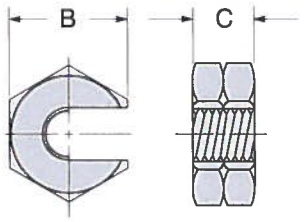
SQN
SQUARE NUTS
- Standard finish: Zinc-Plated

Part No.	Wt./C Lbs.	kg
1/2" SQN	5.7	(2.58)
5/8" SQN	10.1	(4.58)

Reference page 44 for general fitting and standard finish specifications.

SLN SLIP-ON LOCK NUT

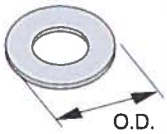
- Material: ASTM A307 Gr. A.
- Safety Factor of 3
- Standard finish: Zinc-Plated



Part No.	Size	B		C		Recommended Load		Wt./C	
						Lbs.	kN	Lbs.	kg
SLN1/2	1/2"-13	1 1/8"	(28.6)	5/8"	(15.9)	1330	(5.91)	6.0	(2.72)
SLN5/8	5/8"-11	1 5/16"	(33.3)	5/8"	(15.9)	1650	(7.34)	7.0	(3.17)

FW
FLAT WASHERS

- Standard finish: Zinc-Plated, Stainless Steel



Part No.	O.D. Outside Dia.		Wt./C	
	in.	mm	Lbs.	kg
1/4" FW	47/64"	(18.7)	.7	(.32)
5/16" FW	7/8"	(22.2)	1.4	(.63)
3/8" FW	1"	(25.4)	1.7	(.77)
1/2" FW	1 3/8"	(34.9)	3.9	(1.77)
5/8" FW	1 15/32"	(37.3)	6.4	(2.90)
3/4" FW	2"	(50.8)	10.9	(4.94)
7/8" FW	2 1/4"	(57.1)	13.4	(6.08)
1" FW	2 1/2"	(63.5)	18.8	(8.53)

FFW
FLAT FENDER WASHERS

- Standard finish: Zinc-Plated

Part No.	Wt./C	
	Lbs.	kg
1/4" x 1 1/4" FFW	2.2	(1.00)
1/4" x 1 1/2" FFW	3.1	(1.40)
3/8" x 1 1/4" FFW	2.0	(.91)
3/8" x 1 1/2" FFW	3.0	(1.36)
1/2" x 2" FFW	5.4	(2.45)

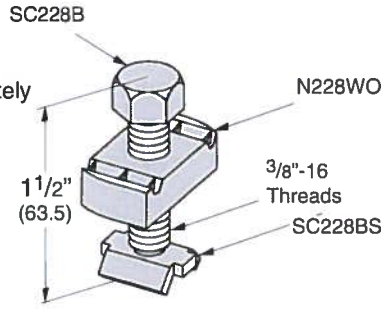
LW
LOCK WASHERS

- Standard finish: Zinc-Plated, Stainless Steel

Part No.	Wt./C	
	Lbs.	kg
1/4" LW	.3	(.13)
5/16" LW	.4	(.18)
3/8" LW	.6	(.27)
1/2" LW	1.3	(.59)
5/8" LW	2.4	(1.09)
3/4" LW	3.8	(1.72)
7/8" LW	5.9	(2.67)
1" LW	8.8	(3.99)

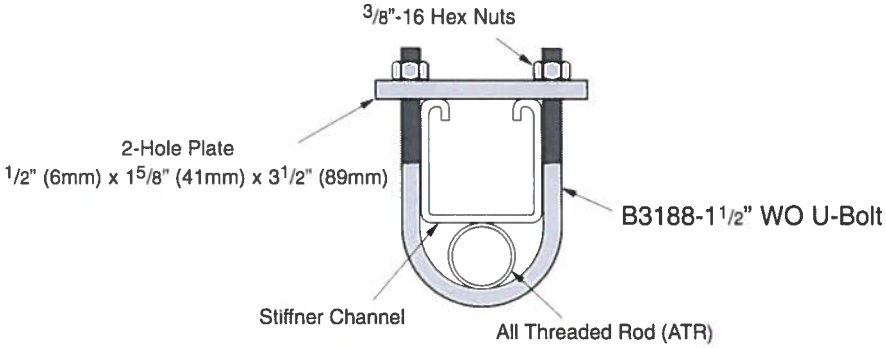
SC228
HANGER ROD STIFFENER

- For 3/8" thru 5/8" ATR
- Strut ordered separately
- Standard finish: ZN



SC-UB
HANGER ROD STIFFENER

- For 3/4" thru 7/8" ATR
- Strut ordered separately
- Includes: (1) B3188-1 1/2WO U-Bolt
  (2) 3/8"-16 Hex Nuts
  (1) 2-Hole Plate
- Standard finish: ZN

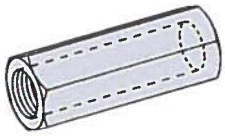


Reference page 44 for general fitting and standard finish specifications.

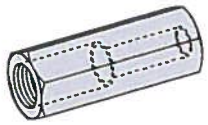
ATR
ALL THREADED ROD
- Available in 36" (91.4 cm), 72" (182.9 cm), 120" (304.8 cm), 144" (365.7 cm) lengths
- Safety Factor of 5 on recommended load
- Standard finish: Zinc-Plated, Stainless Steel Type 304

Part No. & Size	Threads Per Inch	Recommended Load Lbs.	kN	Wt./C Ft. (3048.0 cm) Lbs.	kg
ATR 1/4"	20	240	(1.07)	12	(5.44)
ATR 5/16"	18	400	(1.78)	19	(8.62)
ATR 3/8"	16	730	(3.24)	29	(13.15)
ATR 1/2"	13	1350	(6.00)	53	(24.04)
ATR 5/8"	11	2160	(9.60)	89	(40.37)
ATR 3/4"	10	3230	(14.37)	123	(55.79)
ATR 7/8"	9	4480	(19.93)	170	(77.11)
ATR 1"	8	5900	(26.24)	225	(102.06)

B655 ROD COUPLING
B656 REDUCER ROD COUPLING
- Load rating for each coupler meets All Threaded Rod value
- Standard finish: Zinc-Plated, Stainless Steel Type 304



Part No.	Size	Recommended Load Lbs.	kN	Length		Wt./C Lbs.	kg
B655-1/4	1/4"-20	240	(1.07)	7/8"	(22.2)	1.9	(.86)
B655-5/16	5/16"-18	380	(1.69)	7/8"	(22.2)	1.8	(.81)
B655-3/8	3/8"-16	730	(3.24)	1 1/8"	(28.6)	3.6	(1.63)
B655-1/2	1/2"-13	1350	(6.00)	1 3/4"	(44.4)	11.3	(5.12)
B655-5/8	5/8"-11	1810	(8.05)	2 1/8"	(54.0)	17.6	(7.98)
B655-3/4	3/4"-10	2710	(12.05)	2 1/4"	(57.1)	28.1	(12.74)
B655-7/8	7/8"-9	3770	(16.77)	2 1/2"	(63.5)	57.2	(25.94)
B655-1	1"-8	4960	(22.06)	2 3/4"	(69.8)	73.7	(33.43)



Part No.	Size	Recommended Load Lbs.	kN	Length		Wt./C Lbs.	kg
B656-3/8 x 1/4	3/8"-16 & 1/4"-20	240	(1.07)	1"	(25.4)	3.7	(1.68)
B656-1/2 x 3/8	1/2"-13 & 3/8"-16	610	(2.71)	1 1/4"	(31.7)	6.6	(2.99)
B656-5/8 x 1/2	5/8"-11 & 1/2"-13	1130	(5.02)	1 1/4"	(31.7)	11.6	(5.26)
B656-3/4 x 5/8	3/4"-10 & 5/8"-11	1810	(8.05)	1 1/2"	(38.1)	20.6	(9.34)
B656-7/8 x 3/4	7/8"-9 & 3/4"-10	2710	(12.05)	1 3/4"	(44.4)	39.4	(17.87)

BHR SERIES
HOT RODS FOR TRAPEZE HANGERS
- 12" length of threaded rod completely assembled with rod coupling, locking hex nuts, square washer, and channel nut.
- Standard finish: Zinc-Plated

Part No.	Rod Size	Recommended Load Lbs.	kN	Wt./C Lbs.	kg
BHR1225ZN	1/4"-20	240	(1.07)	41	(18.6)
BHR1238ZN	3/8"-16	730	(3.24)	63	(28.6)
BHR1250ZN	1/2"-13	1350	(6.00)	98	(44.4)
BHR1262ZN	5/8"-11	1500	(6.67)	148	(67.1)

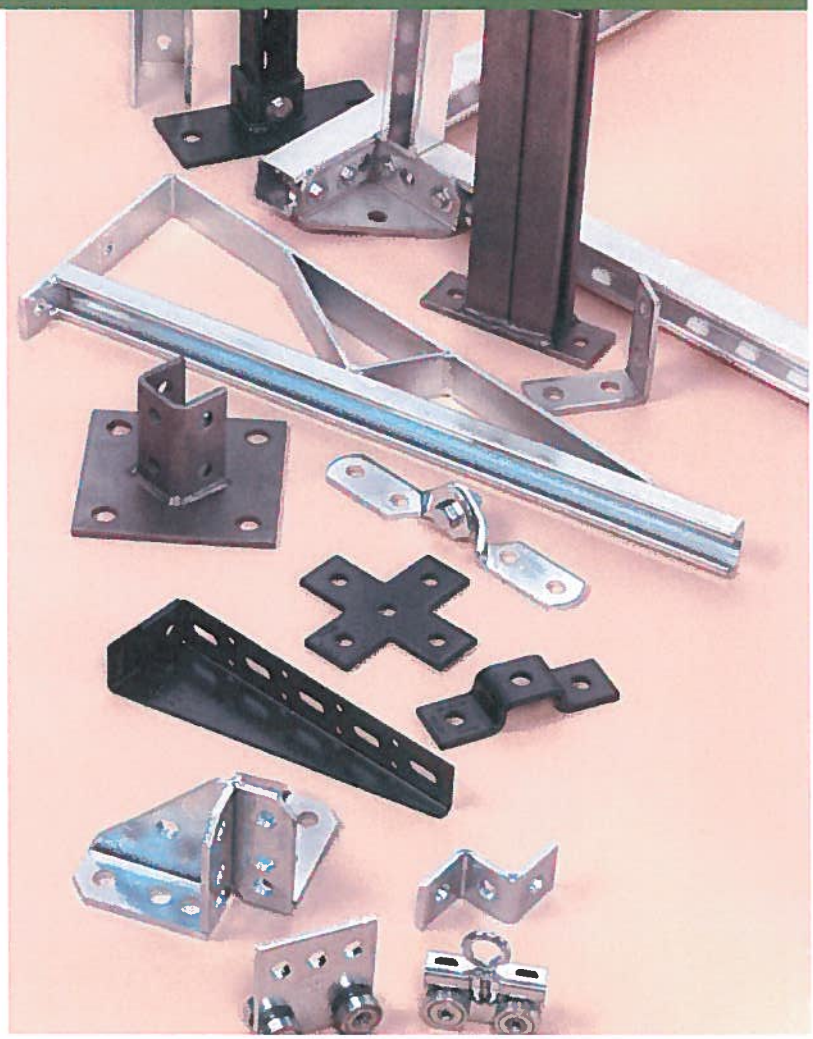
Note: Based on use with 12 ga. channel.

(BHR1225, BHR1238, and BHR1250 use combo nut washers instead of square washers and channel nuts)

Reference page 44 for general fitting and standard finish specifications.

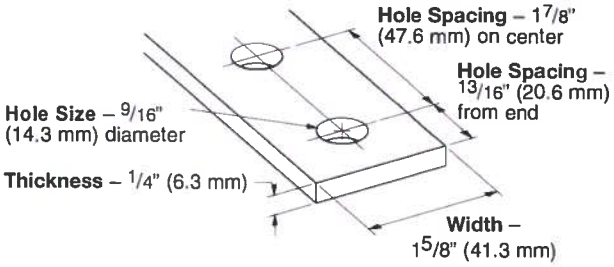
Fittings

This section offers a full selection of fittings and accessories to complete Cooper B-Line's metal framing system. Fittings are made from hot rolled, pickled and oiled plate or strip steel in accordance with ASTM A1018 33,000 PSI min. yield, unless noted.



Dimensions

The following dimensions apply to all fittings except as noted:



Materials & Finishes (Unless otherwise noted)

Finish Code	Finish	Specification
PLN	Plain	ASTM A1018 33,000 PSI min. yield
ZN	Electro-Plated Zinc	ASTM B633 SC3 Type III or ASTM A653
GRN	Dura-Green	
HDG	Hot-Dipped Galvanized	ASTM A123
SS4	Stainless Steel Type 304	ASTM A240
SS6	Stainless Steel Type 316	ASTM A240
AL	Aluminum	ASTM B209

Note: A minimum order may apply on special material and finishes.

Load Data

The load data published includes safety factor of 2.5 when used with 12 ga. (2.6) channel (safety factor = ratio of ultimate load to the design load).

Use 1/2"-13 x 7/8" hex head cap screws and 1/2"-13 (N225 or TN225) channel nuts for the rated results.

Recommended Bolt Torque

Bolt Size	1/4"-20	5/16"-18	3/8"-16	1/2"-13
Foot/Lbs.	6	11	19	50
Nm	8	15	26	68

See chart on page 100 for setscrew torque.

Hardware

Nuts and bolts are not included with the fittings and must be ordered separately, unless noted.

Pre-Assembled Fittings

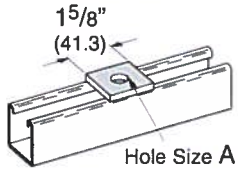
Some fittings are available with hex head cap screws and channel nuts pre-assembled. These fittings and finishes will be flagged using the following symbol. PA ZN GRN

Metric

Metric dimensions are shown in parentheses.
Unless noted, all metric dimensions are in millimeters.

B200-B202-2

- Standard finishes: ZN, GRN, HDG, SS4, SS6, AL

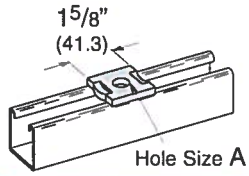


SQUARE WASHER

Part No.	A	(A)	Bolt Size		Wt./C Lbs.	Wt./C kg
B200	3/8"	(9.5)	5/16"	(7.9)	18	(8.1)
B201	7/16"	(11.1)	3/8"	(9.5)	18	(8.1)
B202	9/16"	(14.2)	1/2"	(12.7)	17	(7.7)
B202-1	11/16"	(17.4)	5/8"	(15.9)	16	(7.2)
B202-2	13/16"	(20.6)	3/4"	(19.0)	15	(6.8)

B200D-B202-2D

- Standard finishes: ZN, GRN, HDG, SS4, SS6, AL



NO TWIST SQUARE WASHER

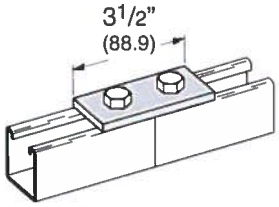
Part No.	A	(A)	Bolt Size		Wt./C Lbs.	Wt./C kg
B200D	3/8"	(9.5)	5/16"	(7.9)	18	(8.1)
B201D	7/16"	(11.1)	3/8"	(9.5)	18	(8.1)
B202D	9/16"	(14.2)	1/2"	(12.7)	17	(7.7)
B202-1D	11/16"	(17.4)	5/8"	(15.9)	16	(7.2)
B202-2D	13/16"	(20.6)	3/4"	(19.0)	15	(6.8)

B129

TWO HOLE SPLICE PLATE

- Standard finishes: ZN, GRN
- Wt./C 37 Lbs. (16.8 kg)

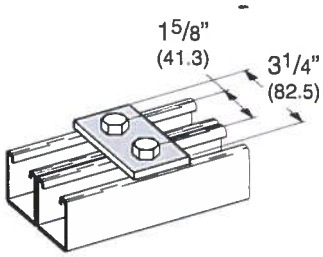
PA ZN GRN



B340

TWO HOLE SPLICE PLATE

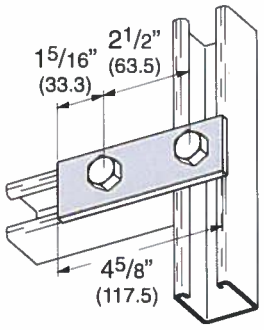
- Standard finishes: ZN, GRN
- Wt./C 34 Lbs. (15.4 kg)



B528

TWO HOLE SPLICE PLATE

- Standard finishes: ZN, GRN
- Wt./C 50 Lbs. (22.7 kg)

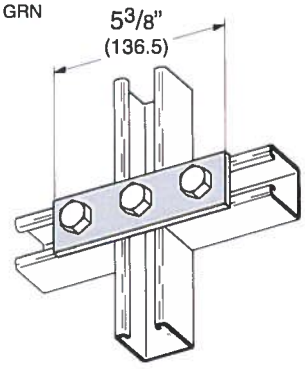


B141

THREE HOLE SPLICE PLATE

- Standard finishes: ZN, GRN
- Wt./C 55 Lbs. (24.9 kg)

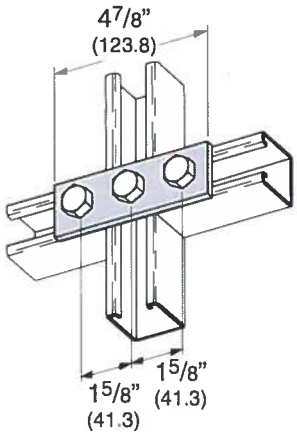
PA ZN GRN



B557

THREE HOLE SPLICE PLATE

- Standard finishes: ZN, GRN
- Wt./C 50 Lbs. (22.7 kg)

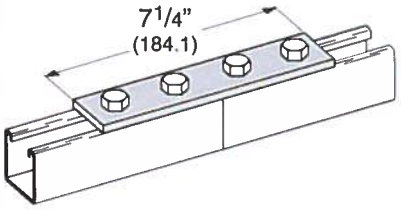


B341

FOUR HOLE SPLICE PLATE

- Standard finishes: ZN, GRN, HDG
- Wt./C 76 Lbs. (34.5 kg)

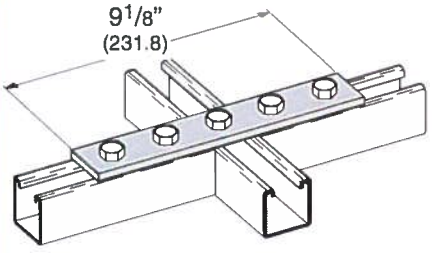
PA ZN GRN



B342

FIVE HOLE SPLICE PLATE

- Standard finishes: ZN, GRN
- Wt./C 96 Lbs. (43.5 kg)

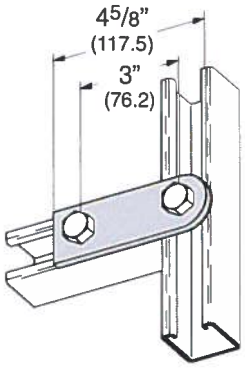


Strut Fittings

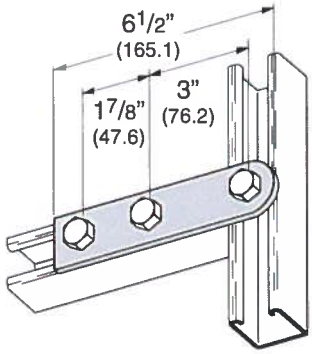
Reference page 60 for general fitting and standard finish specifications.

Flat Plate Fittings

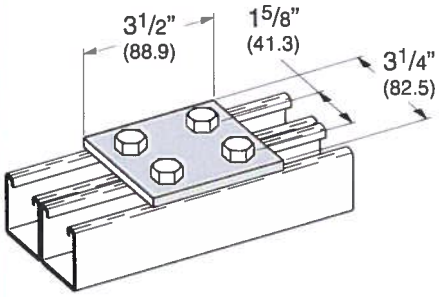
B138
TWO HOLE SWIVEL PLATE
- Standard finishes: ZN, GRN
- Wt./C 48 Lbs. (21.8 kg)



B139
THREE HOLE SWIVEL PLATE
- Standard finishes: ZN, GRN
- Wt./C 69 Lbs. (31.3 kg)

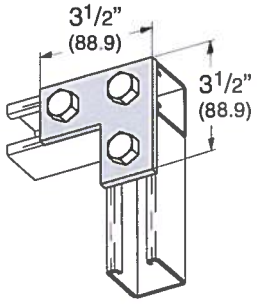


B504
FOUR HOLE SPLICE PLATE
- Standard finishes: ZN, GRN
- Wt./C 73 Lbs. (33.1 kg)



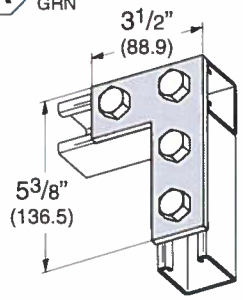
B140
THREE HOLE CORNER PLATE
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 56 Lbs. (25.4 kg)

PA ZN GRN



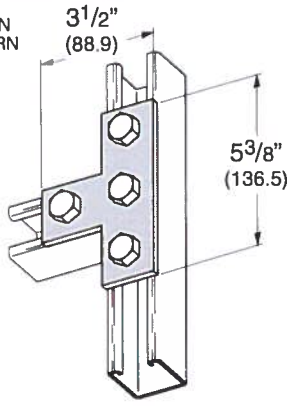
B143
FOUR HOLE CORNER PLATE
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 75 Lbs. (34.0 kg)

PA ZN GRN



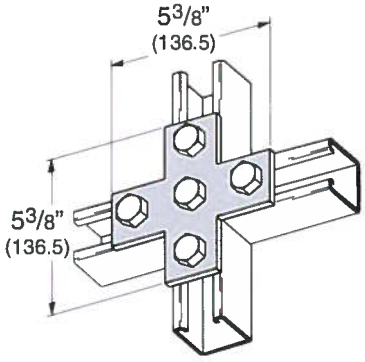
B133
FOUR HOLE TEE PLATE
- Standard finishes: ZN, GRN, HDG, SS4, AL
- Wt./C 75 Lbs. (34.0 kg)

PA ZN GRN

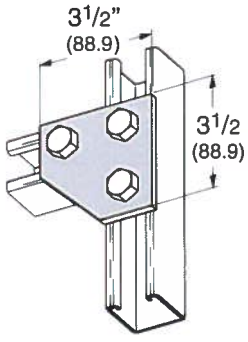


B132
FIVE HOLE CROSS PLATE
- Standard finishes: ZN, GRN, HDG
- Wt./C 100 Lbs. (45.3 kg)

PA ZN GRN

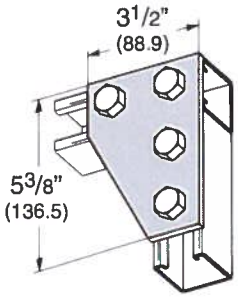


B135
THREE HOLE CORNER GUSSET PLATE
- Standard finishes: ZN, GRN
- Wt./C 70 Lbs. (31.7 kg)



B142
FOUR HOLE CORNER GUSSET PLATE
- Standard finishes: ZN, GRN, HDG
- Wt./C 102 Lbs. (46.2 kg)

PA ZN GRN

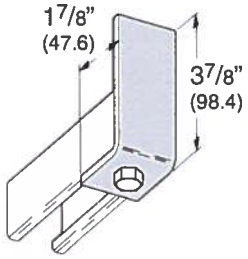


Strut Fittings

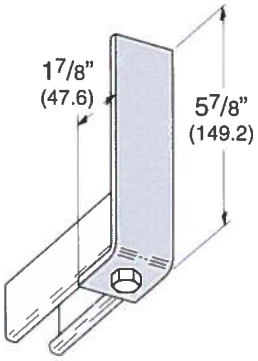
Reference page 60 for general fitting and standard finish specifications.

90° Angle Fittings

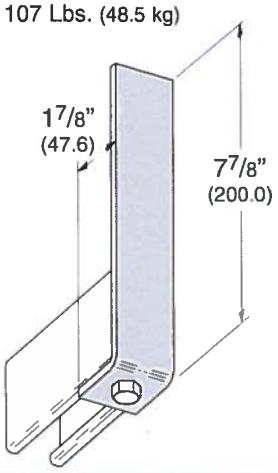
B420-378
ONE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 60 Lbs. (27.2 kg)



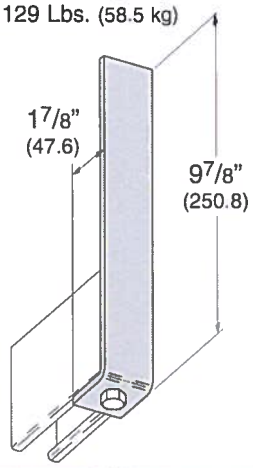
B420-578
ONE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 85 Lbs. (38.5 kg)



B420-778
ONE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 107 Lbs. (48.5 kg)

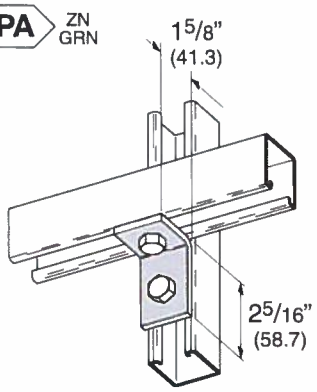


B420-978
ONE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 129 Lbs. (58.5 kg)



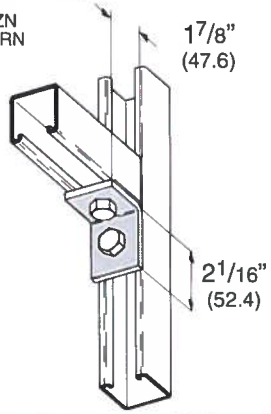
B101
TWO HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4, AL
- Wt./C 37 Lbs. (16.8 kg)

PA ZN GRN



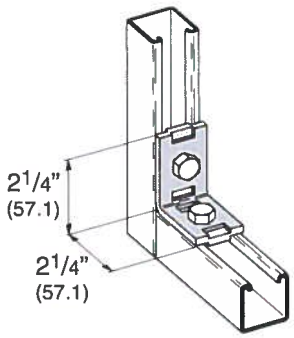
B230
TWO HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4, AL
- Wt./C 37 Lbs. (16.8 kg)

PA ZN GRN

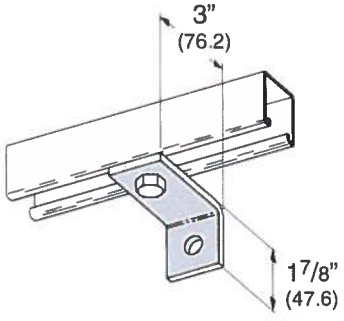


B231
TWO HOLE "NO-TWIST" CORNER ANGLE
- Standard finishes: ZN, GRN, HDG
- Wt./C 41 Lbs. (18.6 kg)

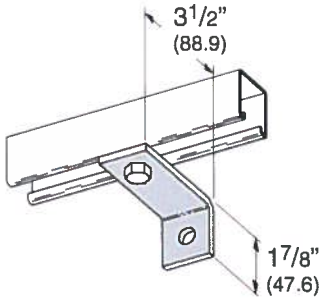
PA ZN GRN



B359
TWO HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 48 Lbs. (21.8 kg)



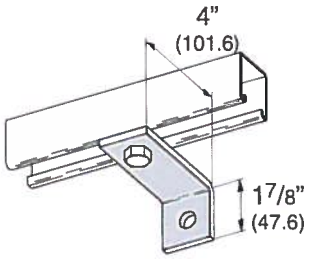
B360
TWO HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 53 Lbs. (24.0 kg)



Strut Fittings

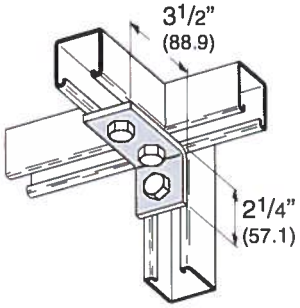
Reference page 60 for general fitting and standard finish specifications.

B361
TWO HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 60 Lbs. (27.2 kg)



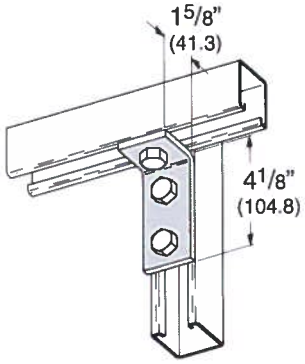
B102
THREE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 56 Lbs. (25.4 kg)

PA ZN GRN



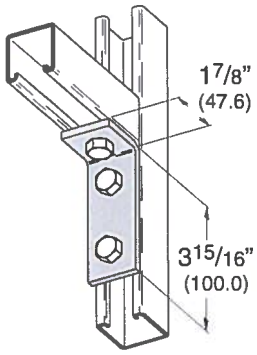
B103
THREE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 56 Lbs. (25.4 kg)

PA ZN GRN



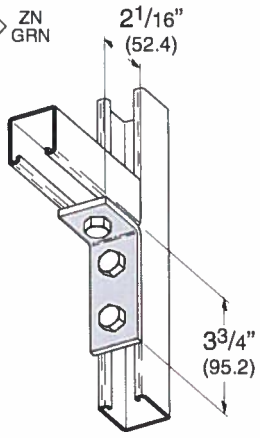
B232
THREE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 56 Lbs. (25.4 kg)

PA ZN GRN

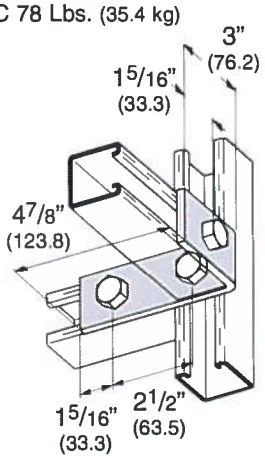


B374
THREE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG
- Wt./C 56 Lbs. (25.4 kg)

PA ZN GRN

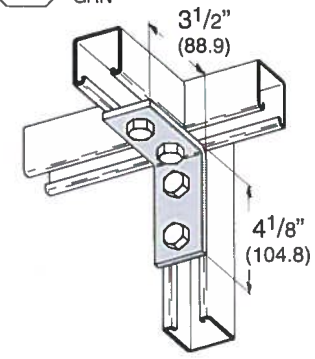


B529
THREE HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 78 Lbs. (35.4 kg)



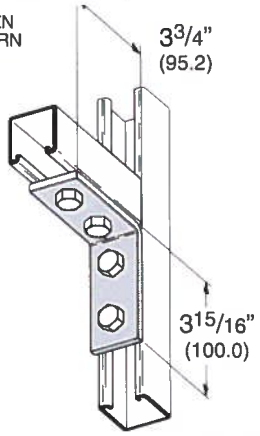
B104
FOUR HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4, SS6, AL
- Wt./C 78 Lbs. (35.4 kg)

PA ZN GRN

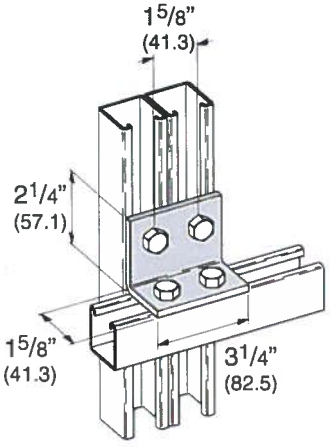


B115
FOUR HOLE CORNER ANGLE
- Standard finishes: ZN, GRN, HDG, SS4, AL
- Wt./C 76 Lbs. (34.5 kg)

PA ZN GRN



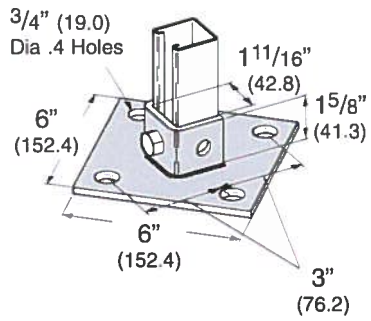
B558
FOUR HOLE CORNER ANGLE
- Standard finishes: ZN, GRN
- Wt./C 73 Lbs. (33.1 kg)



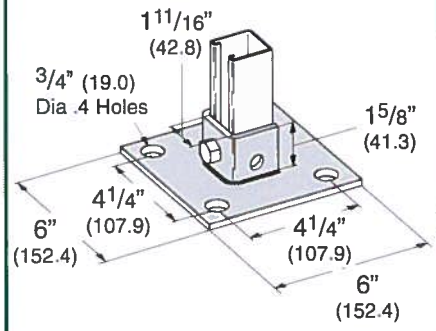
Strut Fittings

Reference page 60 for general fitting and standard finish specifications.

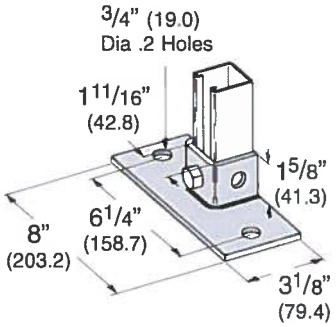
B279
POST BASE FOR B22
- Standard finishes: ZN, GRN
- Wt./C 314 Lbs. (142.4 kg)



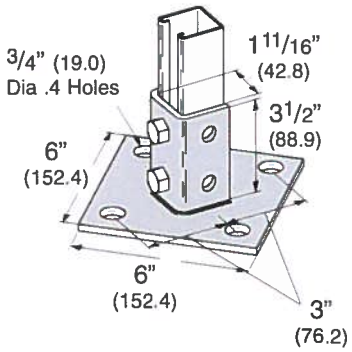
B279SQ
POST BASE FOR B22
- Standard finishes: ZN, GRN
- Wt./C 314 Lbs. (142.4 kg)



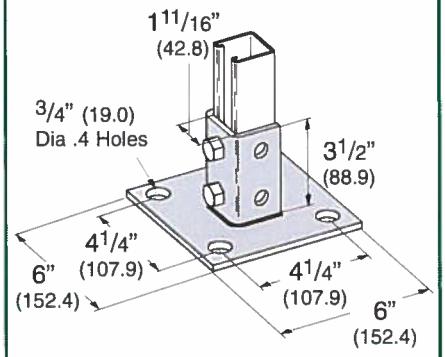
B279FL
POST BASE FOR B22
- Standard finishes: ZN, GRN
- Wt./C 230 Lbs. (104.3 kg)



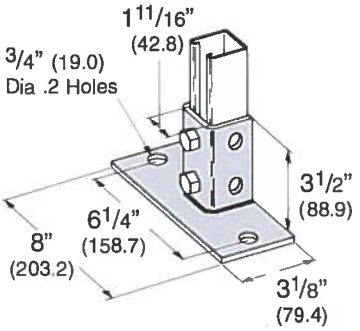
B280
POST BASE FOR B22
- Standard finishes: ZN, GRN, HDG, SS4, AL
- Wt./C 392 Lbs. (177.8 kg)



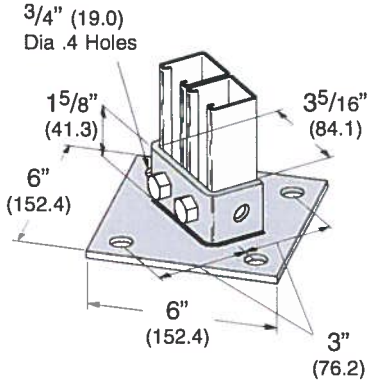
B280SQ
POST BASE FOR B22
- Standard finishes: ZN, GRN, HDG, SS4, AL
- Wt./C 392 Lbs. (177.8 kg)



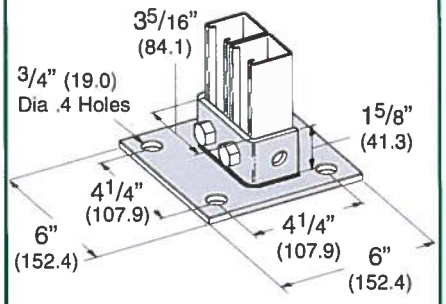
B280FL
POST BASE FOR B22
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 312 Lbs. (141.5 kg)



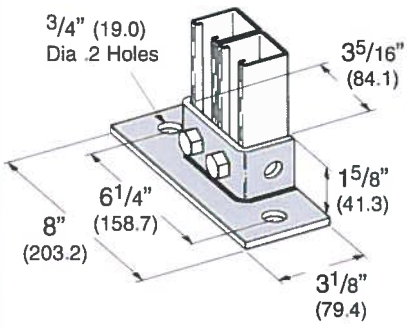
B281A
POST BASE FOR B22A, B, C, ETC.
- Standard finishes: ZN, GRN
- Wt./C 330 Lbs. (149.7 kg)



B281ASQ
POST BASE FOR B22A, B, C, ETC.
- Standard finishes: ZN, GRN
- Wt./C 330 Lbs. (149.7 kg)



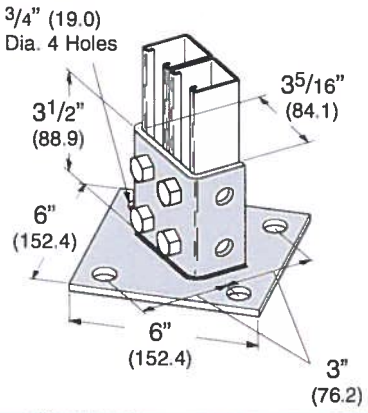
B281AFL
POST BASE FOR B22A, B, C, ETC.
- Standard finishes: ZN, GRN
- Wt./C 250 Lbs. (113.4 kg)



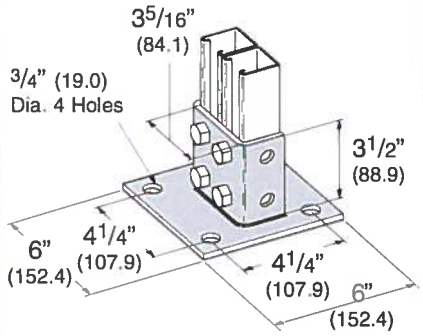
Strut Fittings

Reference page 60 for general fitting and standard finish specifications.

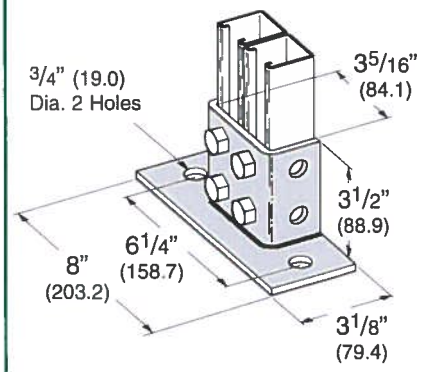
B281
POST BASE FOR B22A, B, C, ETC.
- Standard finishes: ZN, GRN, HDG
- Wt./C 400 Lbs. (181.4 kg)



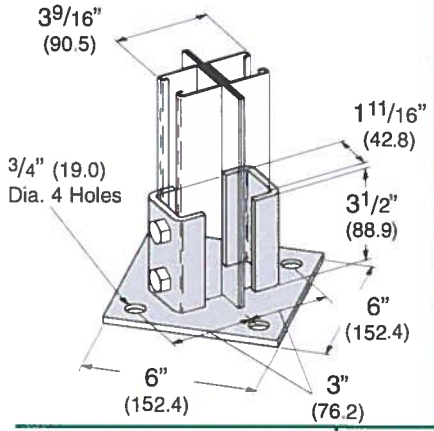
B281SQ
POST BASE FOR B22A, B, C, ETC.
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 400 Lbs. (181.4 kg)



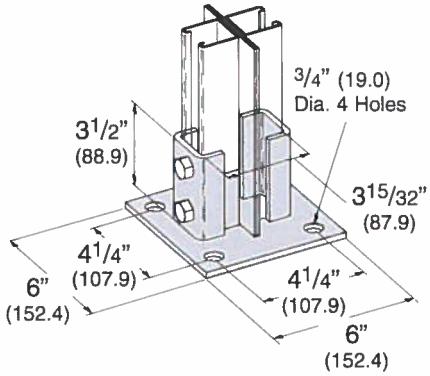
B281FL
POST BASE FOR B22A, B, C, ETC.
- Standard finishes: ZN, GRN
- Wt./C 320 Lbs. (145.1 kg)



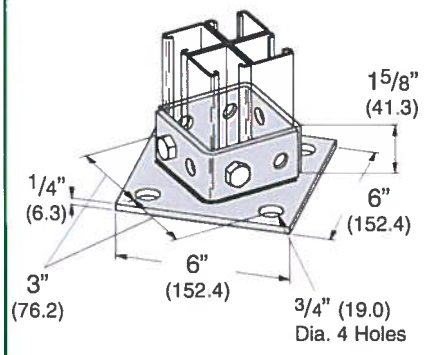
B281M
POST BASE FOR B22-2PL
- Standard finishes: ZN, GRN
- Wt./C 470 Lbs. (213.2 kg)



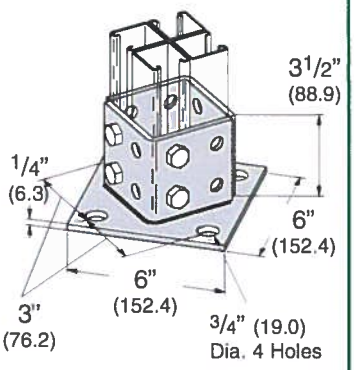
B281MSQ
POST BASE FOR B22-2PL
- Standard finishes: ZN, GRN
- Wt./C 470 Lbs. (213.2 kg)



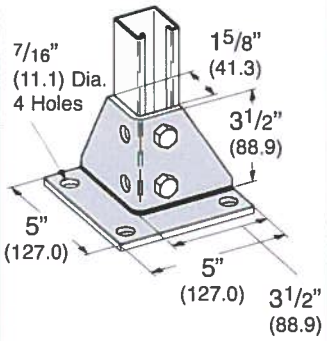
B570
POST BASE FOR FOUR CHANNEL COMBINATIONS
- Standard finishes: ZN, GRN
- Wt./C 397 Lbs. (180.1 kg)



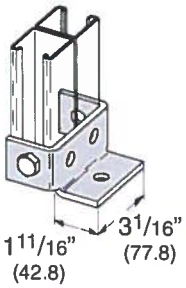
B570A
POST BASE FOR FOUR CHANNEL COMBINATIONS
- Standard finishes: ZN, GRN
- Wt./C 550 Lbs. (249.5 kg)



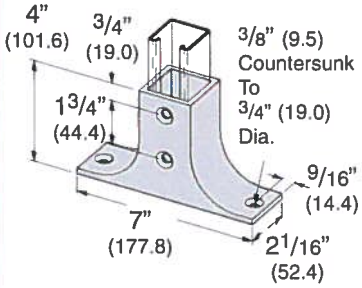
B278
POST BASE FOR B22
- Standard finishes: ZN, GRN
- Wt./C 288 Lbs. (130.6 kg)



B585
POST BASE FOR B22A
- Standard finishes: ZN, GRN
- Wt./C 97 Lbs. (44.0 kg)



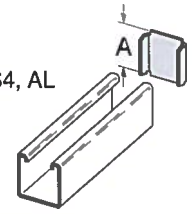
B300
POST BASE
- Material: Malleable Iron
- Standard finishes: ZN, GRN
- Wt./C 259 Lbs. (117.5 kg)



Strut Fittings

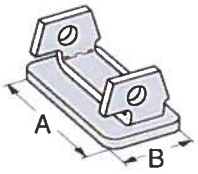
Reference page 60 for general fitting and standard finish specifications.

B203-B206 & B220-B223
CHANNEL END CAPS TYPE X
- Material: ASTM A1011 CS Type B
- Standard finishes: ZN, GRN, HDG, SS4, AL



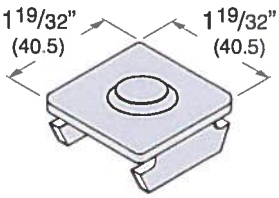
Part No.	Use With	A	(A)	Wt./C Lbs.	kg
B203	B42	1.015	(25.8)	6	(2.7)
B204	B54	.827	(21.0)	5	(2.2)
B205	B22	1.640	(41.6)	10	(4.5)
B206	B32	1.390	(35.3)	8	(3.6)
B220	B52	.827	(21.0)	4	(1.8)
B221	B12	2.452	(62.3)	15	(6.8)
B222	B11	3.265	(82.9)	20	(9.1)
B223	B24	1.640	(41.6)	10	(4.5)

B283-B286
CHANNEL END CAPS
- Material: ASTM A1011 33,000 PSI min. yield
- Standard finishes: ZN, GRN



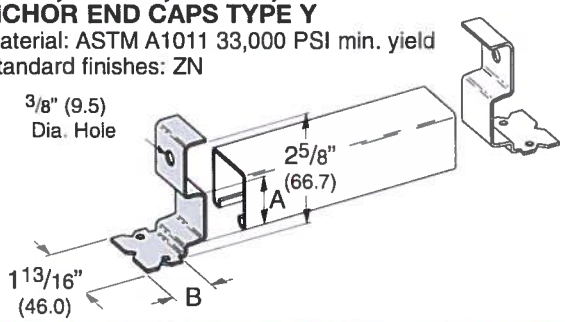
Part No.	Use With	A	(A)	B	(B)	Wt./C Lbs.	kg
B283	B52	1 19/32"	(40.5)	25/32"	(19.8)	6	(2.7)
B284	B54 & B56	1 19/32"	(40.5)	25/32"	(19.8)	6	(2.7)
B285	B22	1 19/32"	(40.5)	1 19/32"	(40.5)	13	(5.9)
B286	B24 & B26	1 19/32"	(40.5)	1 19/32"	(40.5)	14	(6.3)

B287 & B288
CHANNEL END CAPS
- Material: ASTM A1011 33,000 PSI min. yield
- Standard finishes: ZN, GRN



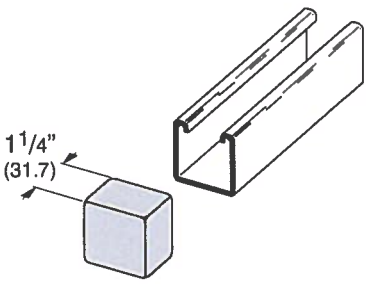
Part No.	Use With	Wt./C Lbs.	kg
B287	B22	13	(5.9)
B288	B24	14	(6.3)

B3322, B3332, B3342, B3352
ANCHOR END CAPS TYPE Y
- Material: ASTM A1011 33,000 PSI min. yield
- Standard finishes: ZN

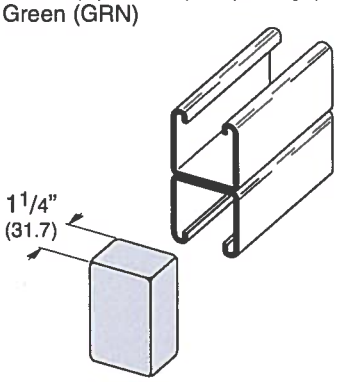


Part No.	Use With	A	(A)	B	(B)	Wt./C Lbs.	kg
B3322	B22I	1.270	(32.2)	13/16"	(30.2)	15	(6.8)
B3332	B32I	1.000	(25.4)	13/16"	(30.2)	15	(6.8)
B3342	B42I	.645	(16.4)	1 1/4"	(31.8)	15	(6.8)
B3352	B52I	.460	(11.7)	1 5/16"	(33.3)	15	(6.8)

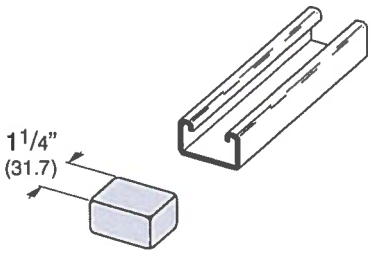
B822
PLASTIC END CAP FOR B22 & B24
- Material: Soft White PVC
- Wt./C 3 Lbs. (1.3 kg)
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)



B822A
PLASTIC END CAP FOR B22A & B11
- Material: Soft White PVC
- Wt./C 5 Lbs. (2.2 kg)
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)



B852
PLASTIC END CAP FOR B52
- Material: Soft White PVC
- Wt./C 2.5 Lbs. (1.1 kg)
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)

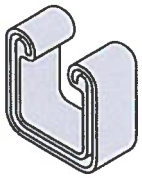


Strut Fittings

Reference page 60 for general fitting and standard finish specifications.

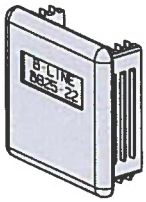
B823
PROFILE END CAPS
- Material: PVC
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)

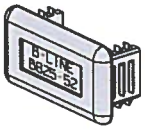
Approx. 3/4" deep
(19.0)



Part No.	Fits Channel Sizes	Wt./C Lbs.	kg
B823-22A	B22A, B24A, B26A	6.9	(3.1)
B823-22	B22, B24, B26	4.1	(1.8)
B823-42	B42	3.8	(1.7)
B823-52	B52, B54, B56	3.5	(1.6)

B825
PLASTIC END CAPS
- Material: Polyurethane
- Available in colors: Gray (GRY), Green (GRN)





Part No.	Fits Channel Sizes	Wt./C Lbs.	kg
B825-22	B22 & B24	2.0	(0.9)
B825-52	B52 & B54	1.0	(0.4)

Reference page 60 for general fitting and standard finish specifications.

Beam Clamps

Cooper B-Line's beam attachments and pipe supports offered in this section are designed to provide supports without drilling or welding . A complete selection of beam clamps, pipe clamps, rollers, supports and accessories are designed for use with Cooper B-Line channels and offer many installation advantages.

Materials & Finishes (Unless otherwise noted)

Pipe clamps, pipe hangers, beam clamps, brackets, and rollers are made from low carbon steel strips, plates or rod unless noted.

Finish Code	Finish	Specification
PLN	Plain	ASTM A1018 Gr. 33 ASTM A1011 SS Grade 33
ZN	Electro-Plated Zinc	ASTM B633 SC3 Type III or ASTM A653
GRN	Dura-Green	
–	Malleable Iron	ASTM A47 Gr. 32510
HDG	Hot-Dipped Galvanized	ASTM A123
CZ	Chromium Zinc	ASTM F1136
SS4	Stainless Steel Type 304	ASTM A240
SS6	Stainless Steel Type 316	ASTM A240
AL	Aluminum	ASTM B209

Note: A minimum order may apply on special material and finishes.

Load Data

The load data published includes a safety factor of 5.0 unless noted (safety factor = ratio of ultimate load to the design load).

Recommended Torque For Setscrews (unless noted)

Setscrew Size	1/4"-20	3/8"-16	1/2"-13
Foot/Lbs.	4	5	11
Nm	5	7	15

Setscrew Size	5/8"-11	3/4"-10
Foot/Lbs.	21	34
Nm	28	46

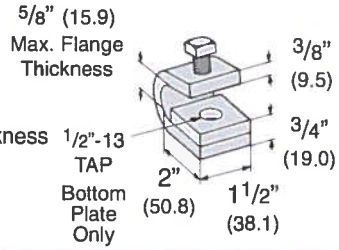
See chart on page 60 for bolt torque.

Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

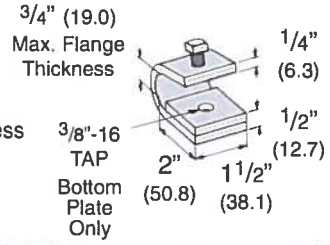
B210
BEAM CLAMP

- Design Load 800 Lbs. (3.56 kN)
- Safety Factor of 5
- 5/8" (15.9) Max. Flange Thickness
- 1/2"-13 Setscrew included
- Standard finish: ZN
- Wt./C 100 Lbs. (45.3 kg)



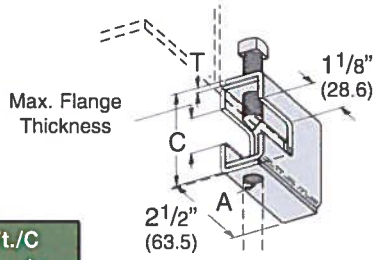
B210A
BEAM CLAMP

- Design Load 300 Lbs. (1.33 kN)
- Safety Factor of 5
- 3/4" (19.0) Max. Flange Thickness
- 3/8"-16 Setscrew included
- Standard finish: ZN
- Wt./C 60 Lbs. (27.2 kg)



B303 THRU B309 BEAM CLAMPS

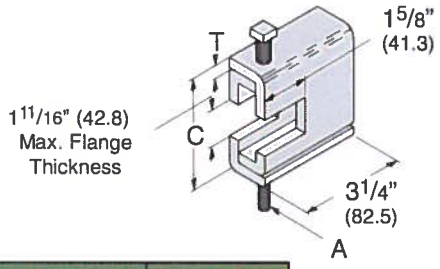
- Safety Factor of 5
- Max. Flange Thickness 1/16" (1.6) thru 7/8" (22.2)
- Setscrew included
- When Retaining Strap is required, order B312 separately
- Recommended Setscrew Torque: 3/8"-16 150 in-lbs. (16.9 N•m)
  1/2"-13 350 in-lbs. (39.5 N•m)
- Standard finishes: ZN, HDG



Part No.	Rod Size A	Set Screw	C		T		Design Load Lbs.	Design Load kN	Wt./C Lbs.	Wt./C kg
B303	1/4"-20	3/8"-16	2 5/16"	(58.7)	11 Ga.	(3.0)	400	(1.78)	72	(32.6)
B304	5/16"-18	3/8"-16	2 5/16"	(58.7)	11 Ga.	(3.0)	600	(2.67)	72	(32.6)
B305	3/8"-16	3/8"-16	2 5/16"	(58.7)	11 Ga.	(3.0)	600	(2.67)	72	(32.6)
B306	3/8"-16	1/2"-13	2 7/16"	(61.9)	7 Ga.	(4.5)	1100	(4.89)	97	(44.0)
B307	1/2"-13	1/2"-13	2 7/16"	(61.9)	7 Ga.	(4.5)	1100	(4.89)	97	(44.0)
B308	1/2"-13	1/2"-13	2 9/16"	(65.1)	1/4"	(6.3)	1500	(6.67)	133	(60.3)
B309	5/8"-11	1/2"-13	2 9/16"	(65.1)	1/4"	(6.3)	1500	(6.67)	133	(60.3)

B321 SERIES BEAM CLAMPS

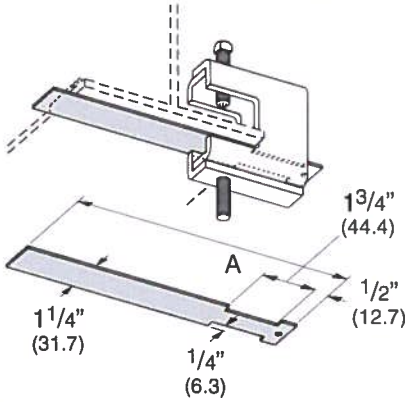
- Safety Factor of 5
- 1 11/16" (42.8) Max. Flange Thickness
- Setscrew included
- When Retaining Strap is required, order B312 separately
- Recommended Setscrew Torque: 1/2"-13 350 in-lbs. (39.5 N•m)
  5/8"-11 700 in-lbs. (79.0 N•m)
- Minimum flange thickness: B321-1 thru B321-3 1/4" (6.3)
  B321-4 and B321-5 3/8" (9.5)
- Standard finishes: ZN, HDG



Part No.	Rod Size A	Setscrew	C		T		Design Load Lbs.	Design Load kN	Wt./C Lbs.	Wt./C kg
B321-1	3/8"-16	1/2"-13	3 9/16"	(92.1)	1/4"	(6.3)	1300	(5.78)	187	(84.8)
B321-2	1/2"-13	1/2"-13	3 9/16"	(92.1)	1/4"	(6.3)	1400	(6.23)	186	(84.3)
B321-3	5/8"-11	1/2"-13	3 9/16"	(92.1)	1/4"	(6.3)	1600	(7.12)	185	(83.9)
B321-4	5/8"-11	5/8"-11	3 23/32"	(94.4)	5/16"	(7.9)	1800	(8.00)	239	(108.4)
B321-5	3/4"-10	5/8"-11	3 23/32"	(94.4)	5/16"	(7.9)	2000	(8.89)	238	(107.9)

B312 SERIES
RETAINING STRAP FOR USE WITH B303 THRU B309 AND B321 SERIES

- 3/4" (19.0) Max. Flange Thickness
- For thicker beams, step up one flange width size
- Material: 14 Gauge (1.9)
- Standard finishes: GALV, HDG



Part No.	For Flange Width		A		Wt./C Lbs.	Wt./C kg
B312-6	6"	(152.4)	9"	(228.6)	22	(10.0)
B312-9	9"	(228.6)	12"	(304.8)	30	(13.6)
B312-12	12"	(304.8)	15"	(381.0)	40	(18.1)
B312-15	15"	(381.0)	18"	(457.2)	49	(22.2)

Reference page 100 for general fitting and standard finish specifications.

Pipe/Conduit Clamps & Hangers

Cooper B-Line's beam attachments and pipe supports offered in this section are designed to provide supports without drilling or welding. A complete selection of beam clamps, pipe clamps, rollers, supports and accessories are designed for use with Cooper B-Line channels and offer many installation advantages.

Materials & Finishes*

Pipe clamps, pipe hangers, beam clamps, brackets, and rollers are made from low carbon steel strips, plates or rod unless noted.

Finish Code	Finish	Specification
PLN	Plain	ASTM A1011 33,000 PSI min. yield
ZN	Electro-Plated Zinc	ASTM B633 SC3 Type III or ASTM A653
GRN	Dura-Green	
DCU	Dura-Copper	
HDG	Hot-Dipped Galvanized	ASTM A123
YZN	Yellow Zinc Chromate	ASTM B633 SC3 Type II
SS4	Stainless Steel Type 304	ASTM A240
SS6	Stainless Steel Type 316	ASTM A240
AL	Aluminum	ASTM B209

*Unless otherwise noted.

Load Data

The load data published includes a safety factor of 5.0 unless noted (safety factor = ratio of ultimate load to the design load).

Recommended Torque For Setscrews (unless noted)

Setscrew Size	1/4"-20	3/8"-16	1/2"-13
Foot/Lbs.	4	5	11
Nm	5	7	15

Setscrew Size	5/8"-11	3/4"-10
Foot/Lbs.	21	34
Nm	28	46

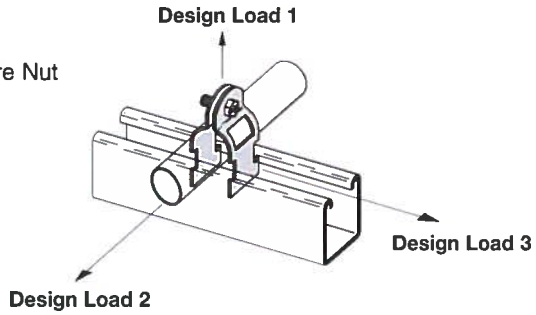
*See chart on page 60 for bolt torque.

Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

B2207 THRU B2213
MULTI-GRIP PIPE CLAMPS FOR THINWALL (EMT), I.M.C., RIGID CONDUIT OR PIPE

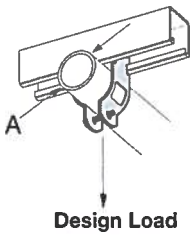
- Safety Factor of 5
- Add PA to suffix for pre-assembled pipe clamps
- Includes Combination Recess Hex Head Machine Screw and Square Nut
- Material: ASTM A1011 33,000 PSI min. yield
- Standard finish: ZN



Part No.	Nominal Size		Material Thickness		O.D. Size Range		Alternate For Clamp No.'s	Design Load 1 Lbs.	Design Load 1 kN	Design Load 2 Lbs.	Design Load 2 kg	Design Load 3 Lbs.	Design Load 3 kg	Wt./C Lbs.	Wt./C kg
B2207	3/8"	(10)	16 Ga.	(1.5)	.557-.706	(14.2-17.9)	B2000, B2007, B2026	400	(1.78)	50	(.22)	50	(.22)	9	(4.1)
B2208	1/2"	(15)	16 Ga.	(1.5)	.701-.875	(17.8-22.2)	B2001, B2008, B2027, B2028	400	(1.78)	50	(.22)	50	(.22)	11	(5.0)
B2209	3/4"	(20)	14 Ga.	(1.9)	.917-1.081	(23.2-27.4)	B2002, B2009, B2029	400	(1.78)	50	(.22)	50	(.22)	12	(5.4)
B2210	1"	(25)	14 Ga.	(1.9)	1.125-1.375	(28.6-34.9)	B2003, B2010, B2030, B2031, B2032	400	(1.78)	50	(.22)	50	(.22)	13	(5.9)
B2211	1 1/4"	(32)	14 Ga.	(1.9)	1.500-1.691	(38.1-42.9)	B2004, B2011, B2033, B2034	400	(1.78)	50	(.22)	50	(.22)	15	(6.8)
B2212	1 1/2"	(40)	12 Ga.	(2.6)	1.735-1.931	(44.0-49.0)	B2005, B2012, B2035, B2036	600	(2.67)	75	(.33)	75	(.33)	23	(10.4)
B2213	2"	(50)	12 Ga.	(2.6)	2.192-2.400	(55.7-60.9)	B2006, B2013 B2039	600	(2.67)	75	(.33)	75	(.33)	26	(11.8)

BPC-8 THRU BPC-64
BREAK-APART CONDUIT CLAMP

- Design Load 200 Lbs. (.896 kN)
- Includes Combination Recess Hex Head Machine Screw
- Material: ASTM A1011 33,000 PSI min. yield
- Standard finish: ZN



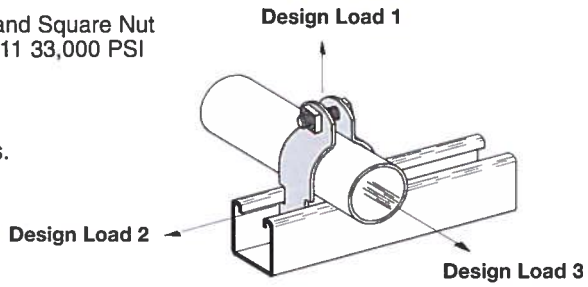
Part No.	A Rigid or EMT Conduit Size		Wt./C Lbs.	Wt./C kg
BPC-8	1/2"	(21.3)	11.2	(5.1)
BPC-12	3/4"	(26.7)	12.7	(5.8)
BPC-16	1"	(33.4)	14.5	(6.6)
BPC-20	1 1/4"	(42.2)	16.5	(7.5)
BPC-24	1 1/2"	(48.3)	18.5	(8.4)
BPC-32	2"	(60.3)	21.5	(9.8)
BPC-40	2 1/2"	(73.0)	21.5	(9.8)
BPC-48	3"	(88.9)	22.0	(10.0)
BPC-56	3 1/2"	(101.6)	23.0	(10.4)
BPC-64	4"	(114.3)	27.5	(12.5)

Reference page 112 for general fitting and standard finish specifications.

B2000 SERIES
PIPE AND CONDUIT CLAMPS

- Safety Factor of 5
- Add PA to suffix for pre-assembled pipe clamps
- Includes Combination Recess Hex Head Machine Screw and Square Nut
- Material: 16 Ga. (1.5), 14 Ga. (1.9), 12 Ga. (2.6) ASTM A1011 33,000 PSI min. yield and 11 Ga. (3.0) ASTM A1011HSLA Gr. 50
- Standard finishes: ZN, HDG, SS4, SS6, AL

Note: For EMT sizes 2 1/2" and larger use rigid conduit sizes.



THINWALL CONDUIT (EMT) CLAMPS

Part No.	Conduit Size		Material Thickness		Design Load 1 Lbs.	Design Load 1 kN	Design Load 2 Lbs.	Design Load 2 kg	Design Load 3 Lbs.	Design Load 3 kg	Wt./C Lbs.	Wt./C kg
B2000	3/8"	(10)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	10	(4.5)
B2001	1/2"	(15)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	10	(4.5)
B2002	3/4"	(20)	16 Ga.	(1.9)	400	(1.78)	50	(.22)	50	(.22)	11	(5.0)
B2003	1"	(25)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	16	(7.2)
B2004	1 1/4"	(32)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	19	(8.6)
B2005	1 1/2"	(40)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	28	(12.7)
B2006	2"	(50)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	33	(14.9)

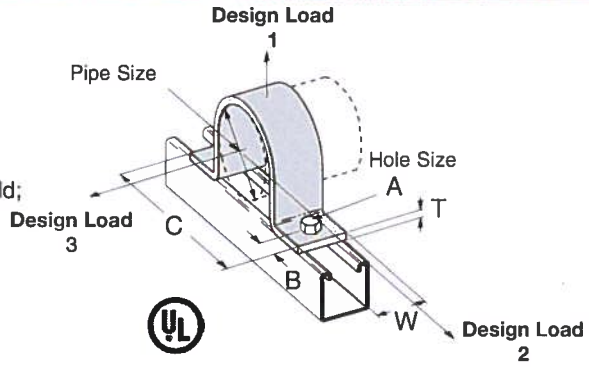
RIGID CONDUIT OR PIPE CLAMPS

Part No.	Conduit Size		Material Thickness		Design Load 1 Lbs.	Design Load 1 kN	Design Load 2 Lbs.	Design Load 2 kg	Design Load 3 Lbs.	Design Load 3 kg	Wt./C Lbs.	Wt./C kg
B2001	3/8"	(10)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	10	(4.5)
B2008	1/2"	(15)	16 Ga.	(1.5)	400	(1.78)	50	(.22)	50	(.22)	11	(5.0)
B2009	3/4"	(20)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	15	(6.8)
B2010	1"	(25)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	16	(7.2)
B2011	1 1/4"	(32)	14 Ga.	(1.9)	600	(2.67)	75	(.33)	75	(.33)	20	(9.1)
B2012	1 1/2"	(40)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	30	(13.6)
B2013	2"	(50)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	34	(15.4)
B2014	2 1/2"	(65)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	38	(17.2)
B2015	3"	(80)	12 Ga.	(2.6)	800	(3.56)	125	(.56)	125	(.56)	44	(19.9)
B2016	3 1/2"	(90)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	61	(27.6)
B2017	4"	(100)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	66	(29.9)
B2018	4 1/2"	(115)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	70	(31.7)
B2019	5"	(125)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	77	(34.9)
B2020	6"	(150)	11 Ga.	(3.0)	1000	(4.45)	200	(.89)	150	(.67)	100	(45.3)
B2021	7"	(175)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	115	(52.1)
B2022	8"	(200)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	128	(58.0)
B2130	10	(254)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	160	(72.6)
B2132	12"	(305)	11 Ga.	(3.0)	1000	(4.45)	250	(1.11)	200	(.89)	185	(83.9)

Reference page 112 for general fitting and standard finish specifications.

B2400 SERIES
STANDARD PIPE STRAP

- Safety Factor of 5
- B2400-3/4 thru B2400-8 are UL listed
- Order hardware separately
- Other sizes available upon request
- Material: Sizes - 1/2" - 1 1/2", ASTM A1011 33,000 PSI min. yield; 2" - 10", ASTM A1018 33,000 PSI min. yield; 12" ASTM A1011 CS Type B; 14"-Larger, ASTM A36
- Standard finish: ZN
- Ductile Iron Sizes Available
- Meets requirements of MSS SP-58 & SP-69 Type 26



Part No.	Pipe Size		A		B		C		T		W	
B2400-1/2	1/2"	(15)	5/16"	(7.9)	7/16"	(11.1)	2 13/16"	(71.4)	10 Ga.	(3.4)	1 5/8"	(41.3)
B2400-3/4	3/4"	(20)	5/16"	(7.9)	7/16"	(11.1)	3"	(76.2)	10 Ga.	(3.4)	1 5/8"	(41.3)
B2400-1	1"	(25)	5/16"	(7.9)	7/16"	(11.1)	3 17/32"	(89.7)	10 Ga.	(3.4)	1 5/8"	(41.3)
B2400-1 1/4	1 1/4"	(32)	5/16"	(7.9)	7/16"	(11.1)	3 3/4"	(95.2)	10 Ga.	(3.4)	1 5/8"	(41.3)
B2400-1 1/2	1 1/2"	(40)	5/16"	(7.9)	7/16"	(11.1)	4 1/16"	(103.2)	10 Ga.	(3.4)	1 5/8"	(41.3)
B2400-2	2"	(50)	7/16"	(11.1)	11/16"	(17.4)	5 21/32"	(143.6)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-2 1/2	2 1/2"	(65)	7/16"	(11.1)	11/16"	(17.4)	6 5/32"	(156.3)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-3	3"	(80)	7/16"	(11.1)	11/16"	(17.4)	6 25/32"	(172.2)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-3 1/2	3 1/2"	(90)	7/16"	(11.1)	11/16"	(17.4)	7 9/32"	(184.9)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-4	4"	(100)	9/16"	(14.3)	11/16"	(17.4)	7 25/32"	(197.6)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-5	5"	(125)	9/16"	(14.3)	11/16"	(17.4)	8 7/8"	(225.4)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-6	6"	(150)	9/16"	(14.3)	11/16"	(17.4)	9 15/16"	(252.4)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-8	8"	(200)	9/16"	(14.3)	11/16"	(17.4)	11 31/32"	(304.0)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-10	10"	(250)	9/16"	(14.3)	11/16"	(17.4)	14"	(355.6)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-12	12"	(300)	9/16"	(14.3)	11/16"	(17.4)	16"	(406.4)	1/4"	(6.3)	1 5/8"	(41.3)
B2400-14	14"	(350)	15/16"	(23.8)	1 1/2"	(38.1)	20 3/4"	(527.0)	3/8"	(9.5)	1 3/4"	(44.4)
B2400-16	16"	(400)	15/16"	(23.8)	1 1/2"	(38.1)	22 3/4"	(577.8)	3/8"	(9.5)	1 3/4"	(44.4)
B2400-18	18"	(460)	15/16"	(23.8)	1 3/4"	(44.4)	27"	(685.8)	1/2"	(12.7)	1 3/4"	(44.4)
B2400-20	20"	(510)	15/16"	(23.8)	1 3/4"	(44.4)	29"	(736.6)	1/2"	(12.7)	1 3/4"	(44.4)
B2400-24	24"	(610)	15/16"	(23.8)	1 3/4"	(44.4)	33"	(838.2)	1/2"	(12.7)	1 3/4"	(44.4)

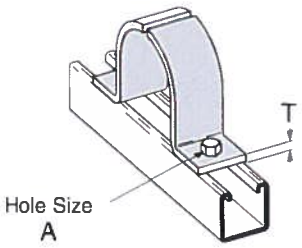
Part No.	Design Load 1		Design Load 2		Design Load 3		Wt./C	
	Lbs.	kN	Lbs.	kN	Lbs.	kN	Lbs.	kg
B2400-1/2	600	(2.67)	150	(.67)	105	(.47)	23	(10.4)
B2400-3/4	600	(2.67)	150	(.67)	105	(.47)	26	(11.8)
B2400-1	600	(2.67)	150	(.67)	120	(.53)	31	(14.0)
B2400-1 1/4	600	(2.67)	150	(.67)	120	(.53)	36	(16.3)
B2400-1 1/2	600	(2.67)	150	(.67)	120	(.53)	39	(17.7)
B2400-2	1200	(5.34)	480	(2.14)	180	(.80)	93	(42.2)
B2400-2 1/2	1200	(5.34)	480	(2.14)	180	(.80)	106	(48.1)
B2400-3	1200	(5.34)	480	(2.14)	300	(1.33)	132	(59.9)
B2400-3 1/2	1200	(5.34)	480	(2.14)	300	(1.33)	151	(68.5)
B2400-4	1500	(6.67)	600	(2.67)	450	(2.00)	160	(72.6)
B2400-5	1500	(6.67)	600	(2.67)	450	(2.00)	192	(87.1)
B2400-6	1500	(6.67)	600	(2.67)	450	(2.00)	219	(99.3)
B2400-8	2000	(8.90)	800	(3.56)	600	(2.67)	297	(134.7)
B2400-10	2000	(8.90)	800	(3.56)	600	(2.67)	465	(210.9)
B2400-12	2000	(8.90)	800	(3.56)	600	(2.67)	560	(254.0)
B2400-14	2000	(8.90)	800	(3.56)	600	(2.67)	761	(345.2)
B2400-16	2000	(8.90)	800	(3.56)	600	(2.67)	861	(390.5)
B2400-18	2000	(8.90)	800	(3.56)	600	(2.67)	1297	(588.3)
B2400-20	2000	(8.90)	800	(3.56)	600	(2.67)	1426	(646.8)
B2400-24	2000	(8.90)	800	(3.56)	600	(2.67)	1682	(762.9)

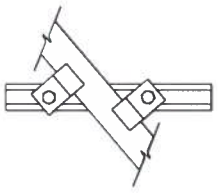
Reference page 112 for general fitting and standard finish specifications.

B437 SERIES TWO PIECE PIPE STRAP

- Clamp halves can turn allowing pipe to be fastened to channel at any direction
- Order hardware separately
- Standard finish: ZN

Part No.	Pipe Size		A		T		Wt./C Lbs.	kg
B437-1/2	1/2"	(15)	5/16"	(7.9)	10 Ga.	(3.4)	22	(10.0)
B437-3/4	3/4"	(20)	5/16"	(7.9)	10 Ga.	(3.4)	26	(11.8)
B437-1	1"	(25)	5/16"	(7.9)	10 Ga.	(3.4)	30	(13.6)
B437-1 1/4	1 1/4"	(32)	5/16"	(7.9)	10 Ga.	(3.4)	35	(15.9)
B437-1 1/2	1 1/2"	(40)	5/16"	(7.9)	10 Ga.	(3.4)	38	(17.2)
B437-2	2"	(50)	7/16"	(11.1)	1/4"	(6.3)	91	(41.3)
B437-2 1/2	2 1/2"	(65)	7/16"	(11.1)	1/4"	(6.3)	104	(47.2)
B437-3	3"	(80)	7/16"	(11.1)	1/4"	(6.3)	130	(58.9)
B437-3 1/2	3 1/2"	(90)	7/16"	(11.1)	1/4"	(6.3)	149	(67.6)
B437-4	4"	(100)	9/16"	(11.1)	1/4"	(6.3)	158	(71.6)
B437-5	5"	(125)	9/16"	(11.1)	1/4"	(6.3)	190	(86.2)
B437-6	6"	(150)	9/16"	(11.1)	1/4"	(6.3)	217	(98.4)
B437-8	8"	(200)	9/16"	(11.1)	1/4"	(6.3)	295	(133.8)

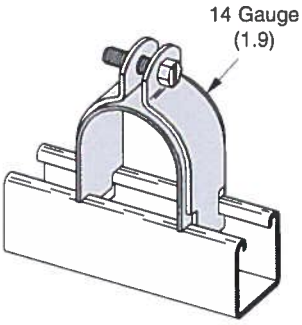




B2417 STRUT MOUNTED PIPE GUIDE

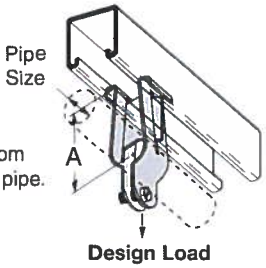
- Copper tubing sizes available - B2417CT Series
- Standard finish: ZN

Part No.	Pipe Size		Minimum Radial Clearance		Includes Clamp No.	Wt./C Lbs.	kg
B2417-1/2	1/2"	(15)	1/16"	(1.6)	B2009	22	(10.0)
B2417-3/4	3/4"	(20)	1/16"	(1.6)	B2010	25	(11.3)
B2417-1	1"	(25)	3/32"	(2.3)	B2034	30	(13.6)
B2417-1 1/4	1 1/4"	(32)	3/32"	(2.3)	B2037	47	(21.8)
B2417-1 1/2	1 1/2"	(40)	3/32"	(2.3)	B2039	51	(23.1)
B2417-2	2"	(50)	1/8"	(3.2)	B2043	62	(28.1)
B2417-2 1/2	2 1/2"	(65)	1/8"	(3.2)	B2047	69	(31.3)
B2417-3	3"	(80)	5/32"	(3.9)	B2016	108	(49.0)
B2417-3 1/2	3 1/2"	(90)	5/32"	(3.9)	B2017	118	(53.5)
B2417-4	4"	(100)	5/32"	(3.9)	B2018	128	(58.0)



B2070 THRU B2080
PARALLEL PIPE CLAMP

- Safety Factor of 2
- Designed to support pipe or rigid conduit
- Includes:
  - 1 pr. Pipe Clamps
  - 1 pc. Stand Off Plate
  - 1 pc. Slotted Hex Head Machine Screws
  - 1 pc. Square Nut
- Standard finish: ZN

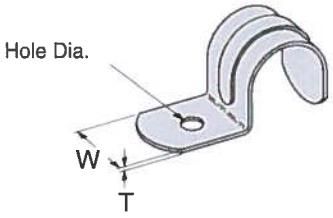


A dimension, from bottom of channel to center of pipe.

Part No.	Pipe Size		A		Material Thickness		Design Load Lbs.	kN	Wt./C Lbs.	kg
B2070	3/8"	(10)	1 11/16"	(42.9)	16 Ga.	(1.5)	300	(1.33)	24	(10.9)
B2071	1/2"	(15)	1 3/4"	(44.4)	16 Ga.	(1.5)	300	(1.33)	26	(11.8)
B2072	3/4"	(20)	1 7/8"	(47.6)	14 Ga.	(1.9)	300	(1.33)	30	(13.6)
B2073	1"	(25)	2"	(50.8)	14 Ga.	(1.9)	400	(1.78)	33	(14.9)
B2074	1 1/4"	(32)	2 3/16"	(55.6)	14 Ga.	(1.9)	400	(1.78)	36	(16.3)
B2075	1 1/2"	(40)	2 5/16"	(58.7)	12 Ga.	(2.6)	500	(2.22)	50	(22.7)
B2076	2"	(50)	2 9/16"	(65.1)	12 Ga.	(2.6)	500	(2.22)	55	(24.9)
B2077	2 1/2"	(65)	2 7/8"	(73.0)	12 Ga.	(2.6)	500	(2.22)	60	(27.2)
B2078	3"	(80)	3 3/16"	(80.9)	12 Ga.	(2.6)	500	(2.22)	66	(29.9)
B2079	3 1/2"	(90)	3 7/16"	(87.3)	11 Ga.	(3.0)	500	(2.22)	85	(38.5)
B2080	4"	(100)	3 5/8"	(92.1)	11 Ga.	(3.0)	500	(2.22)	95	(43.1)

Reference page 112 for general fitting and standard finish specifications.

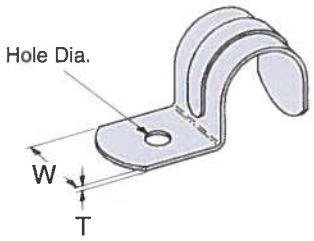
B2301 SERIES
ONE HOLE EMT STRAP
• Standard finish: ZN



Part No.	Conduit Size		T		W		Hole Dia.		Wt./C Lbs.	kg
B2301-1/2	1/2"	(15)	.050	(1.3)	3/4"	(19.0)	9/32"	(7.1)	2.4	(1.1)
B2301-3/4	3/4"	(20)	.050	(1.3)	7/8"	(22.2)	9/32"	(7.1)	4.2	(1.9)
B2301-1	1"	(25)	.050	(1.3)	1"	(25.4)	9/32"	(7.1)	8.3	(3.7)
B2301-1 1/4	1 1/4"	(32)	.065	(1.6)	1 1/4"	(31.7)	9/32"	(7.1)	11.0	(5.0)
B2301-1 1/2	1 1/2"	(40)	.090	(2.3)	1"	(25.4)	11/32"	(8.7)	14.8	(6.7)
B2301-2	2"	(50)	.090	(2.3)	1 1/4"	(31.7)	13/32"	(10.3)	21.6	(9.8)

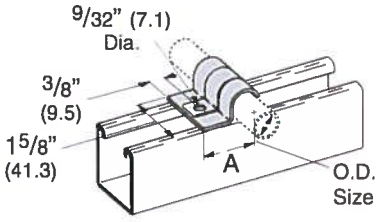
B2302 SERIES
ONE HOLE RIGID CONDUIT/PIPE STRAP
• Standard finish: ZN

Part No.	Conduit/Pipe Size		T		W		Hole Dia.		Wt./C Lbs.	kg
B2302-1/4	1/4"	(6)	.045	(1.1)	5/8"	(15.9)	13/64"	(5.1)	1.4	(.6)
B2302-3/8	3/8"	(10)	.050	(1.3)	3/4"	(19.0)	9/32"	(7.1)	2.4	(1.1)
B2302-1/2	1/2"	(15)	.050	(1.3)	7/8"	(22.2)	9/32"	(7.1)	3.3	(1.5)
B2302-3/4	3/4"	(20)	.050	(1.3)	7/8"	(22.2)	9/32"	(7.1)	3.8	(1.7)
B2302-1	1"	(25)	.065	(1.6)	1"	(25.4)	9/32"	(7.1)	7.2	(3.2)
B2302-1 1/4	1 1/4"	(32)	.065	(1.6)	1 1/4"	(31.7)	21/64"	(8.3)	11.0	(5.0)
B2302-1 1/2	1 1/2"	(40)	11 Ga.	(3.0)	1"	(25.4)	.380	(9.6)	19.2	(8.7)
B2302-2	2"	(50)	11 Ga.	(3.0)	1 1/4"	(31.7)	.389	(9.9)	28.8	(13.0)
B2302-2 1/2	2 1/2"	(65)	7 Ga.	(4.5)	1 1/4"	(31.7)	.665	(16.9)	55.2	(25.0)
B2302-3	3"	(80)	7 Ga.	(4.5)	1 1/4"	(31.7)	.650	(16.5)	68.0	(30.8)
B2302-3 1/2	3 1/2"	(90)	1/4"	(6.3)	1 1/4"	(31.7)	.622	(15.8)	96.0	(43.5)
B2302-4	4"	(100)	1/4"	(6.3)	1 1/4"	(31.7)	.630	(16.0)	108.0	(49.0)



B2084 THRU B2091
ONE HOLE O.D. TUBING CLAMP
• Material: 14 Gauge (1.9) ASTM A1011 33,000 PSI min. yield
• Standard finish: ZN

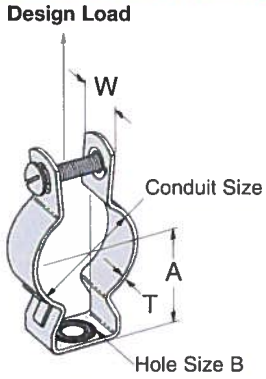
Part No.	O.D. Size		A		Wt./C Lbs.	kg
B2084	1/4"	(6.3)	7/8"	(22.2)	4.0	(1.8)
B2085	5/16"	(7.9)	29/32"	(23.0)	4.2	(1.9)
B2086	3/8"	(9.5)	31/32"	(24.6)	5.2	(2.3)
B2087	1/2"	(12.7)	1 1/16"	(25.9)	5.8	(2.6)
B2088	5/8"	(15.9)	1 3/32"	(27.8)	7.1	(3.2)
B2089	3/4"	(19.0)	1 5/32"	(29.1)	7.7	(3.5)
B2090	7/8"	(22.2)	1 7/32"	(30.7)	8.7	(3.9)
B2091	1"	(25.4)	1 9/32"	(32.2)	10.0	(4.5)



Reference page 112 for general fitting and standard finish specifications.

BL1400 SERIES
CONDUIT HANGER

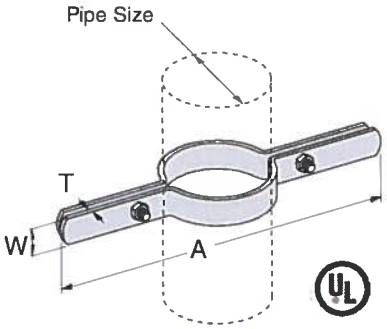
- Safety Factor of 3
- Unless noted all sizes fit both rigid (R) and thinwall (EMT) conduit
- Hardware included
- Standard finishes: ZN, SS4



Part No	Conduit Size		A		B		T		W		Design Load Lbs.	Design Load kN	Wt./C Lbs.	Wt./C kg
BL1400	1/2"	(15)	29/32"	(23.0)	9/32"	(7.1)	16 Ga.	(1.5)	3/4"	(19.0)	590	(2.62)	6	(2.7)
BL1410	3/4"	(20)	31/32"	(24.6)	9/32"	(7.1)	16 Ga.	(1.5)	3/4"	(19.0)	590	(2.62)	7	(3.2)
BL1420	1"	(25)	1 1/4"	(31.7)	9/32"	(7.1)	16 Ga.	(1.5)	3/4"	(19.0)	590	(2.62)	8	(3.6)
BL1425	1 1/4" EMT	(32)	1 1/4"	(31.7)	9/32"	(7.1)	18 Ga.	(1.2)	7/8"	(22.2)	590	(2.62)	10	(4.5)
BL1430	1 1/4" R, 1 1/2" EMT	(32)	1 13/32"	(35.7)	9/32"	(8.7)	18 Ga.	(1.2)	7/8"	(22.2)	590	(2.62)	10	(4.5)
BL1440	1 1/2" R	(40)	1 5/8"	(41.3)	11/32"	(8.7)	16 Ga.	(1.5)	1"	(25.4)	755	(3.36)	17	(7.7)
BL1450	2"	(50)	2 1/16"	(47.6)	11/32"	(8.7)	16 Ga.	(1.5)	1 1/4"	(31.7)	755	(3.36)	25	(11.3)
BL1460	2 1/2"	(65)	2 1/16"	(52.4)	11/32"	(8.7)	16 Ga.	(1.5)	1 1/4"	(31.7)	755	(3.36)	26	(11.8)
BL1470	3"	(80)	2 1/2"	(63.5)	11/32"	(8.7)	16 Ga.	(1.5)	1 1/4"	(31.7)	820	(3.65)	33	(14.9)
BL1480	3 1/2"	(90)	2 3/4"	(69.8)	11/32"	(8.7)	16 Ga.	(1.5)	1 1/4"	(31.7)	850	(3.78)	36	(16.3)
BL1490	4"	(100)	3 1/2"	(88.9)	11/32"	(8.7)	16 Ga.	(1.5)	1 1/4"	(31.7)	1410	(6.27)	40	(18.1)

B3373 SERIES
RISER CLAMP

- Safety Factor of 4
- B3373-3/4 thru B3373-8 are UL listed
- Includes Hex Head Cap Screws and Hex Nuts
- Standard finishes: ZN, PLN



Part No.	Pipe Size		A		Design Load Lbs.	Design Load kN	Wt./C Lbs.	Wt./C kg
B3373-1/2	1/2"	(15)	9"	(228.6)	255	(1.13)	101	(45.9)
B3373-3/4	3/4"	(20)	9 1/4"	(234.9)	255	(1.13)	105	(47.7)
B3373-1	1"	(25)	9 9/16"	(242.9)	255	(1.13)	109	(49.4)
B3373-1 1/4	1 1/4"	(32)	10"	(254.0)	255	(1.13)	112	(50.9)
B3373-1 1/2	1 1/2"	(32)	10 1/4"	(260.3)	255	(1.13)	113	(51.1)
B3373-2	2"	(40)	10 3/4"	(273.0)	255	(1.13)	165	(75.0)
B3373-2 1/2	2 1/2"	(50)	11 1/4"	(285.7)	390	(1.73)	180	(81.6)
B3373-3	3"	(65)	11 15/16"	(303.2)	530	(2.36)	195	(88.4)
B3373-3 1/2	3 1/2"	(80)	12 3/8"	(314.3)	670	(2.98)	217	(98.5)
B3373-4	4"	(90)	12 7/8"	(327.0)	810	(3.60)	228	(103.5)
B3373-5	5"	(100)	14"	(355.6)	1160	(5.16)	480	(217.7)
B3373-6	6"	(100)	15 3/16"	(385.8)	1570	(6.98)	526	(238.6)
B3373-8	8"	(100)	17 3/4"	(450.8)	2500	(11.12)	957	(434.1)

Reference page 112 for general fitting and standard finish specifications.

STAINLESS STEEL FITTINGS

Most fittings, as shown in this catalog, can be supplied in Type 304 or Type 316 stainless steel. See "Fittings" section of this catalog.
Consult factory for possible minimum production quantities and set-up charges.

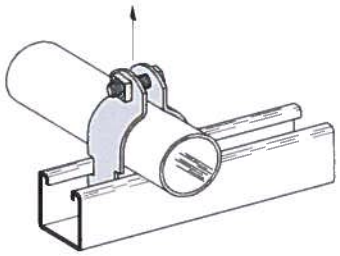
B2000 SERIES

PIPE AND TUBING CLAMPS

- Safety Factor of 5
- Combination Recess Hex Head Machine Screw and Square Nut included
- Material: Stainless Steel Type 304 & 316

Part No.	Conduit Pipe Size		Material Thickness		Design Load Lbs.	kN	Wt./C Lbs.	kg
B2007 SS4	3/8"	(10)	16 Ga.	(1.5)	400	(1.78)	10	(4.5)
B2008 SS4	1/2"	(15)	16 Ga.	(1.5)	400	(1.78)	11	(5.0)
B2009 SS4	3/4"	(20)	14 Ga.	(1.9)	600	(2.67)	15	(6.8)
B2010 SS4	1"	(25)	14 Ga.	(1.9)	600	(2.67)	16	(7.2)
B2011 SS4	1 1/4"	(32)	14 Ga.	(1.9)	600	(2.67)	20	(9.1)
B2012 SS4	1 1/2"	(40)	12 Ga.	(2.6)	800	(3.56)	30	(13.6)
B2013 SS4	2"	(50)	12 Ga.	(2.6)	800	(3.56)	34	(15.4)
B2014 SS4	2 1/2"	(65)	12 Ga.	(2.6)	800	(3.56)	38	(17.2)
B2015 SS4	3"	(80)	12 Ga.	(2.6)	800	(3.56)	44	(19.9)
B2016 SS4	3 1/2"	(90)	12 Ga.	(2.6)	1000	(4.45)	51	(23.1)
B2017 SS4	4"	(100)	12 Ga.	(2.6)	1000	(4.45)	55	(24.9)
B2018 SS4	4 1/2"	(115)	12 Ga.	(2.6)	1000	(4.45)	59	(26.7)
B2019 SS4	5"	(125)	12 Ga.	(2.6)	1000	(4.45)	64	(29.0)
B2020 SS4	6"	(150)	12 Ga.	(2.6)	1000	(4.45)	80	(36.3)

Design Load



CHANNEL NUTS

- For Channel Nuts pull-out strength and slip resistance, use the data shown in "Channel Nuts & Hardware" section of this catalog.

Note: Reduce slip load by 50% due to hardness of material.

SPRING NUT

NUT WITHOUT SPRING

NUTS FOR B22, B24, B32 CHANNELS

Part Number With Spring	Part Number Without Spring	Thread Size	Thickness		Wt./C Lbs.	kg
N224SS6	N224WOSS6	1/4"-20	1/4"	(6.3)	6.6	(3.0)
N228SS6	N228WOSS6	3/8"-16	3/8"	(9.5)	10.6	(4.8)
N225SS6	N225WOSS6	1/2"-13	3/8"	(9.5)	9.7	(4.4)

NUTS FOR B42, B52, B54 CHANNELS

Part Number With Spring	Part Number Without Spring	Thread Size	Thickness		Wt./C Lbs.	kg
N524SS6	N224WOSS6	1/4"-20	1/4"	(6.3)	6.6	(3.0)
N528SS6	N228WOSS6	3/8"-16	3/8"	(9.5)	10.6	(4.8)
N525SS6	N225WOSS6	1/2"-13	3/8"	(9.5)	9.7	(4.4)

Reference page 168 for general fitting specifications.Other channel combinations available-see steel section for styles.

MATERIALS

Carbon Steel
Channels made from high-quality carbon steel are continuously roll formed to precise dimensions. By cold working the steel mechanical properties are increased, allowing lightweight structures to carry the required load. Corrosion resistance of carbon steel varies widely with coating and alloy. See "Finishes" for more detailed information.

Stainless Steel
Stainless steel channel is available in AISI Type 304 or 316 material. Both are non-magnetic and belong to the austenitic stainless steels group, based on alloy content and crystallographic structure. Like carbon steel, stainless steel exhibits increased strength when cold worked by roll-forming.

Several conditions make the use of stainless steel ideal. These include reducing long term maintenance costs, high ambient temperatures, appearance, and stable structural properties such as yield strength, and high creep strength.

Type 304 resists most organic chemicals, dyestuffs and a wide variety of inorganic chemicals at elevated or cryogenic temperatures. Type 316 contains slightly more nickel and adds molybdenum to give it better corrosion resistance in chloride and sulfuric acid environments. More specific information concerning the differences between types 304 and 316 is available from Cooper B-Line.

Aluminum
Cooper B-Line's standard aluminum channel is extruded from aluminum alloy 6063-T6. Strut fittings are made from aluminum alloy 5052-H32.

The high strength to weight ratio of channel made of aluminum greatly reduces the overall cost of installation through ease of handling and field cutting.

Aluminum owes its excellent corrosion resistance to its ability to form an aluminum oxide film that immediately reforms when scratched or cut. In most outdoor applications, aluminum has excellent resistance to "weathering". The resistance to chemicals, indoor or outdoor, can best be determined by tests conducted by the user with exposure to the specific conditions for which it is intended. The corrosion resistance of aluminum to some commonly known chemicals is shown in the Corrosion Chart. For further information, contact Cooper B-Line Systems, Inc. or the Aluminum Association.

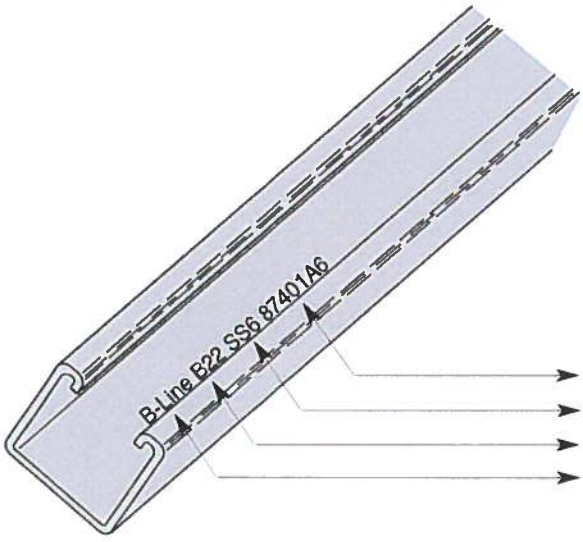
Fiberglass
Cooper B-Line offers two fire retardant (FR) resins for strut systems, polyester and vinyl ester. Both resins are ideal for corrosive environments or nonconductive applications with moderate strength requirements. Some common types of environments where Vinyl Ester Resins are recommended, that Poly Esters are not, are paper mills, most any metal plating operation and any condition with concentrated levels of Chlorine, [Cl^-]. Please consult our fiberglass corrosion resistance charts on pg. 173 for specific chemical recommendation data.

Unlike other base materials depicted in this catalog, fiberglass exhibits unique physical property changes when operating in elevated temperature conditions, that are a fraction of increase compared to steel or aluminum. This being true, Cooper B-Line advises against using fiberglass in temperatures greater than 200° F.

Please refer to the "Corrosion Resistance Guide" below for specific applications.

Cooper B-Line Fiberglass Strut systems are manufactured from glass fiber-reinforced plastic shapes that meet ASTM E-84, Class 1 Flame Rating and self-extinguishing requirements of ASTM D-635. A surface veil is applied during pultrusion to insure a resin-rich surface and ultraviolet resistance.

While polyester is sufficient for most uses, vinyl ester is suitable for a broader range of environments.



Cooper B-Line Steel Strut is stamped with:

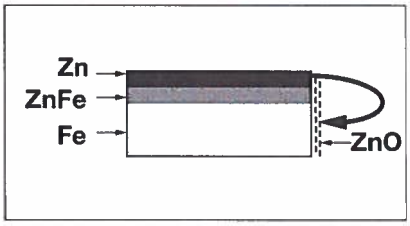
- Traceable to the steel's origin
- Material/Finish
- B-Line part number designation
- Company Name

FINISHES

Zinc Coatings

Zinc protects steel in two ways. First it protects the steel as a coating and second as a sacrificial anode to repair bare areas such as cut edges, scratches, and gouges. The corrosion protection of zinc is directly related to its thickness and the environment. This means a .2 mil coating will last twice as long as a .1 mil coating in the same environment.

Galvanizing also protects cut and drilled edges.



Electrogalvanized Zinc

Electrogalvanized Zinc (also known as zinc plated or electroplated) is the process by which a coating of zinc is deposited on the steel by electrolysis from a bath of zinc salts.

A rating of SC3, Cooper B-Line's standard, provides a minimum zinc coating thickness of .5 mils (excluding hardware, which is SC1 = .2 mils).

When exposed to air and moisture, zinc forms a tough, adherent, protective film consisting of a mixture of zinc oxides, hydroxides, and carbonates. This film is in itself a barrier coating which slows subsequent corrosive attack on the zinc. This coating is usually recommended for indoor use in relatively dry areas, as it provides ninety-six hours protection in salt spray testing per ASTM B117.

Chromium/ Zinc

Chromium/ Zinc is a corrosion resistant composition, which was developed to protect fasteners and small bulk items for automotive use. The coating applications have since been extended to larger parts and other markets.

Chromium/Zinc composition is an aqueous coating dispersion containing chromium, proprietary organics, and zinc flake.

This finish provides 500 hours protection in salt spray testing per ASTM B117.

Pre-Galvanized Zinc

(Mill galvanized, hot dip mill galvanized or continuous hot dip galvanized) Pre-galvanized steel is produced by coating coils of sheet steel with zinc by continuously rolling the material through molten zinc at the mills. This is also known as mill galvanized or hot dip mill galvanized. These coils are then slit to size and fabricated by roll forming, shearing, punching, or forming to produce Cooper B-Line pre-galvanized strut products.

The G90 specification calls for a coating of .90 ounces of zinc per square foot of steel. This results in a coating of .45 ounces per square foot on each side of the sheet. This is important when comparing this finish to hot dip galvanized after fabrication.

During fabrication, cut edges and welded areas are not normally zinc coated; however, the zinc near the uncoated metal becomes a sacrificial anode to protect the bare areas after a short period of time.

Hot Dip Galvanized After Fabrication (Hot dip galvanized or batch hot dip galvanized)

Hot dip galvanized strut products are fabricated from steel and then completely immersed in a bath of molten zinc. A metallic bond occurs resulting in a zinc coating that completely coats all surfaces, including edges and welds.

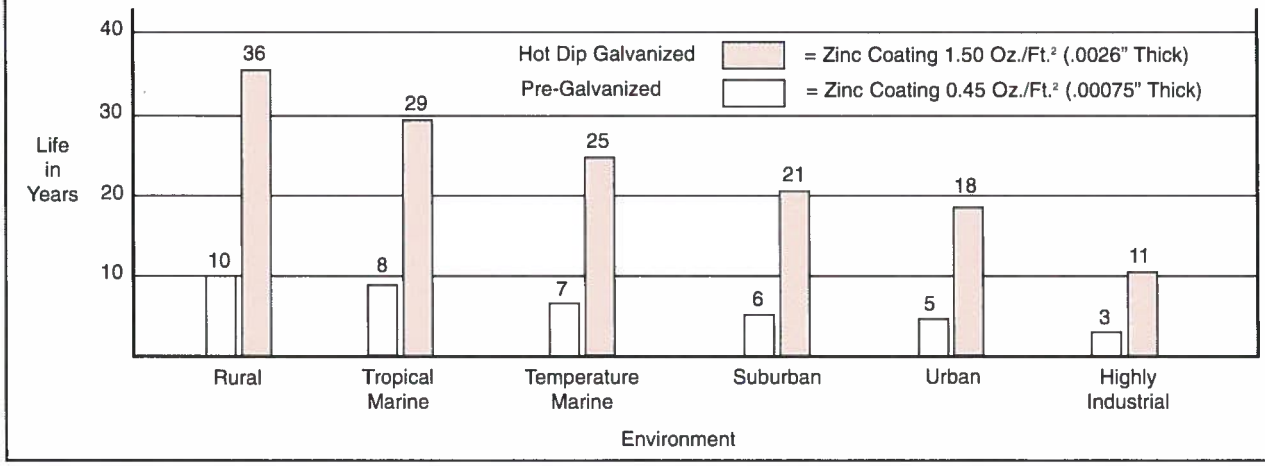
Another advantage of this method is coating thickness. Strut products that are hot dip galvanized after fabrication have a minimum thickness of 1.50 ounces per square foot on each side, or a total 3.0 ounces per square foot of steel, according to ASTM A123.

The zinc thickness is controlled by the amount of time each part is immersed in the molten zinc bath as well as the speed at which it is removed. The term "double dipping" refers to parts too large to fit into the galvanizing kettle and, therefore, must be dipped one end at a time. It does not refer to extra coating thickness.

The layer of zinc which bonds to steel provides a dual protection against corrosion. It protects first as an overall barrier coating. If this coating happens to be scratched or gouged, zinc's secondary defense is called upon to protect the steel by galvanic action.

Hot-Dip Galvanized After Fabrication is recommended for prolonged outdoor exposure and will usually protect steel for 20 years or more in most atmospheric environments and in many industrial environments. For best results, a zinc rich paint (available from Cooper B-Line) should be applied to field cuts. The zinc rich paint will provide immediate protection for these areas and eliminate the short time period for galvanic action to "heal" the damaged coating.

Anticipated Life of Zinc Coatings In Various Atmospheric Environments



Dura-Green™ and Dura-Copper™ Epoxy Coatings

Dura-Green and Dura-Copper epoxy coatings are water borne epoxy coatings applied to Cooper B-Line products by a precisely controlled cathodic electro-deposition process. This process is accomplished using a conveyor to transport channel and fittings through several cleaning, phosphatizing and application stages prior to being baked (See diagram below).

This custom-designed paint system is used for painting all channels, channel combinations, slotted angle, and fittings.

Samples are selected on a routine basis for Salt Spray (fog) testing to verify the quality of the finish. These tests are performed in accordance with ASTM B117 and evaluated and related according to ASTM D1654 (Tables 1 & 2).

The Dura-Green and Dura-Copper Epoxy coatings have been tested and listed by Underwriters Laboratories in accordance with "Standard for Surface Metal Raceway and Fittings, UL5" and "Standard for Pipe Hanger Equipment for Fire Protection Service, UL203".

Due to Dura-Green's organically based composition, it seats itself into porous surfaces more completely and efficiently than zinc coatings. As these porous caverns are filled along the material profile, the outer finished surface demonstrates an increased smooth uniform plane which produces considerably less off-gasing when tested.

Cooper B-Line's Dura-Green channel meets or exceeds 100 level clean room standards. This was confirmed by testing the channel in accordance with Boeing (PCL) Standards, which are more stringent and complete than ASTM E595-93. Dura-Green was found to be a superior finish, due in part to its proven application process.

PVC Coating

Another of the corrosion resistant coatings offered by Cooper B-Line is PVC (polyvinyl chloride), applied over steel or aluminum channel and fittings. The PVC coating process begins by cleaning the product thoroughly. A bonding coat is applied to the part and then preheated to a temperature above the melting point of the coating powder. The product is then passed through a fluidized bed of vinyl plastic powder where the powder particles melt, adhere and flow out to form a smooth continuous coating. The thickness is controlled by the base metal temperature and the immersion time in the bed. It is then post-heated to complete the fusion of the outer surfaces.

The standard coating thickness of Cooper B-Line's PVC coated products is 15 mils (.380 mm), plus or minus 5 mils (.125 mm). Since the chemistry, not the thickness of vinyl plastic PVC determines longevity, a coating of 10 to 20 mils (.250 to .500 mm) is more than adequate. If the corrosive conditions are such that the plasticizers are leeched out, a thicker coating will do little to extend the life of a coated product.

For certain environments, a plastisol dipped PVC coating is available on request.

PVC coating depends totally on the concept of encapsulation attached to the base metal by a bonding agent. If any hole or discontinuity occurs, the corrosive action can undercut the base metal to a point where all that remains is the PVC.

In the event of field cuts or any other damage to the coating, a liquid PVC patch, available from Cooper B-Line, must be applied to maintain the integrity of the coating. After the installation is complete, a thorough inspection should be performed to assure the absence of voids, pinholes, or cuts.

SALT SPRAY TEST RESULTS

Type of Finish	Unscribed 5% Failure (1)	Scribed 1/8" (3.2) Creepage from Scribe (1)
B-Line Dura-Green Epoxy	1000 Hours	312 Hours
Mill Galv. (Pre-Galv.) G90	192 Hours	288 Hours
Perma-Green	438 Hours	231 Hours
Zinc Chromate	36 Hours	96 Hours
Industry Green (Range)	10 to 36 Hours	4 to 30 Hours

(1) All salt spray (fog) tests conducted in accordance with ASTM B117 and evaluated and rated according to ASTM D1654 Tables 1 & 2. Tests are performed and certified by an independent testing laboratory.

DURA-GREEN™/DURA-COPPER™ EPOXY COATING PROCESS

TANK 1 The channel and parts are thoroughly cleaned and phosphatized.

TANK 2 A rinse is applied to remove insoluble salts and unreacted phosphates.

TANK 3 A phosphatized sealer is applied to insure corrosion resistanceand paint adhesion.

TANK 4 The material moves through clear water rinse to remove excess phosphates.

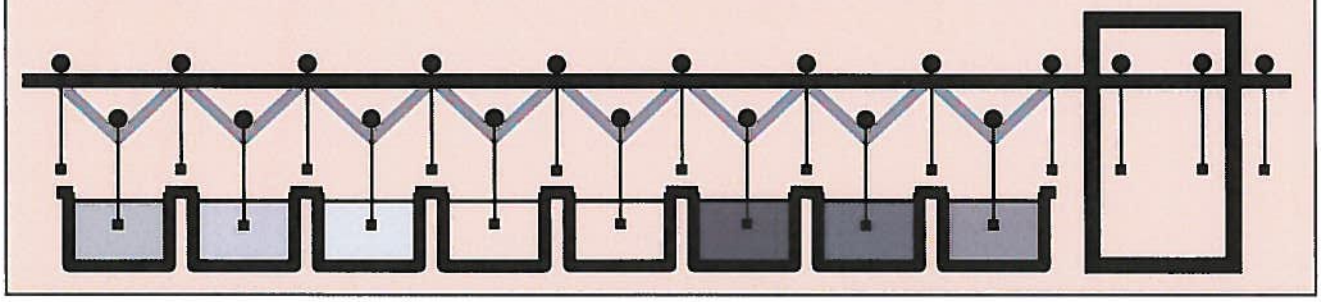
TANK 5 A pre-deionized rinse prepares the metal for the cathodic electro-coating.

TANK 6 The electro-coating tank applies a uniform coat of epoxy paint to the entire surface.

TANK 7 The first post rinse removes any unelectri-cally attracted solids.

TANK 8 The final rinse insures a smooth, nonblemish surface.

BAKE OVEN The curing process takes 20 minutes at a baking temperature of 375° F (199° C).



WELDING

The welding procedures used in the fabrication of Cooper B-Line steel products are in accordance with American Welding Society Standards. To achieve the highest quality in our manufacturing processes, our welders follow standards set by AWS Code.

Spot Welding

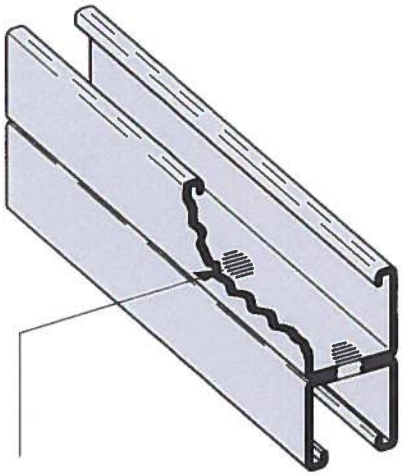
Spot welded back-to-back channel is manufactured using a modern DC powered resistance welder controlled by a microprocessor. This produces a series of spot welds with speed and consistency. Consistency is one of the most important advantages in specifying B-Line back-to-back channel. Variables such as weld sequence, speed and duration are carefully controlled and monitored by a sophisticated electronic control system. A statistical quality control program, combining destructive and non-destructive testing, is used by Cooper B-Line to ensure high quality welds.

MIG Welding

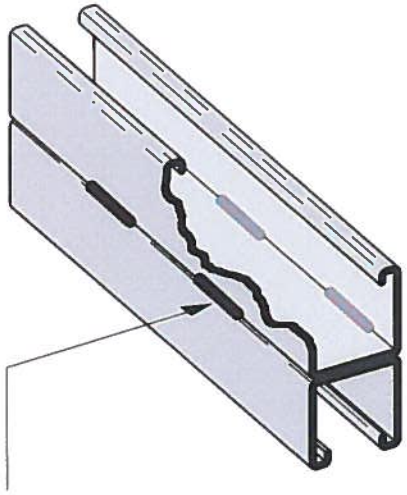
MIG welded, more properly called gas metal arc welded (GMAW) combination channels and fittings, are produced when physical dimensions or certain combinations require a weld process other than automatic spot welding. The same quality control requirements are imposed on MIG welded and spot-welded products.

Quality Assurance

Cooper B-Line System's Quality Assurance Program has been developed and implemented for compliance to 10CFR50 appendix B and NQA-1. B-Line also complies with various industry standards and specifications. B-Line has extensive experience in supplying metal framing components for the nuclear power generating industry and complies with 10 CFR21.



Spot Weld



MIG Weld

CORROSION

All metal surfaces are affected by corrosion. Depending on the physical properties of the metal and the environment to which it is exposed, chemical or electromechanical corrosion may occur.

Atmospheric Corrosion

Atmospheric corrosion occurs when metal is exposed to airborne liquids, solids or gases. Some sources of atmospheric corrosion are moisture, salt, dirt and sulphuric acid. This form of corrosion is typically more severe outdoors, especially near marine environments.

Chemical Corrosion

Chemical corrosion takes place when metal comes in direct contact with a corrosive solution. Some factors which affect the severity of chemical corrosion include: chemical concentration level, duration of contact, frequency of washing, and operating temperature.

Storage Corrosion

Wet storage stain (white rust) is caused by the entrapment of moisture between surfaces of closely packed and poorly ventilated material for an extended period. Wet storage stain is usually superficial, having no affect on the properties of the metal.

Light staining normally disappears with weathering. Medium to heavy buildup should be removed in order to allow the formation of normal protective film. Proper handling and storage will help to assure stain-free material. If product arrives wet, it should be unpacked and dried before storage. Dry material should be stored in a well ventilated "low moisture" environment to avoid condensation formation. Outdoor storage is undesirable, and should be avoided whenever possible.

Galvanic Corrosion

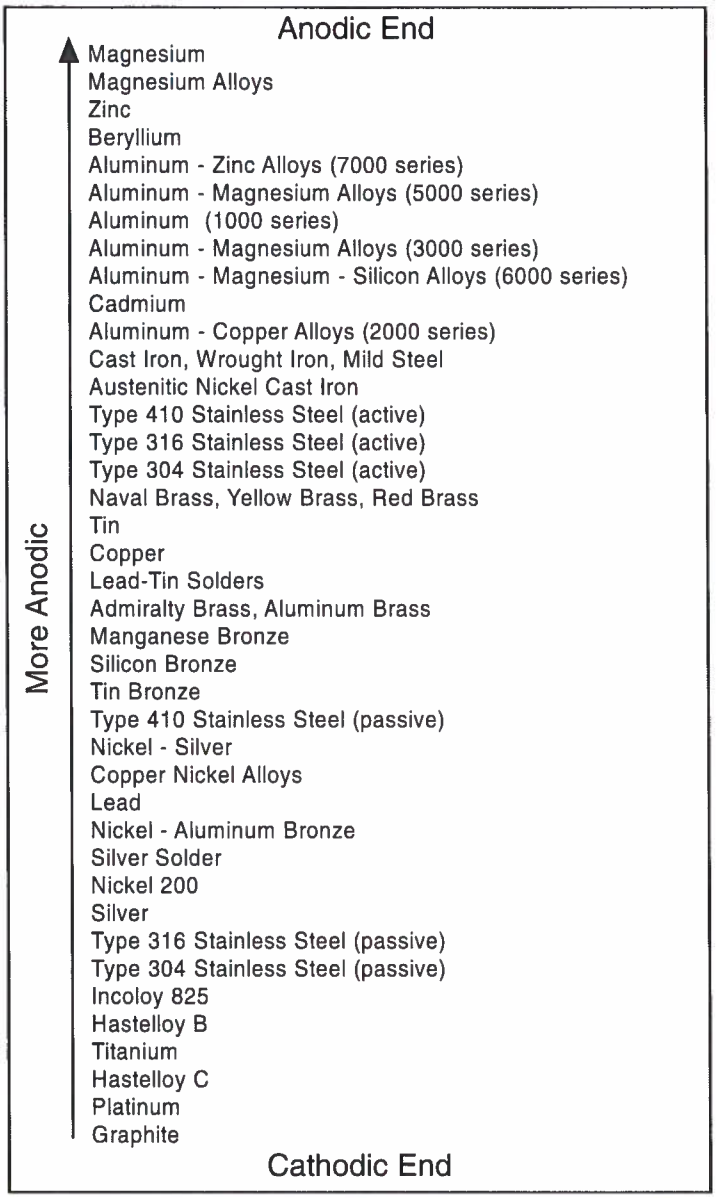
Galvanic corrosion occurs when two or more dissimilar metals are in contact in the presence of an electrolyte (ie. moisture). An electrolytic cell is created and the metals form an anode or a cathode depending on their relative position on the Galvanic Series Table. The anodic material will be the one to corrode. Anodic or cathodic characteristics of two dissimilar metals will depend on the type of each material. For example: If zinc and steel are in contact, the zinc acts as the anode and will corrode; the steel acts as the cathode, and will be protected. If steel and copper are in contact, the steel is now the anode and will corrode. The rate at which galvanic corrosion occurs depends on several factors:

1. The relative position on the Galvanic Series Table - the further apart materials are in the Galvanic Series Table, the greater the potential for corrosion of the anodic material.

2. The amount and concentration of electrolyte present - an indoor, dry environment will have little or no galvanic corrosion compared to a wet atmosphere.

3. The relative size of the materials - a small amount of anodic material in contact with a large cathodic material will result in greater corrosion. Likewise, a large anode in contact with a small cathode will decrease the rate of attack.

GALVANIC SERIES IN SEA WATER



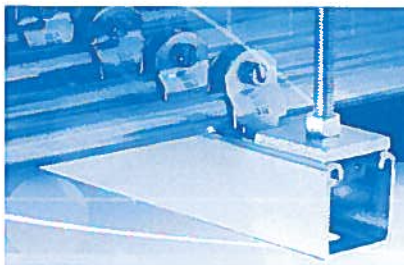
Metals in descending order of activity in the presence of an electrolyte.

Chemical	Aluminum	Dura-Green	PVC	Type 304 Stainless	Type 316 Stainless	Zinc Coated Steel
Acetic Acid 10%	R	NR	R	R	R	NR
Acetic Acid 2%	R	F	R	R	R	NR
Acetone	R	R	NR	R	R	R
Ammonium Hydroxide-Conc.	R	R	R	R	R	–
Ammonium Hydroxide 10%	F	R	R	R	R	–
Ammonium Hydroxide 2%	R	R	R	R	R	–
Benzene	R	R	NR	R	R	–
Bromine Water	NR	R	R	NR	NR	–
Butanol (Butyl Alcohol)	R	R	R	R	R	R
Carbon Disulfide	R	R	NR	R	R	–
Carbon Tetrachloride	F	R	F	R	R	–
Chlorine Water	R	R	R	NR	F	R
Cutting Oil	–	R	–	–	–	–
Diethanolamine	R	R	NR	–	–	NR
Ethanol	R	R	R	R	R	R
Ethyl Acetate	R	R	NR	–	–	R
Ethylene Dichloride	F	R	NR	–	–	R
Formaldehyde 20%	R	R	R	R	R	R
Gasoline	R	R	R	R	R	R
Glycerine	R	R	R	R	R	R
Household Detergent 10%	F	R	R	R	R	–
Hydrochloric Acid 40%	NR	NR	R	NR	NR	NR
Hydrochloric Acid 10%	NR	F	–	NR	NR	NR
Hydrochloric Acid 2%	NR	F	–	NR	NR	NR
Hydrogen Peroxide 30%	R	NR	R	R	R	–
Hydrogen Peroxide 3%	R	R	–	R	R	–
Hydrogen Sulfide (Gas)	R	R	R	F	R	–
JP-4 Jet Fuel	R	R	R	R	R	–
Lactic Acid 85%	F	R	R	NR	–	–
Latex	R	R	–	R	R	NR
Linseed Oil Fatty Acid	R	F	R	R	R	–
Methanol	R	R	R	R	R	R
Methyl Ethyl Ketone	R	R	NR	–	–	R
Methyl Isobutyl Ketone	R	R	NR	–	–	R
Mineral Spirits	R	R	–	–	–	–
Motor Oil-10W	R	R	R	R	R	R
Naphtha, VM&P	R	R	R	R	R	R
Nitric Acid 2%	F	NR	R	R	R	–
Perchloroethylene	R	R	–	–	–	NR
Petroleum Ether	–	R	–	R	R	R
Phenol 10%	R	R	NR	R	R	R
Phosphoric Acid 2%	F	NR	R	R	R	NR
Potassium Hydroxide 50%	NR	R	R	R	R	–
Potassium Hydroxide 10%	NR	R	R	R	R	–
Potassium Hydroxide 2%	NR	R	R	R	R	–
Sodium Chloride 25%	F	R	R	R	R	F
Sodium Hydroxide 50%	NR	R	R	R	R	NR
Sodium Hydroxide 10%	NR	R	R	R	R	F
Sodium Hydroxide 2%	NR	R	R	–	–	–
Sodium Hypochlorite-C1. 10%	F	R	R	–	–	–
Sodium Hypochlorite-C1. 6%	F	R	R	NR	R	–
Sulfuric Acid 2%	F	NR	R	NR	R	NR
Tall Oil Fatty Acid (Syfate 94)	R	R	R	–	–	–
Tannic Acid 50%	F	R	R	R	R	–
Water-Deionized	R	R	R	R	R	F
Water-Sea	F	F	R	R	R	F
Water-Tap	R	R	R	F	F	R
Xyol	R	R	NR	–	–	–

Fiberglass corrosion chart on page 175.

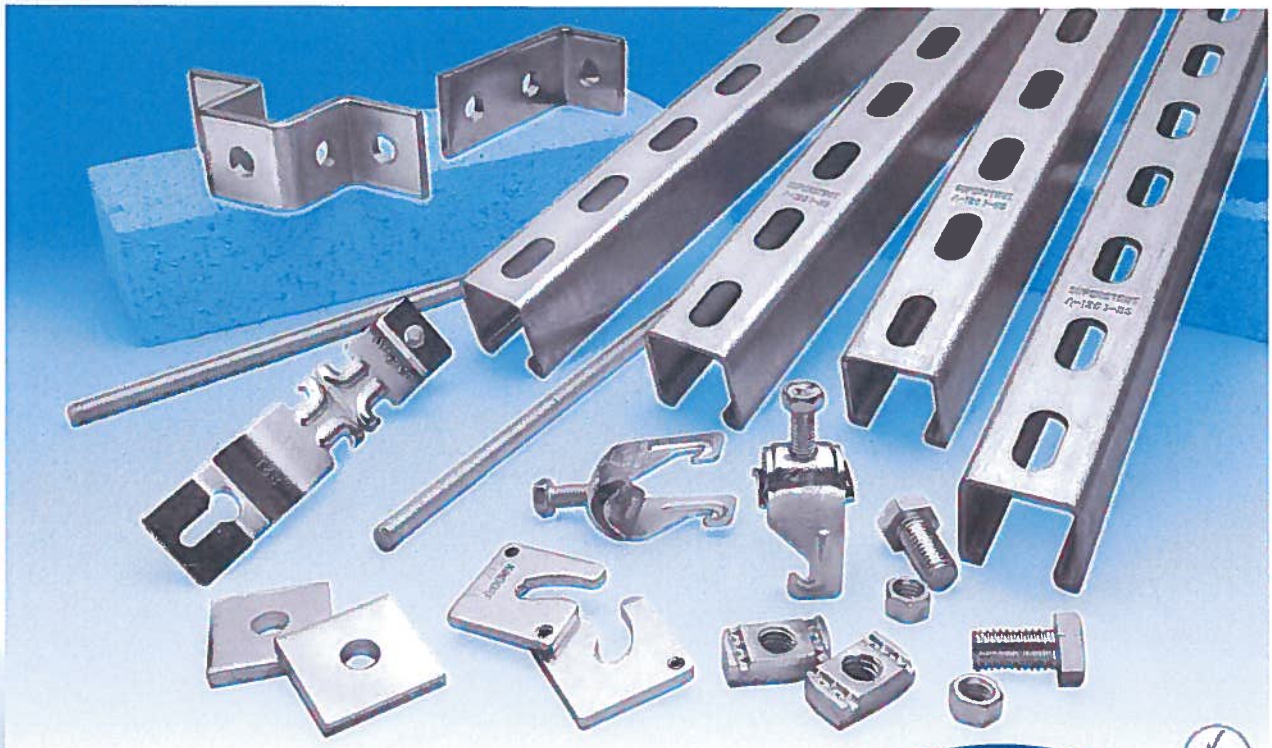
The corrosion data given in this table is for general comparison only.
The presence of contaminates and the effect of temperature in chemical environments can greatly affect the corrosion of any material.
B-Line strongly suggests that field service tests or simulated laboratory tests using actual environmental conditions be conducted in order to determine the proper materials and finishes to be selected.

R=Recommended
F=May be used under some conditions
NR=Not Recommended
–Information not available



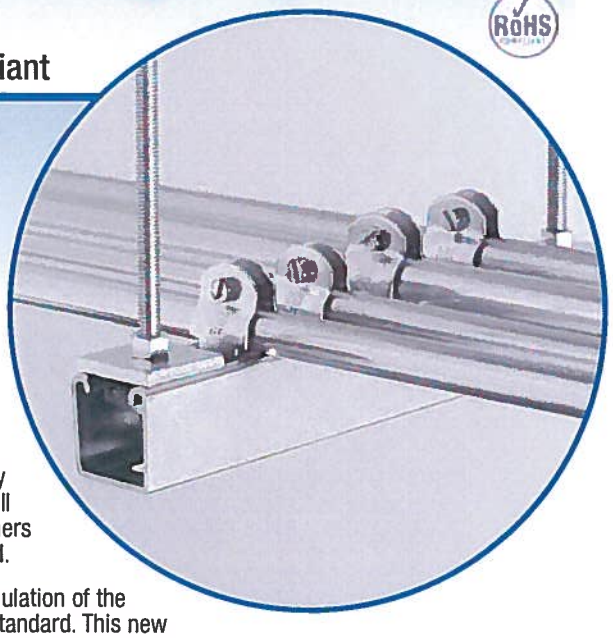
Superstrut®

Metal Framing Channels — Overview



New Trivalent Galv-Krom® Finish Is RoHS Compliant

Thomas & Betts is proud to introduce the new and improved Trivalent Galv-Krom® finish. Galv-Krom® finish is a combination of .5 mils electro-plated Zinc and a gold Trivalent Chromium finish.



- Gold Trivalent Chromium Finish — The new Galv-Krom® finish features a Trivalent Chromium formulation that provides all the features and protection of Hexavalent Chromium (CR VI) without the use of this chemical compound. Hexavalent Chromium is restricted by some standards such as the European Union directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).
- RoHS Compliant — One great feature for the new Trivalent Chromium formulation is RoHS compliance. Because Hexavalent Chromium is a substance that is restricted by RoHS, moving away from a Hexavalent formulation to the new Trivalent formulation will make the performance of Galv-Krom® coating available to customers affected by RoHS and other standards like RoHS around the world.
- Trivalent Galv-Krom® Finish Is OSHA Safe — The Hexavalent formulation of the Galv-Krom® finish is safe with regard to the revised 2006 OSHA standard. This new Trivalent formulation of the Galv-Krom® finish does not contain any Hexavalent Chromium and therefore does not fall under the scope of the OSHA standard at all. As a result, the new Trivalent Galv-Krom® finish, just like the Hexavalent Galv-Krom® finish, is OSHA compliant.
- ASTM B633 Specification — The improved Galv-Krom® finish is applied in compliance with ASTM B633 coating, the same standard as used previously. This standard outlines electro-deposited coatings of zinc on steel.

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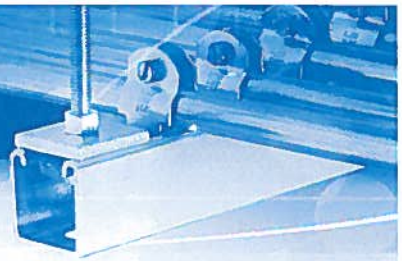


Finishes

GoldGalv®

The standard GoldGalv® finish is made up of a multi-step electrogalvanizing and zinc dichromate process. The trivalent Chromium finish is applied over the zinc, producing a chemically bonded non-porous barrier for protection from moisture and air. The .5 mil electro-plated zinc and gold trivalent Chromium finish provide all of the features and protection of hexavalent Chromium without the use of the chemical.

Green or White Urethane Powder Coated (Suffix GR or WH)

Urethane powder resins are applied electrostatically to the steel after fabrication. Once the material is completely covered with the powder-form urethane, it proceeds through a 400° baking process for ten minutes, creating a chemical bond. This results in a minimum of 1.5 mil thickness of urethane coating, providing excellent resistance to chipping or peeling.

Pregalvanized (Suffix PG)

A zinc coating is applied by hot-dipping the steel coil at the mill prior to fabrication. Once the material is worked by roll-forming, cutting or punching, minimal protection is provided for raw edges. This weakness is typical with precoated material and affects the channel section around holes, extreme ends and the edges of the "U" shape lips. Superstrut pregalvanized material is in conformance with ASTM A-525/G-90 specification standards, representing 0.90 ounces of zinc per square foot of steel. This finish is often referred to as "hot-dipped mill galvanized" or "mill galvanized."

Hot-Dipped Galvanized (Suffix HDG)

The material is zinc coated after fabrication, providing total product protection on all surfaces. The fabricated channel or fitting is suspended and then dipped into tanks of hot zinc for a prolonged period, creating a coherent bond. The result is superior corrosion resistance as compared to pregalvanized material. Hot-dipped galvanizing is not recommended for threaded products, considering the zinc coating thickness will often disrupt the threads. Superstrut hot-dipped galvanized is in conformance with ASTM Specifications A-123 (formerly A-386) and A-153. Superstrut channels maintain a minimum 1.5 ounces of zinc per square foot of steel or 2.5 mils (ASTM A-123, Thickness Grade 65). This finish is also referred to as "hot-dipped galvanized after fabrication."

SilverGalv® (Suffix EG)

Often referred to as "zinc plated" or "electroplated zinc," the steel and .5 mils of zinc are bonded by an electrolysis process. This is the identical process used in the Kindorf Galv-Krom® finish without the numerous benefits of the gold colored trivalent chromium conversion coat (see Galv-Krom® finish for more information). Electrogalvanizing is most commonly applied to small fittings, hardware and threaded products.

PVC Coated (Suffix PVC)

A polyvinyl chloride (PVC) plastic coating is fused to the channel, fitting or accessory after fabrication by immersing the part in fluidized PVC tanks. The fused-melt mixed powder PVC coating thickness is 15 mils (.015") plus or minus five mils. PVC material is a thermoplastic and will soften in high temperature. An inherent weakness with PVC coatings occurs when field alterations are applied, such as cutting or drilling. These acts disrupt the sealed PVC product and warrant field touch-up. Thomas & Betts cannot be held responsible for field-altered PVC coated products.

Copper Plated ("T" inserted as the second digit of the part number; Example: CTL-710-2)

Plain steel proceeds through a series of rinse tanks to clean the material surface. Once cleaned, the fabricated part is etched by dipping into an acid pickle bath to prepare the surface for adhesion. Copper is electrically applied by submerging in a copper bath. To seal the finish, the product continues to a sealer tank and is then dried by forced hot air.

Black (Suffix B)

A black finish is raw steel with only a light oil finish as supplied by the steel manufacturer. There is no protection against red rust.

Stainless Steel (Suffix SS)

Superstrut channel is supplied in type 304 stainless steel when required. Type 316 stainless steel may be available upon request.

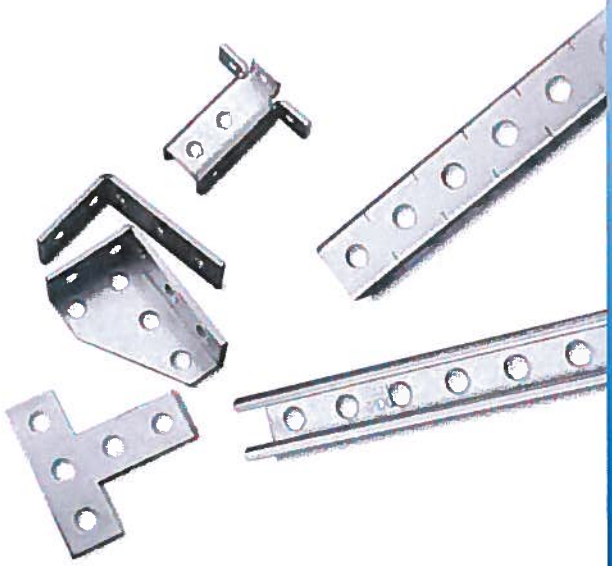
Aluminum (Suffix AL)

Superstrut channel and hardware are available in aluminum.

Warning: Load tables, charts and design criteria provided in this catalog are intended as guides only. Selection of proper product, installation intervals, erection and placement are the responsibility of the user.

Superstrut® products are intended to be used for the support and bracing of fixtures, cable, pipe and conduit. Improper use or installation may result in injury to persons or damage of property.

Material and finish specifications are subject to change without notice.



Finishes *(continued)*

SilverGalv®

Electro-Galvanized Finish From Superstrut®

Protection is the name of the game and SilverGalv® delivers a winning combination of features designed to meet the most exacting specifications. SilverGalv® offers the ultimate in corrosion protection versatility and performance, including...

- **Strong Abrasion Resistance**
  SilverGalv® provides strong abrasion resistance, even under extreme conditions, thanks to its unique zinc finish and chromate barrier. The green paint finishes typically used for strut cannot compare to this level of protection

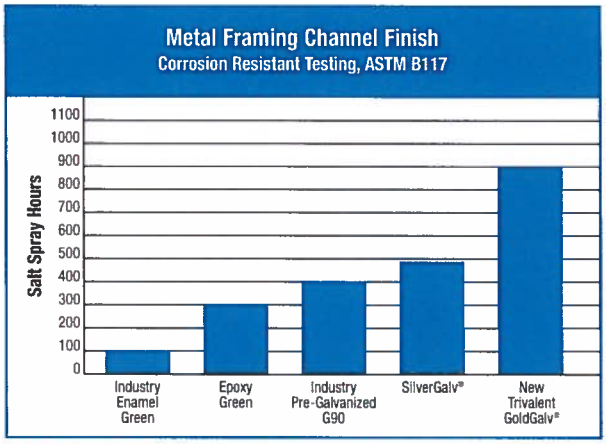
- **Clean Finish**
  SilverGalv® ensures a finished product that leaves no residue on your hands. In the SilverGalv® process, a zinc finish is applied after fabrication. As a result, all the oil and grime that accumulates during manufacturing gets thoroughly cleaned off during the plating process

- **Paintable Surface**
  Applying SilverGalv® after fabrication provides the end user with a clean, smooth surface to paint

- **Interchangeable Silver Color**
  SilverGalv's silver hue means it can be used interchangeably with either standard pre-galvanized channel systems or silver colored fittings commonly used with green painted strut systems

- **No More White Rust**
  With pre-galvanized strut, white rust frequently taints the zinc finish. With SilverGalv®, this problem is eliminated thanks to a clear chromate applied over the zinc that stops white rust from forming

- **Punched Holes and Cut Ends are Protected**
  Unlike a pre-galvanized finish where steel holes and cuts have no corrosion protection, Silver-Galv® protects every portion of the strut. Because SilverGalv's finish is applied after fabrication, all punched holes and cut ends share a consistent quality with the rest of the material



SilverGalv® provides more corrosion protection than Pre-Galvanized or Green Painted finishes.

Standard Channels

Material

Channels are cold formed from hot-rolled pickled and oiled strip steel.

Material Thickness

All Series 1200	12 gauge material
All Series 1400	14 gauge material

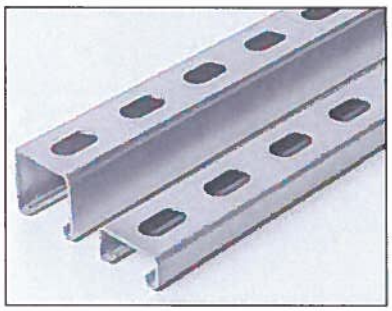
Standard Lengths

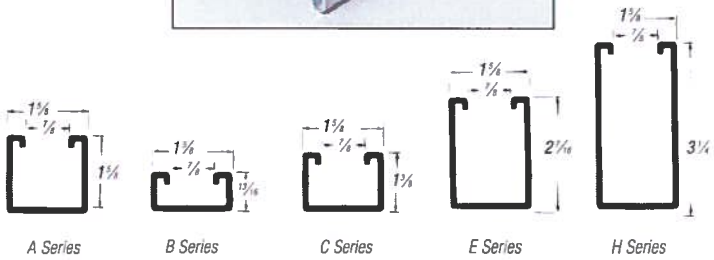
Standard lengths for channel are 10 ft. and 20 ft.

Standard length tolerance ± ⅛".

Shorter lengths are available at a small cutting charge.

GoldGalv® hardware finish is standard for all Superstrut products. This is a multi-process finish of electro-plated zinc, followed by gold colored zinc dichromate to give excellent corrosion resistance and superior paint base. See **page D-4** for a complete description of the GoldGalv® hardware finish. GoldGalv® hardware will be furnished if no other finish is specified.





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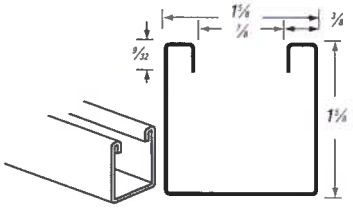
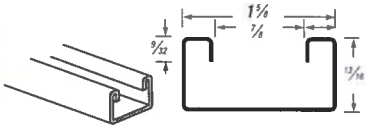


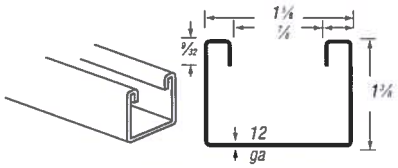
A-1200

Channel available in Solid, Half Slot, Punched, Slotted and Knockout configurations.
Wt./Ft. 1.90 lbs.



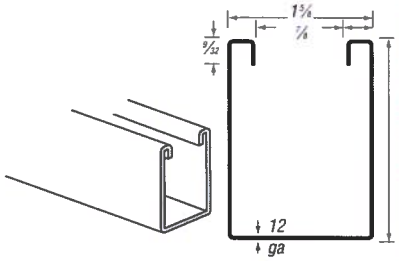
B-1200

Channel available in Solid, Half Slot, Punched and Slotted configurations.
Wt./Ft. 1.28 lbs.



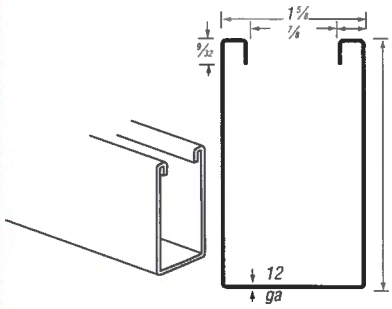
C-1200

Channel available in Solid, Half Slot and Punched configurations.
Wt./Ft. 1.70 lbs.



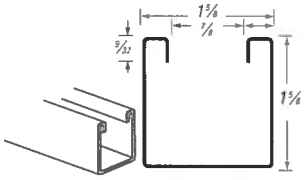
E-1200

Channel available in Solid, Half Slot and Punched configurations.
Wt./Ft. 2.47 lbs.



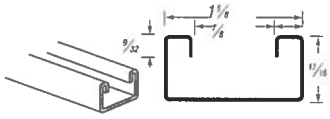
H-1200

Channel available in Solid, Half Slot and Punched configurations.
Wt./Ft. 3.05 lbs.



A-1400

Channel available in Solid, Half Slot, Punched, Slotted and Knockout configurations.
Wt./Ft. 1.40 lbs.



B-1400

Channel available in Solid, Half Slot, Punched and Slotted configurations.
Wt./Ft. 0.90 lbs.

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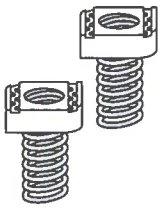
Nuts & Bolts

A-100 Regular Spring Nut

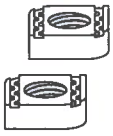


Sizes: ¼", 5/16", ⅜", ½", ⅝", ¾" & ⅞"

Nut is square over ½" size.

For all "A" and "C" series channel and inserts.

AB-100 Springless Nut



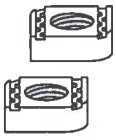
Sizes: ¼", 5/16", ⅜", ½", ⅝" & ¾"

Nut is square over ½" size.

For use with all channels.

Silver Electroplated Finish.

AC-100 Springless Nut

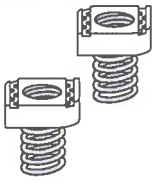


Sizes: ¼", ⅜", ½", ⅝" & ¾"

Nut is square over ½" size.

For all "A", "C", "E" and "H" series channel and inserts.

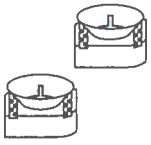
B-100 Short Spring Nut



Sizes: ¼", 5/16", ⅜" & ½"

Nut is square over ½" size. For all "B" series channel and inserts.

CM-100 Nylon Cone Nut



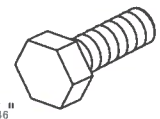
Sizes: ¼", ⅜", *½" & **100B½"

For all 1⅝" channel.

*Will not fit "B" series channel.

**For "B" Series channel. GoldGalv® Finish.

E-142 Hex Head Cap Screw



Sizes: ¼" x 1", ¼" x 1½", ⅜" x 1", ⅜" x 1½", ½" x 15/16" & ½" x 1½"

See price sheet for additional sizes.

E-145 Standard Hex Nut

Sizes: ¼", ⅜", ½", ⅝", ¾", ⅞" & 1"

GoldGalv® Finish.

E-146 Standard Square Nut

Sizes: ¼", 5/16", ⅜", ½" & ⅝"

GoldGalv® Finish.

E-147 Flat Steel Washer

Sizes: ¼", 5/16", ⅜", ½", ⅝", ¾" & ⅞"

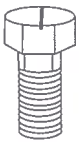
GoldGalv® Finish.

E-148 Lock Washer

Sizes: ¼", ⅜", ½" & ⅝"

GoldGalv® Finish.

E-149 Slotted Hex Indented Head Machine Screw



Sizes: ¼" x ¾", ¼" x 1", 5/16" x 1¼" & ⅜" x 1¼"

E-150-S Lag Bolt Screw

Size: ⅜" & ½"

Drill Size: ¼" & 11/32"

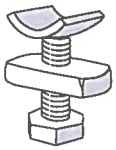
E-151-D Wood Screw Drive

Size A: ¼"

Size B: 2"

Max. Rec. Load: 100 lbs.

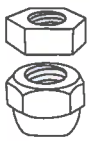
ES-142 Seismic Stiffner Nut



Size: ES-142-½ x 1½"

Bolt Dia.: ½"

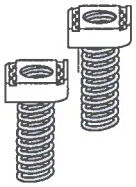
ES-145 Swivel Nut and Jam Nut Combinations



Sizes: ⅜" & ½"

GoldGalv® Finish.

H-100 Long Spring Nut



Sizes: ⅜", ½" & ⅝"

Nut is square over ½" size.

For all "E" and "H" series channel and inserts.

UC-100 Universal Nylon Cone Nut

Sizes: ¼", ⅜" & ½"

For all 1⅝" & 1½" channels. May be used with ALL strut depths. Can be used for CM-100, A-100, B-100 & AB-100 Series.

GoldGalv® Finish.

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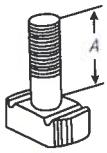
Nuts & Bolts *(continued)*

Fender Washer


EF-147

CAT. NO.	SIZE (IN.)	DIA. (IN.)	HOLE STD. (IN.)	STD. CTN.
EF147 1/4	¼	1¼	5/16	100
EF-147-3/8	⅜	1½	7/16	100
EF-147-1/2	½	2	9/16	100

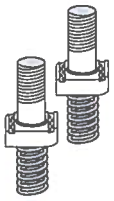
Springless Stud Nut



A-177 to A-180

CAT. NO.	BOLT DIA. (IN.)	LENGTH A (IN.)	STD. CTN.
A177 1/4 1	¼	1	50
A-177-1/4 X 1-1/4	¼	1¼	250
A-179-3/8 X 1	⅜	1	250
A-179-3/8 X 1-1/4	⅜	1¼	50
A-180-1/2 X 1*	½	1	250
A-180-1/2 X 1-1/4*	½	1¼	250

* Cannot be used with "B" Series channel


A-182 to A-185

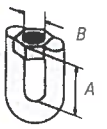
Regular Spring Stud Nut

CAT. NO.	BOLT DIA. (IN.)	LENGTH A (IN.)	STD. CTN.
A182 1/4 1	¼	1	250
A-182-1/4 X 1-1/4	¼	1¼	250
A-184-3/8 X 1	⅜	1	50
A-184-3/8 X 1-1/4	⅜	1¼	50
A-185-1/2 X 1	½	1	50
A-185-1/2 X 1-1/4	½	1¼	50

For all "A" and "C" series channels.

Standard Finish – GoldGalv®, unless otherwise stated.

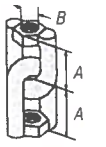
Swivel Eye



E-120

CAT. NO.	A (IN.)	B (IN.)	DESIGN LOAD LBS.	STD. CTN.
E120 3/8	1⅛	⅜	1,000	25
E120 1/2	1½	½	1,800	25

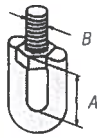
Swivel Joint



E-122

CAT. NO.	A (IN.)	B (IN.)	DESIGN LOAD LBS.	STD. CTN.
E122 3/8	1⅛	⅜	1,000	25
E-122-1/2	1½	½	1,800	10

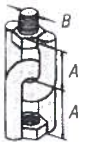
Swivel Eye with Stud



E-130

CAT. NO.	A (IN.)	B (IN.)	DESIGN LOAD LBS.	STD. CTN.
E130 3/8	1⅛	⅜	1,000	25
E-130-1/2	1½	½	1,800	25

Swivel Joint with Stud



E-131

CAT. NO.	A (IN.)	B (IN.)	DESIGN LOAD LBS.	STD. CTN.
E131 3/8	1⅛	⅜	1,000	25
E-131-1/2	1½	½	1,800	10

Standard Finish – GoldGalv®, unless otherwise stated.

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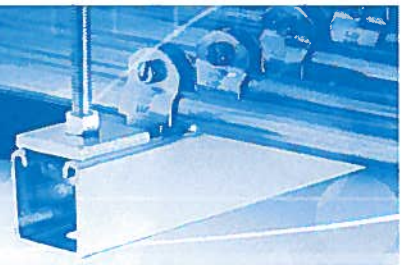


Threaded Rod

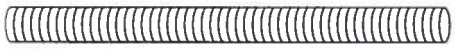
E-151 — Coach Screw Rod

E-151

- Black available upon request
- Machine-threaded opposite end, carbon steel
- Order by Cat. No., rod size and rod length

CAT. NO.	ROD SIZE (IN.)	STANDARD ROD LENGTHS	STD. CTN.
E-151-3/8	3/8	4, 6, 8, 10, 12	100
E-151-1/2	1/2	4, 6, 8, 10	100

H-104 — Hanger Rod: Continuous Thread



H-104 Series Rod

CAT. NO.	SIZE (IN.)	THREADS PER INCH	DESIGN LOAD LBS.	STD. CTN.
H-104-1/4	1/4	20	150	*
H-104-3/8	3/8	16	610	*
H-104-1/2	1/2	13	1,130	*
H-104-5/8	5/8	11	1,810	*
H-104-3/4	3/4	10	2,710	*
H-104-7/8	7/8	9	3,770	*
H-104-1	1	8	4,960	*

Black available upon request.

**Standard lengths 6 ft., 10 ft. and 12 ft.*

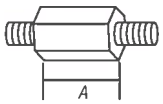
Standard Finish – GoldGalv®, unless otherwise stated.

R-Series Continuous Thread Rod — Galvanized

CAT. NO.	ROD SIZE	ULTIMATE ‡ LOAD IN LBS.	DATA FOR PRESSURE PIPING ROOT AREA THREAD	DATA FOR PRESSURE PIPING NOMINAL PIPE SIZE	MAX. SAFE LOAD AT 450°	STD. CTN.
R628-6 FT.	1/4–20	900	.027	—	—	300
R638-6 FT.	3/8–16	1,900	.068	3/4"–2"	610	150
R648-6 FT.	1/2–13	3,500	.126	2 1/2"–3 1/2"	1,130	60
R1028-10 FT.	1/4–20	900	.027	—	—	500
R1038-10 FT.	3/8–16	1,900	.068	3/4"–2"	610	250
R1048-10 FT.	1/2–13	3,500	.126	2 1/2"–3 1/2"	1,130	100

‡ *Load Ratings based on safety factor of three.*

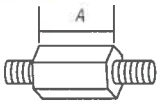
Standard Rod Coupling



CAT. NO.	ROD SIZE (IN.)	A (IN.)	STD. CTN.
H-119-1/4	1/4	7/8	50
H-119-5/16	5/16	7/8	50
H-119-3/8	3/8	1 1/8	50
H-119-1/2	1/2	1 1/4	50
H-119-5/8	5/8	2 1/8	50
H-119-3/4	3/4	2 1/4	50
H-119-7/8	7/8	2 1/2	50
H-119-1	1	2 1/4	50

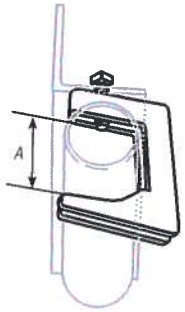
Standard Finish – GoldGalv®, unless otherwise stated.

Reducing Rod Coupling



CAT. NO.	ROD SIZE (IN.)	A (IN.)	STD. CTN.
H-119-1/4X3/8	1/4–3/8	1 1/2	50
H-119-3/8X1/2	3/8–1/2	1 1/4	50
H-119-1/2X5/8	1/2–5/8	1 1/4	50
H-119-5/8X3/4	5/8–3/4	1 1/2	50
H-119-3/4X7/8	3/4–7/8	1 3/4	50

Beam Clamps for Mounting Pipe and Conduit



U-571, U-572

U-571, U-572 Conduit Clamp

CAT. NO.	CONDUIT SIZE (IN.)	MAX. FLANGE THICKNESS (IN.)	DIM. A (IN.)	STD. CTN.
U-571	1/2	1	1 3/4	25
U-571	3/4	3/4	1 1/4	25
U-571	1	1/2	1 3/4	25
U-572	3/4	1 1/2	2 1/2	25
U-572	1	1 1/4	2 1/2	25
U-572	1 1/4	1	2 1/2	25
U-572	1 1/2	3/8	2 1/2	25

Standard Finish – GoldGalv® brand.

For attaching 1/2" thru 1 1/4" conduit to beam, channel, angle or column. Secures conduit to the support parallel or at right angles to it.

3/8" set screw, 12 ga. material.

Fittings & Brackets — Series 200

Material

Superstrut® fittings and brackets are manufactured from hot rolled carbon steel.

Dimensions

The following standard dimensions apply to all fittings except as indicated on the individual drawings.

- Hole spacing: 13/16" from end of fittings
- Hole spacing: 1 7/8" centers
- Hole size: 9/16" diameter
- Material: 1 5/8" wide
- Material: 1/4" thickness

Application Instructions

Parts drawings illustrate a typical use for the fitting, and in many cases other uses for the part are appropriate.

Design Data

Ratings vary when used with 12 or 14 gauge channel and are shown for each channel material.

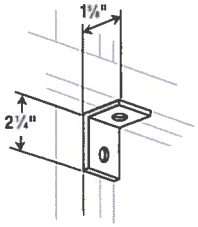
GoldGalv® hardware finish is standard for all Superstrut® products. This is a multi-process finish of electro-plated zinc, followed by gold-colored zinc dichromate to give excellent corrosion resistance and a superior paint base. See **page D-3** for complete description of the GoldGalv® hardware finish. GoldGalv® hardware will be furnished if no other finish is specified.

Nuts and Bolts Required

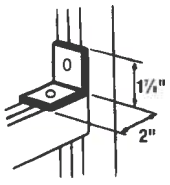
Unless otherwise noted, nuts and bolts for use with fittings and brackets should be ordered separately.

The standard bolt for the 9/16" hole is a 1/2" hex head cap screw 15/16" long. The 15/16" length may be used with all series channel.

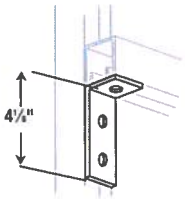
Standard Finish – GoldGalv®, unless otherwise stated.



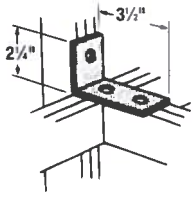
AB201



AB202



AB203



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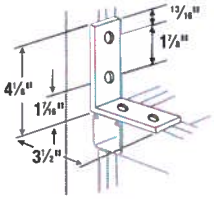
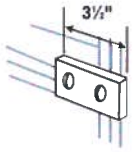
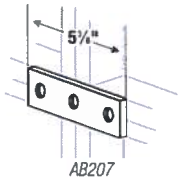


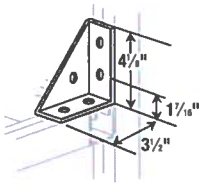
AB205



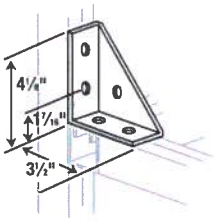
AB206



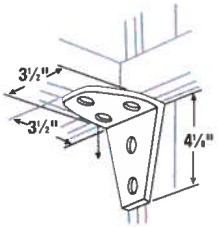
AB207



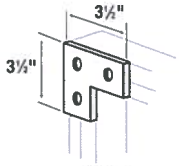
AB213



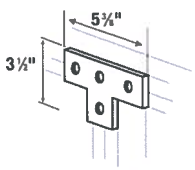
AB214



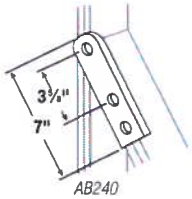
AB216



AB219



AB220



AB240

Standard Dimensions

- Hole Spacing: 13/16" From End
- Hole Spacing: 1 7/8" Centers
- Hole Size : 9/16" Diameter
- Material: 1 5/8" Width
- Material: 1/4" Thick

Standard Finish – GoldGalv®, unless otherwise stated.

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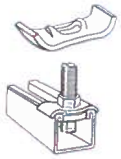
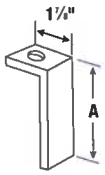
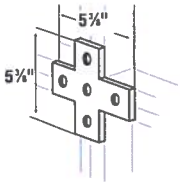


AB-242
For use with either ⅜" or ½" hanger rod

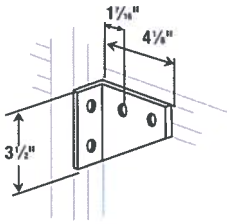


AB252

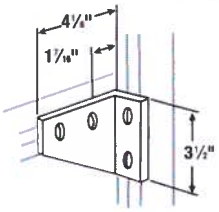
CAT. NO.	A (IN.)	STD. CTN.
AB252 1	3⅛	10
AB252 2	5⅛	10
AB252 3	7⅛	10
AB252 4	9⅛	10



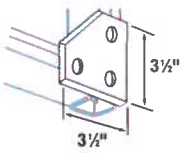
AB253



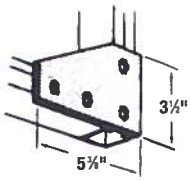
AB254 L



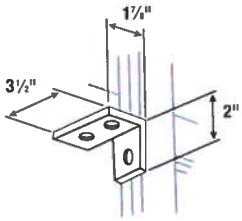
AB254 R



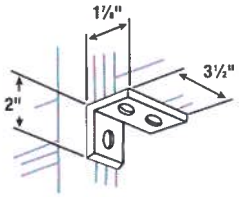
AB255



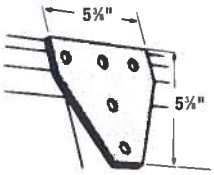
AB257



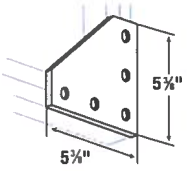
AB260 L



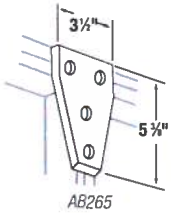
AB260 R



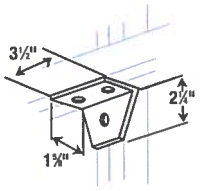
AB261



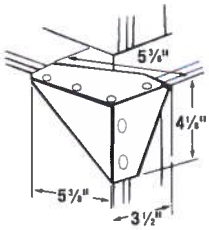
AB263



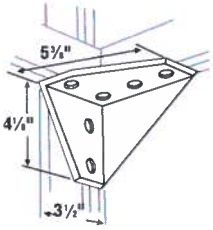
AB265



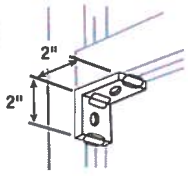
AB274



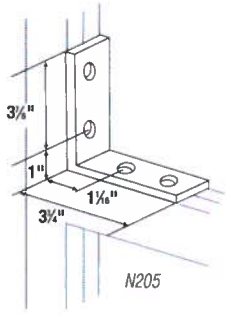
AB284 L



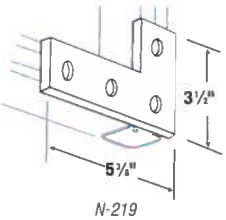
AB284 R



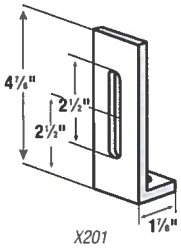
AB299



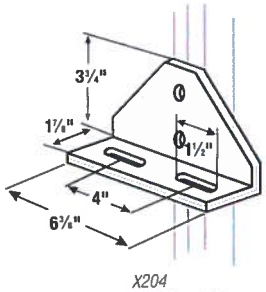
N205



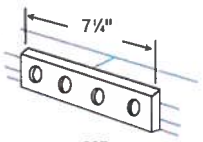
N-219



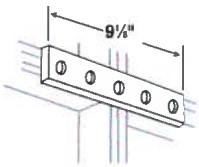
X201



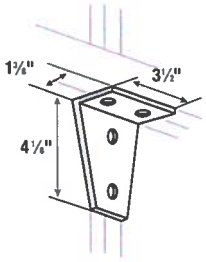
X204
Slot size is ⅞" x 1½"



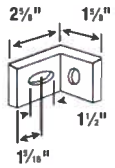
X207



X208



X289



X299

Standard Dimensions

- Hole Spacing: 13/16" From End
- Hole Spacing: 1⅞" Centers
- Hole Size : 9/16" Diameter
- Material: 1⅛" Width
- Material: ¼" Thick

Standard Finish – GoldGalv®, unless otherwise stated.

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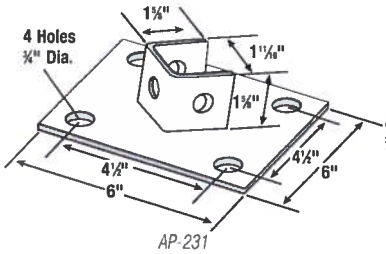
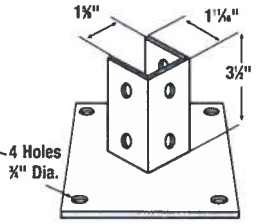
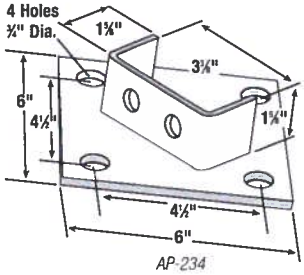
Post Bases



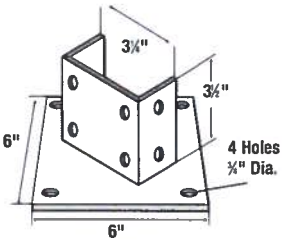
AP-231



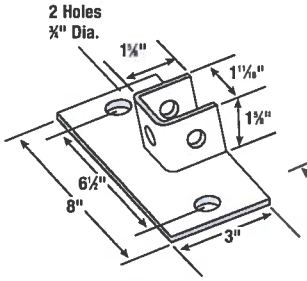
AP-232



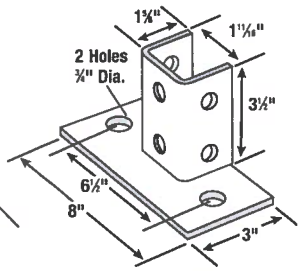
AP-234



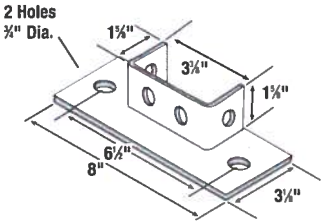
AP-235



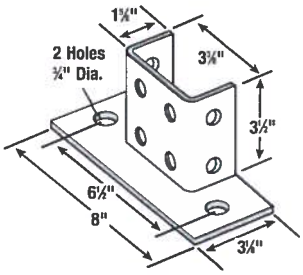
AP-231FL



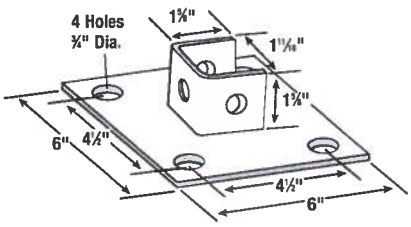
AP-232FL



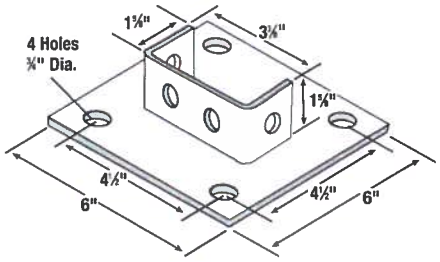
AP-234FL



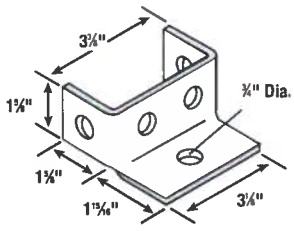
AP-235FL



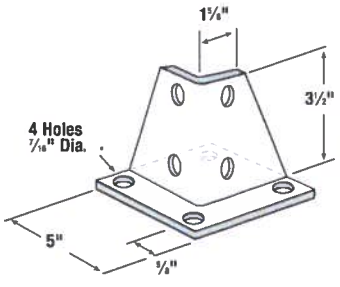
AP-231SQ



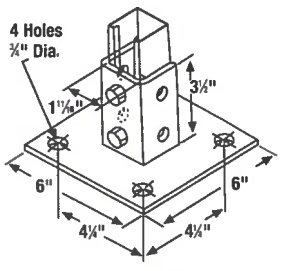
AP-234SQ



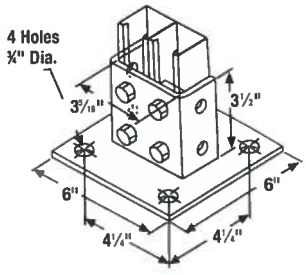
AW-239



AP-206



AP-232SQ



AP-235SQ

Standard Finish – GoldGalv®. unless otherwise stated

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Fax: 901.252.1321

Tool Services
Tel: 800.284.8665

Superstrut® Beam Clamps

Materials

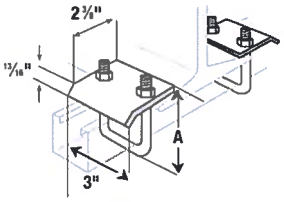
Most products are manufactured from hot-rolled carbon steel bars or hot-rolled strip steel. Pipe rollers are cast iron. Products which are copper placed carry the letter "T" in the prefix.

Design Loads

Where design loads are indicated, they provide for a safety factor of 3 in conformance with the "AMERICAN STANDARD CODE FOR PRESSURE PIPING."

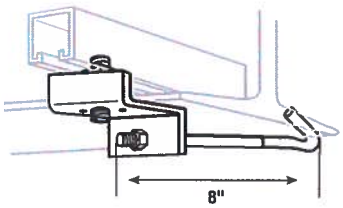
GoldGalv® hardware finish is standard for all Superstrut® products. This is a multi-process finish of electro-plated zinc, followed by gold-colored zinc dichromate to give excellent corrosion resistance and a superior paint base. See **pages D-3–D-4** for a complete description of the GoldGalv® hardware finish. GoldGalv® hardware will be furnished if no other finish is specified.

Beam Clamps for Mounting Channel

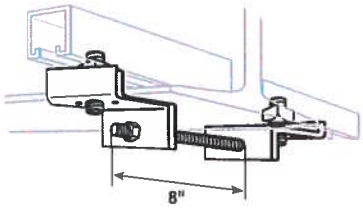


U501, U502
Furnished complete.
Design load U501 – 2,150 lbs.
U502 - 3,000 lbs.

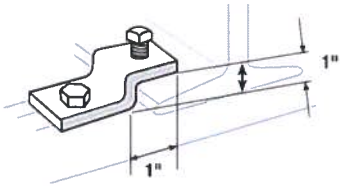
CAT. NO.	FOR CHANNEL	A (IN.)	STD. CTN.
U501	A-1200 A-1400 B-1200 B-1400 C-1200 B-1402	3 3/16	20
U502	A-1202 A-1402 C-1202 H-1200	4 13/16	20



U504

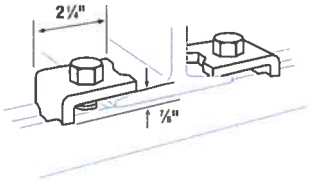


U505



U510
½" x 1½" set screw included.
Order separately one ½" x 1½" hex head cap screw and ½" channel nut.

Channel	Design Load lbs.
A-1,200	1,000
A-1,400	800



512-U
Order separately one ½" x 1½" hex head cap screw and ½" channel nut.

Channel	Design Load lbs.
A-1,200	1,000
A-1,400	800

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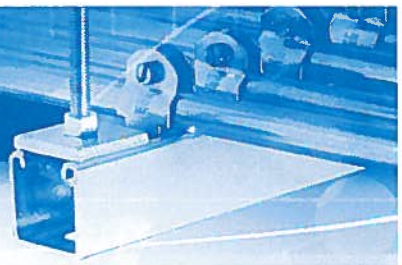
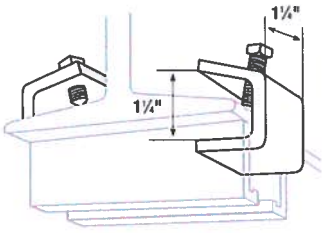
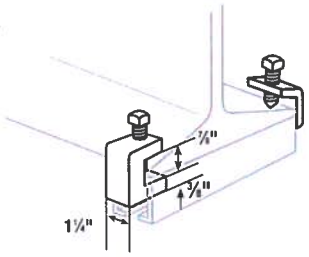


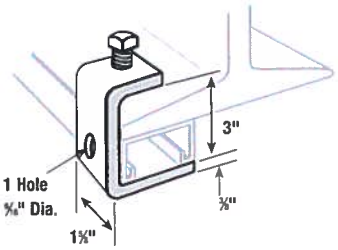
Beam Clamps for Mounting Channel *(continued)*



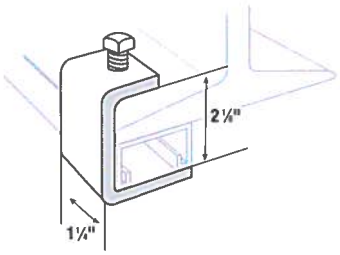
U514
⅜" x 1½" set screw included.
Design load 750 lbs./per pair.



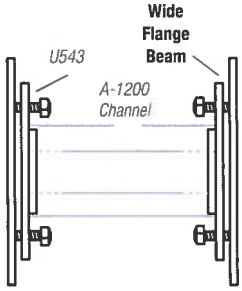
U514A
⅜" x 1½" set screw included.
Design load 1,650 lbs./per pair.

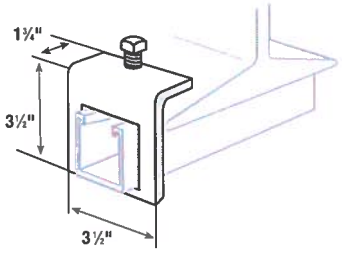


U515
For all "A" series channel.
½" x 1½" set screw included.
Design load 800 lbs.



U515B
For all "B" series channel
½" x 1½" set screw included.
Design load 800 lbs.



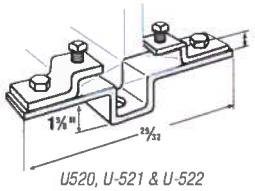


A-597
Standard Finish — GoldGalv® brand.
Channel Series A
Design load 800 lbs./ea

CAT. NO.	FLANGE WIDTH* (IN.)	A (IN.)	DESIGN LOAD LBS.	STD. CTN.
U-520	2⅜–4½	8¾	2,000	10
U-521	3¼–5¼	10	1,300	10
U-522	5⅜–7⅜	11⅞	900	10

*When ordering specify flange width.

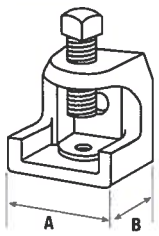
Standard Finish – GoldGalv®, unless otherwise stated.



U520, U-521 & U-522
Standard Finish – GoldGalv® brand.
Nuts, cap screws and set screws included.

Beam Clamps for Hanging Rod

Beam Clamps — Malleable Iron, Silver Electroplated Finish



500SS316, 502SS316 and 503SS316 in 316 Stainless Steel, also available

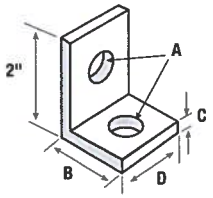
CAT. NO.	BASE SIZE (IN.) A	BASE SIZE (IN.) B	JAW OPENING (IN.)	TAPPING OF BASE AND BACK HOLES	SET SCREW LOAD RATING‡	TORQUE IN INCH-LBS.	STD. CTN.
500-SC	1	1¼	1 5/16	¼–20	250	60	50
501	1½	1⅜	⅞	5/16–18	500	60	50
502	2	2	1	⅜–16	750	120	50
503-SC	2⅜	2½	1	½–13	1,250	250	20
507	2½	2⅜	1⅜	½–13	1,250	250	20
508	2½	2⅜	2⅛	½–13	1,250	250	10
509	1	1¼	1 5/16	10–24	150	60	100
510	2 1/32	1⅛	⅜	¼–20	250	40	100
511-SC	2 7/32	1⅛	⅝	10–24	150	40	100

‡Safety Factor of 3.

Loan Ratings based on bottom hole of Beam Clamp.

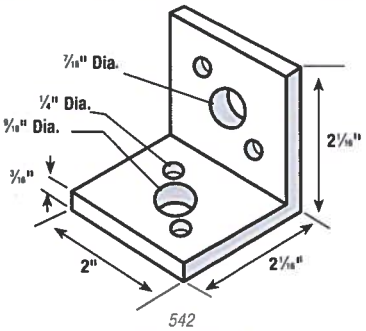
CSA File No. LR-52208.

Standard Finish – GoldGalv®, unless otherwise stated.



540
Side Beam Hanger Clip
Finishes – GoldGalv® brand or Black (B)

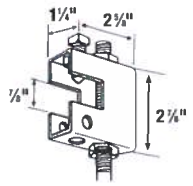
CAT. NO.	A (IN.)	B (IN.)	C (IN.)	D (IN.)	STD. CTN.
540 3/8	5/16	1⅜	¼	⅞	25
540 1/2 EC	9/16	1⅛	¼	1⅜	25
540-5/8	11/16	2½	⅜	2	25
540-3/4	13/16	2½	⅜	2	25



542
Side Beam Hanger Clip
Finishes – GoldGalv® brand or Black (B)

Rod Size	Design Load lbs.
⅜"	610
½"	1,000

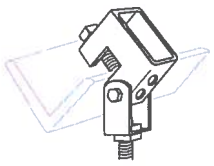
Standard Finish – GoldGalv®, EG, HD, & SS available.



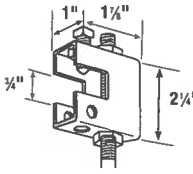
U562
Beam Clamp
½" set screw included.
Rod Size: ½"
Design load 500 lbs.

Square nut, order separately.

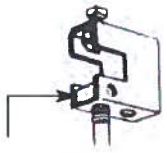
U562
Beam Clamp Optional Use
½" set screw included.
Rod sizes: ½"
Design load 800 lbs.
For 20° swivel application use ES-145-½ nut.



US562
Beam Clamp with Swing Hanger
½" screw included.
Rod sizes: ½".
Design load 800 lbs.

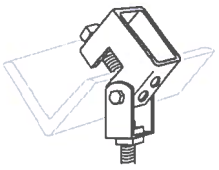


U563
Beam Clamp
¾" set screw included.
Rod sizes: ¾"
Design load 250 lbs.

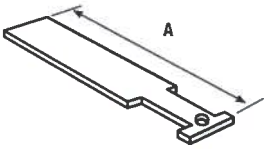


Square nut, order separately

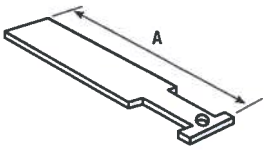
U563
Beam Clamp optional Use ¾" set screw included. Rod sizes: ¾"
Design load 400 lbs.



US563
Beam Clamp with Swing Hanger ¾" set screw included. Rod sizes: ¾".
Design load 540 lbs.



U-568
Beam Clamp Safety Strap
Standard Finish – GoldGalv® brand
For U-563 beam clamp.



U-568
Beam Clamp Safety Strap
Standard Finish – GoldGalv® brand
For U-562 beam clamp.

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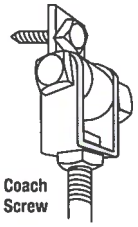
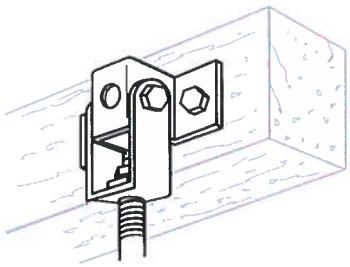
Beam Clamps for Hanging Rod *(continued)*



S-541
Swing Connector
Standard Finish – GoldGalv® brand
Rod Sizes: ⅜"
For use with wood beam.
⅜" x 1¼" bolt, nut and clevis included.

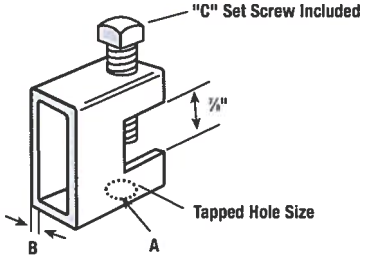


U577
Clevis & Swing Connector
Rod Size ½"
Standard Finish – GoldGalv® brand
For use with wood beam.

U-560 — Heavy-Duty Beam Clamp

CAT. NO.	DIMENSIONS (IN.) A	B	C	DESIGN LOAD LBS.	STD. CTN.
U560 1/4	¼	⅛	⅜ x 1½	1,050	25
U-560-3/8	⅜	⅛	⅜ x 1½	1,050	25
U-560-1/2	½	¼	½ x 1½	2,650	25
U-560-5/8	⅝	¼	½ x 1½	2,650	25

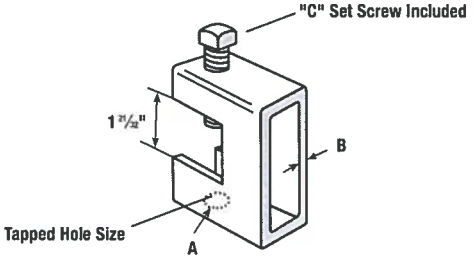
Channel Angle Connector. Standard Finish — GoldGalv®.
Available in Electro-Galvanized (EG) finish.
Integral pilot, prevents twist.

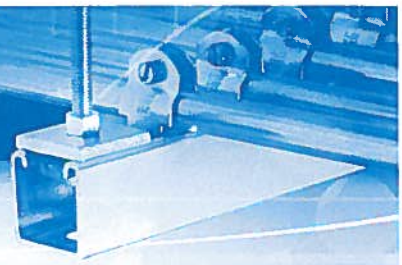


U-564 — Heavy-Duty Beam Clamp

CAT. NO.	DIMENSIONS (IN.) A	B	C	DESIGN LOAD LBS.	STD. CTN.
U-564-3/8	⅜	¼	⅜ x 2¼	1,300	25
U-564-1/2	½	¼	½ x 2¼	3,150	15
U564 5/8	⅝	¼	½ x 2¼	3,150	25

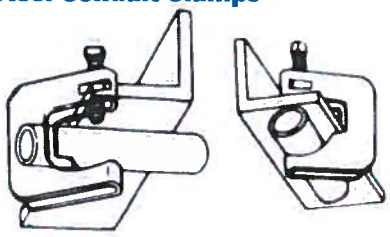
Available in Electro-Galvanized (EG) finish.



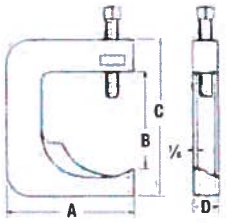


Beam Clamps for Mounting Pipe and Conduit

C-247, C-248 & C-249 — Steel Conduit Clamps



- A versatile clamp for attaching conduit to any type of beam, channel, angle or column
- Designed to hold the conduit snug against the support with conduit either parallel or at right angle to it
- The case-hardened set screw bites into the structural member for maximum security
- ⅛" steel



CONDUIT SIZE	MAX. BEAM C-247	FLANGE C-248	THICKNESS C-249
½	⅜	1	
¾	7/16	¾	1⅛
1		½	1¼
1¼		1	
1½			⅝
Dim. A	2¼	2 3/16	3¼
Dim. B	1⅜	1¾	2½
Dim. C	2¼	3	4
Dim. D	5/16	5/16	⅜
Per Carton	100	50	50
Wt. in lbs./C	33	36	59

Galv-Krom finish.

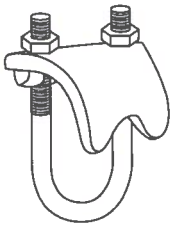
Standard Finish – GoldGalv®, unless otherwise stated.

Pipe Supports

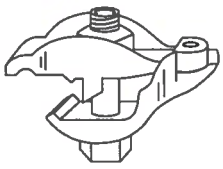
Three types of pipe clamps are available to provide right angle, vertical and parallel attachment to a beam. Types RC, EC and PC are malleable iron clamps with an edge that grips the structural member for maximum holding power when tightened.

Type RCS clamps are all steel, providing two bearing surfaces for strong attachment for mounting pipe or conduit at right angles to the beam.

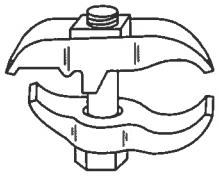
All parts are electrogalvanized, including the threads. The clamps are designed for clamping to a wide variety of beam thicknesses and tapers. Can be installed using only a wrench.



- RC Clamp — Malleable Iron
- RCS Clamp — Steel
- For mounting pipe or conduit at right angles to the beam
- Use SS316 suffix for 316 Stainless Steel
- Use HDG suffix for hot-dip galvanized



- EC Clamp — Malleable Iron
- For mounting pipe or conduit vertically across the beam
- Use SS316 suffix for 316 Stainless Steel
- Use HDG suffix for hot-dip galvanized



- PC Clamp — Malleable Iron
- For mounting pipe or conduit parallel to the beam
- Use SS316 suffix for 316 Stainless Steel
- Use HDG suffix for hot-dip galvanized

CAT. NO. & SIZE	DIMENSIONS (IN.) D.D. OF CONDUIT OR PIPE	NDM. CONDUIT DR PIPE SIZE	STD. CTN.
RCS-1/2	.840	½	50
RCS-3/4	1.050	¾	50
RCS-1	1.315	1	50
RCS-1-1/4	1.660	1¼	50
RCS-1-1/2	1.900	1½	50
RCS-2	2.375	2	50
RC-3/8	.675	⅜	50
RC-1/2	.840	½	50
RC-3/4	1.050	¾	50
RC-1	1.315	1	50
RC-1-1/4	1.660	1¼	50
RC-1-1/2	1.900	1½	50
RC-2-SC	2.375	2	50
RC-2-1/2	2.875	2½	25
RC-3	3.500	3	25
RC-3-1/2	4.000	3½	25
RC-4-SC	4.500	4	20

CAT. NO. & SIZE	DIMENSIONS (IN.) D.D. OF CONDUIT OR PIPE	NOM. CONDUIT OR PIPE SIZE	STD. CTN.
EC 1/2	.840	½	50
EC-3/4	1.050	¾	50
EC-1	1.315	1	25
EC-1-1/4	1.660	1¼	25
EC-1-1/2	1.900	1½	25
EC-2	2.375	2	25
EC-2-1/2	2.875	2½	10
EC-3	3.500	3	10
PC-3/8	.675	⅜	50
PC 1/2	.840	½	50
PC-3/4	1.050	¾	50
PC-1	1.315	1	50
PC-1-1/4	1.660	1¼	25
PC-1-1/2	1.900	1½	25
PC-2	2.375	2	25
PC-2-1/2	2.875	2½	25
PC-3	3.500	3	10
PC-3-1/2	4.00	3½	10
PC-4	4.500	4	10

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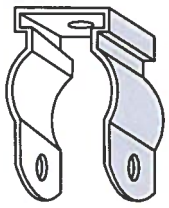
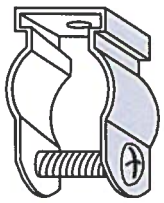
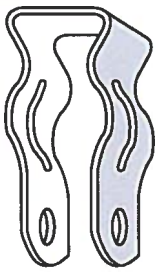


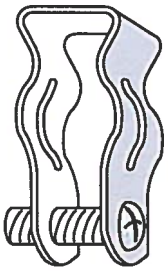
6H Series
Without bolt Fig. 1



6H-B Series
With bolt and hex nut Fig. 2



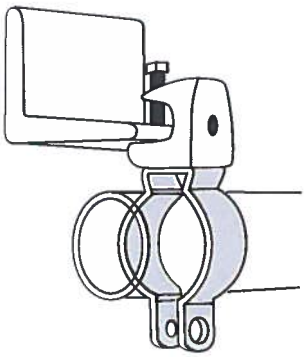
6H- T Threaded Series
Threaded without bolt Fig. 3



6H- TB Threaded Series
Threaded with bolt Fig. 4

Conduit and Pipe Hangers

6H Series Conduit and Pipe Hanger



- Accommodates ½" through 4" EMT or rigid conduit
- Can be used for either vertical or horizontal installation
- 6HTB Series have a built-in nut so there are less parts to handle or drop
- Installs easily with a screwdriver

WITHOUT BOLT CAT. NO.	FIG. NO.	WITH BOLT CAT. NO.	FIG. NO.	EMT (IN.)	RIGID CONDUIT OR PIPE (IN.)	STD. CTN.
6H0	1	6H0 B	2	½	⅜–½	100
6H0 T	3	6H0 TB	4	½	⅜–½	100
6H1	1	6H1-B	2	¾	¾	100
6H1-T	3	6H1-TB	4	¾	¾	100
6H2	1	6H2-B	2	1	1	100
		6H2-TB	4	1	1	100
6H2 1/2	1	6H2 1/2-B	2	1¼	—	100
		6H2 1/2-TB	4	1¼	—	100
6H3-SC	1	6H3-B	2	1½	1¼	100
		6H3-TB	4	1½	1¼	100
6H4	1	6H4-B	2	—	1½	100
		6H4-TB	4	—	1½	100
6H5	1	6H5-B	2	2	2	100
		6H5-TB	4	2	2	100
6H6	1	6H6-B	2	2½	2½	100
6H7	1	6H7-B	2	3	3	100
6H8	1	6H8-B	2	3½	3½	100
6H9	1	6H9-B	2	4	4	100

Standard Finish – Electro-Galvanized (EG).

Use SS suffix for Stainless Steel.

Loading rating 500 lbs. with a safety factor of 3.

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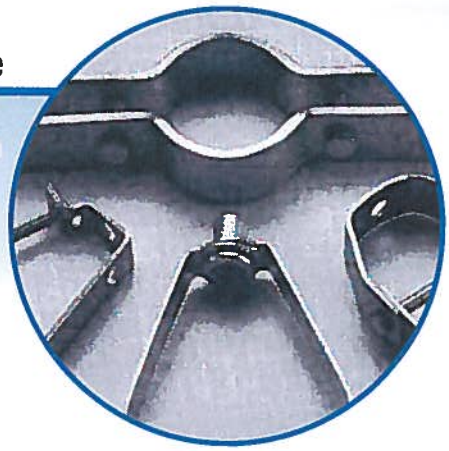
Excellent Corrosion Resistance and a Superior Paint Base



GoldGalv® hardware finish is standard for all Superstrut® products. This is a multi-process finish of electro-plated zinc, followed by gold-colorized zinc dichromate to give excellent corrosion resistance and a superior paint base. See **page D-3** for a complete description of the GoldGalv® hardware finish. GoldGalv® hardware will be furnished if no other finish is specified.

Materials

Most products are manufactured from hot-rolled carbon steel bars or hot-rolled strip steel. Pipe rollers are cast iron. Products which are copper plated carry the letter "T" in the prefix.

Design Loads

Where design loads are indicated, they provide for a safety factor of 3 in conformance with the "AMERICAN STANDARD CODE FOR PRESSURE PIPING."

Hanger Design

Pipe hangers are of advanced design and afford a new and better way of ordinary use.

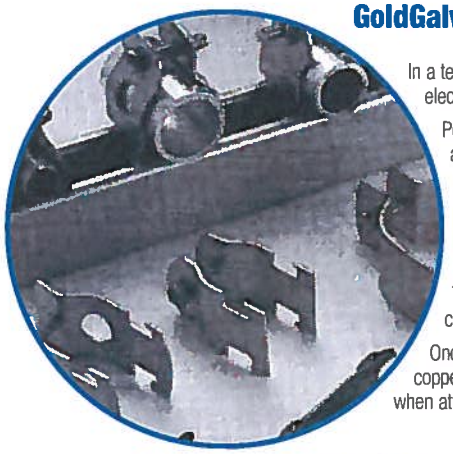
Standard Dimensions

The following, except where noted, apply to all beam clamp fittings.

Hole Size: 9/16" diameter

Material: 1 5/8" wide

Material: 1/4" thick



GoldGalv® Outperforms Copper Plated

In a test conforming to ASTM G-87-84, also known as the Kesternich Test, Superstrut's GoldGalv® electrogalvanized zinc dichromate finish achieved superior corrosion resistance in comparison to copper plated.

Performed and certified by an independent testing laboratory, the stringent Kesternich test is equivalent to an acid rain environment. The test procedure exposes subject material to condensed moisture containing harsh sulfur dioxide (S02) which accelerates the aging process. During the series of test time cycles, the material is thoroughly inspected for signs and progression of damaging red rust.

The first test series conducted included various light-duty adjustable clevis hangers assembled to copper tubing. The GoldGalv® finish exhibited five times the red rust resistance as compared to copper plated.

The second test series was performed on various O.D. pipe straps attached to copper tubing and continuous slot channel. GoldGalv® achieved greater red dust resistance by seven times over copper plating.

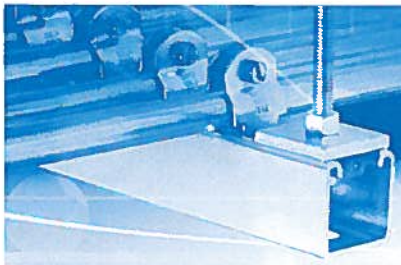
Once tests were completed, all copper tubes were split open and inspected for signs of electrolysis. The copper tubes showed minimal deterioration as a result of the test and no indication of electrolysis occurrence when attached to material with GoldGalv® finish.

ASTM G-87-84 Corrosion Test Results

FINISH	INITIAL RED RUST	50% RED RUST	100% RED RUST
Test Series I: Light-Duty Adjustable Clevis Hanger			
GoldGalv®	120 hours	216 hours	*Never obtained
Copper Plated	24 hours	48 hours	72 hours
Test Series II: O.D. Pipe Straps			
GoldGalv®	168 hours	192 hours	240 hours
Copper plated	24 hours	48 hours	168 hours

**Test series ended after 360 hours.*

Standard Finish – GoldGalv®, unless otherwise stated.



Superstrut®

Pipe Straps, Conduit Clamps & Hangers

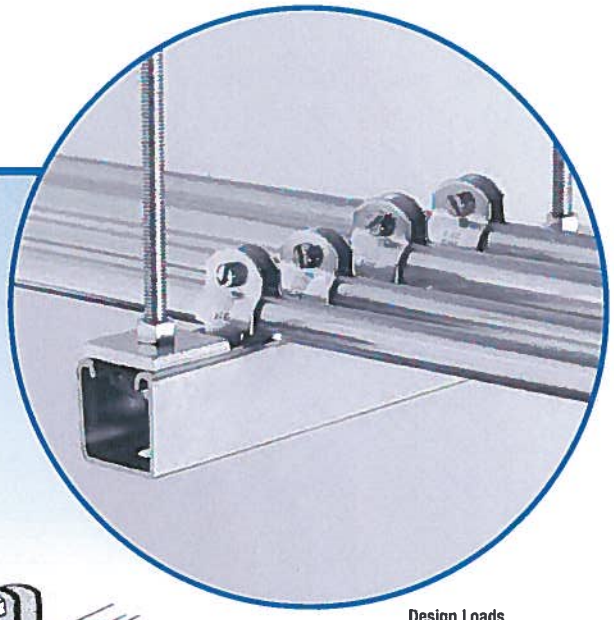
Superstrut® Pipe Straps

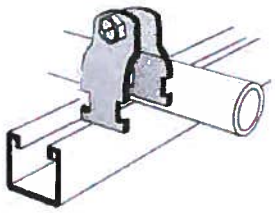
Pre-Assembled for Easy Handling and Sorting

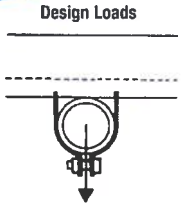
Superstrut® Pipe Straps are designed to be twist inserted anywhere along the slot side of the channel. Pipes can be placed as closely as pipe couplings permit.

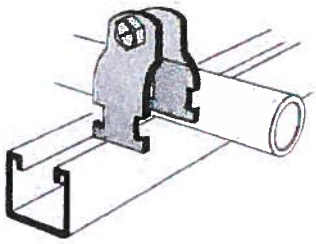
Some unique features of the straps include:

- Bolt head is combination slot and hex head for flexibility of attachment
- Square nut is captivated on the shoulder for easy one-handed tightening
- Straps are interchangeable with 1½" strut for broader application
- Straps are shipped assembled so counting and sorting are easier
- Pipe or conduit sizes are sown on the strap for easy identification
- All Superstrut® Straps are preassembled for easy handling and sorting









700 — Superstrut® Straps for EMT

CAT. NO.	EMT SIZE (IN.)	O.D. SIZE (IN.)	STEEL STRAP THICKNESS	DESIGN LOAD (LBS.)	STD. CTN.
Standard Finishes – GoldGalv® brand. Consult Factory regarding other Finishes and Materials					
700 3/8-STR	⅜	0.577	14 ga.	750	100
700-1/2-STR	½	0.706	14 ga.	750	100
700-3/4-STR	¾	0.922	14 ga.	750	100
700-1-STR	1	1.163	14 ga.	750	100
700-1-1/4-STR	1¼	1.510	14 ga.	750	50
700-1-1/2-STR	1½	1.740	12 ga.	800	50
700-2-STR	2	2.197	12 ga.	800	50

701 — Superstrut® Straps for O.D. Tubing

CAT. NO.	TUBING O.D. (IN.)	STEEL STRAP THICKNESS	DESIGN LOAD (LBS.)	STD. CTN
701-1/4	¼	14 ga.	750	100
701-3/8	⅜	14 ga.	750	100
701-1/2-STR	½	14 ga.	750	100
701-5/8	⅝	14 ga.	750	100
701-3/4	¾	14 ga.	750	100
701-7/8	⅞	14 ga.	750	100
701-1-STR	1	14 ga.	750	50
701-1-1/8	1⅛	14 ga.	1,000	100
701-1-1/4	1¼	14 ga.	1,000	25
701-1-3/8	1⅜	14 ga.	1,000	100
701-1-1/2	1½	14 ga.	1,000	25
701-1-5/8	1⅝	14 ga.	1,000	100
701-1-3/4	1¾	12 ga.	1,000	25
701-1-7/8	1⅞	12 ga.	1,000	50
701-2	2	12 ga.	1,000	50
701-2-1/8	2⅛	12 ga.	1,300	50
701-2-1/4	2¼	12 ga.	1,300	25
701-2-3/8	2⅜	12 ga.	1,300	25
701-2-1/2	2½	12 ga.	1,300	25
701-2-5/8	2⅝	12 ga.	1,300	50

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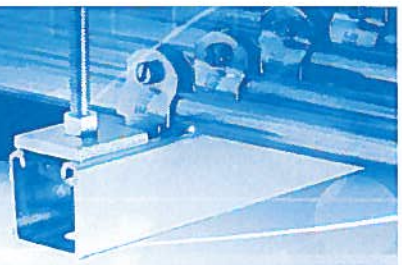
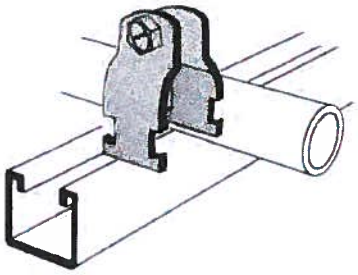


Superstrut® Pipe Straps *(continued)*

701 — Superstrut® Straps for O.D. Tubing (continued)



CAT. NO.	TUBING O.D. (IN.)	STEEL STRAP THICKNESS	DESIGN LOAD (LBS.)	STD. CTN
701-2-3/4	2¾	12 ga.	1,300	25
701-2-7/8	2⅞	12 ga.	1,300	25
701-3	3	12 ga.	1,300	25
701-3-1/8	3⅛	12 ga.	1,300	25
701-3-1/4	3¼	12 ga.	1,300	25
701-3-3/8	3⅜	12 ga.	1,300	25
701-3-1/2	3½	12 ga.	1,300	25
701-3-5/8	3⅝	11 ga.	1,650	25
701-3-3/4	3¾	11 ga.	1,650	25
701-3-7/8	3⅞	11 ga.	1,650	25
701-4	4	11 ga.	1,650	25
701-4-1/8	4⅛	11 ga.	1,650	25
701-4-1/4	4¼	11 ga.	1,650	25
701-4-3/8	4⅜	11 ga.	1,650	25
701-4-1/2	4½	11 ga.	1,650	10
701-4-5/8	4⅝	11 ga.	1,650	10
701-4-3/4	4¾	11 ga.	1,650	10
701-4-7/8	4⅞	11 ga.	1,650	10
701-5	5	11 ga.	1,650	25
701-5-1/8	5⅛	11 ga.	1,650	10
701-5-1/4	5¼	11 ga.	1,650	10
701-5-3/8	5⅜	11 ga.	1,650	10
701-5-1/2	5½	11 ga.	1,650	10
701-5-5/8	5⅝	10 ga.	1,650	10
701-5-3/4	5¾	10 ga.	1,650	10
701-5-7/8	5⅞	10 ga.	1,650	10
701-6	6	10 ga.	1,650	10
701-6-1/8	6⅛	10 ga.	1,650	10
701-6-1/4	6¼	10 ga.	1,650	10
701-6-3/8	6⅜	10 ga.	1,650	10
701-6-1/2	6½	10 ga.	1,650	10
701-6-5/8	6⅝	10 ga.	1,650	10
701-6-3/4	6¾	10 ga.	1,650	10
701-6-7/8	6⅞	10 ga.	1,650	10
701-8	8	10 ga.	1,650	10

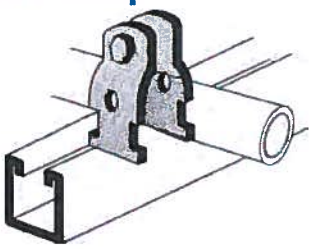
702 — Superstrut® Straps for Rigid Conduit, IMC and Pipe

- For Rigid or IMC Conduit, Pipe and Electric Metal Tubing (EMT)

CAT. NO.	RIGID CONDUIT OR PIPE SIZE (IN.)	O.D. SIZE (IN.)	STEEL STRAP THICKNESS	DESIGN LOAD (LBS.)	STD. CTN.
Standard Finishes – GoldGalv® brand, Electro-Galvanized EG (Silver)					
702-3/8	⅜	0.675	14 ga.	750	100
702-1/2	½	0.840	14 ga.	750	100
702-3/4	¾	1.050	14 ga.	750	100
702-1	1	1.315	14 ga.	750	100
702-1-1/4	1¼	1.660	14 ga.	800	50
702-1-1/2	1½	1.900	12 ga.	800	50
702-2-STR	2	2.375	12 ga.	800	50
702-2-1/2	2½	2.875	12 ga.	1,000	50
702-3	3	3.500	12 ga.	1,650	50
702-3-1/2	3½	4.000	11 ga.	1,650	25
702-4	4	4.500	11 ga.	1,650	25
702-4-1/2	4½	5.000	11 ga.	1,650	25
702-5	5	5.563	11 ga.	1,650	25
702-6	6	6.625	11 ga.	1,650	10
702-8	8	8.625	11 ga.	1,650	10
702-10	10	10.750	10 ga.	1,650	25
702-12	12	12.750	10 ga.	1,650	25

Standard Finish – GoldGalv®, unless otherwise stated.

703 — Universal Clamp



CAT. NO.	PIPE O.D. (IN.)	STEEL STRAP THICNESS	DESIGN LOAD (LBS.)	STD. CTN.
Standard Finishes – GoldGalv® brand, Electro-Galvanized (Silver) — use EG suffix, (i.e.) 703-1-1/2EG				
703-1/2	.706–.840	16 ga.	400	100
703-3/4	.932–1.050	14 ga.	550	100
703 1	1.163–1.315	14 ga.	550	100
703-1-1/4	1.508–1.660	14 ga.	800	50
703-1-1/2	1.738–1.900	14 ga.	800	50
703-2	2.195–2.375	14 ga.	800	50

Standard Finishes – GoldGalv® brand, Electro-Galvanized (i.e.) 701-1-1/2EG (Silver) Copper Plated CT701-1-1/2.

Consult factory regarding other finishes and materials.

Pipe Clamps

HS Series Two-Hole Pipe Strap

CAT. NO.	PIPE SIZE (IN.)	STD. CTN.
HS901	½	500
HS902	¾	500
HS903	1	500
HS904	1¼	250
HS905	1½	250
HS906	2	125
HS907	2½	125
HS908	3	100
HS909	3½	75
HS910	4	50

Standard Finish — Galvanized

Carbon steel.

Specify pipe size and catalog number.

For stainless steel, add suffix "ss".

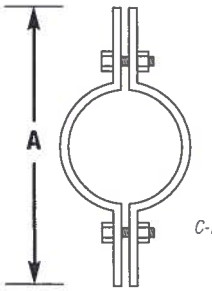
HS Series One-Hole Pipe Straps

CAT. NO.	PIPE SIZE (IN.)	STD. CTN.
HS100	⅜	500
HS101	½	500
HS102	¾	500
HS103	1	500
HS104	1¼	250
HS105	1½	250
HS106	2	50
HS107	2½	25
HS108	3	25
HS109	3½	25
HS110	4	25

For stainless steel, add suffix "ss".

C-720, C-720SS — Extension Riser Clamp

Designed for the support or steadying of vertical pipe risers. It is made of carbon steel and is designed to hold tight to the pipe, transmitting the load to the structure through the ears on each end. When possible, the clamp should be placed under a coupling, hub or lugs welded to the pipe.



C-720, C-720SS

NOTE: This product is not designed to be supported with rods. Install using the maximum suggested torque values shown in the Technical Section of this catalog.

Material: Carbon Steel.

Compliance: Federal Specification A-A-1192A Type 8, MSS-SP-69 (Type 8) and BSPSS-BS3974.

Finish: Standard Finish – GoldGalv®, Black (add suffix "-B"), Electro-Galvanized (add suffix "-EG").

Ordering: Specify catalog number, finish and pipe size.

C-720, C-720SS

CAT. NO.	PIPE SIZE (IN.)	MAX. LOAD (LBS.)	A (IN.)	WT. EACH
C-720-1/2	½	255	9	1.00
C-720-3/4	¾	255	8¾	1.08
C-720-1	1	255	8¾	1.08
C-720-1-1/4	1¼	255	10	1.86
C-720-1-1/2	1½	255	10¼	1.22
C-720-2	2	255	10¼	1.30
C-720-2-1/2	2½	390	11¼	1.74
C-720-3	3	530	11⅜	1.98
C-720-3-1/2	3½	670	12⅛	2.14
C-720-4	4	810	12⅛	2.28
C-720-5	5	1,160	13¾	3.60
C-720-6	6	1,570	14¾	3.68
C-720-8	8	2,500	18½	7.26
C720 10	10	2,500	20¾	11.00
C-720-12	12	2,700	22¾	15.94
C-720-14	14	2,700	24	17.36
C-720-16	16	2,900	26	29.68
C-720-18	18	2,900	28	31.64
C-720-20	20	2,900	30	34.84
C-720-24	24	2,900	34	50.00

Standard Finish – GoldGalv®, unless otherwise stated.

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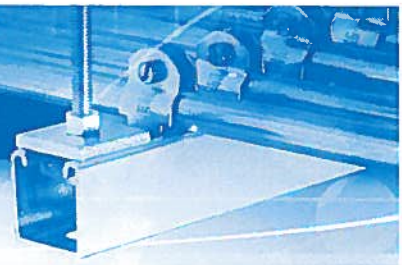
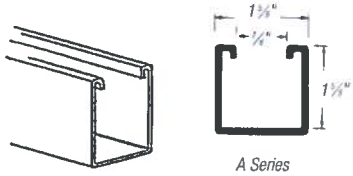


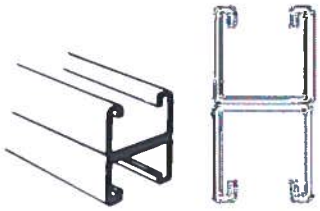
Type #304 Stainless Steel Products (SS Suffix)



A Series

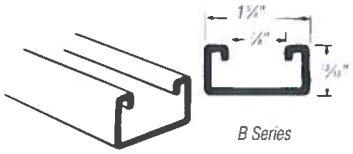
A-1200

A-1200-HS



A-1202

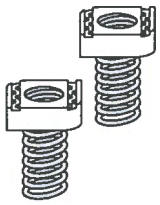
A-1202-HS



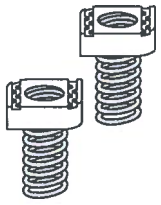
B Series

B-1400

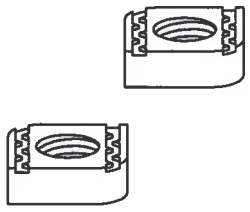
B-1400-HS



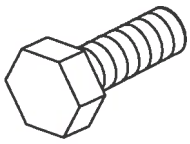
A-100
Regular Spring Nut



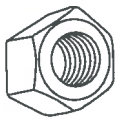
B-100
Short Spring Nut



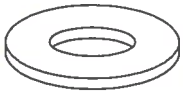
AB-100
Springless Nut



E-142
Hex Head Cap Screw

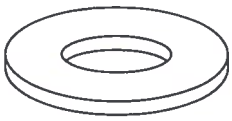


E-145
Standard Hex Nut

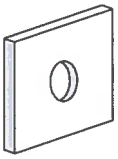


EF-147
Fender Washer

Type #304 Stainless Steel Products (SS Suffix) *(continued)*



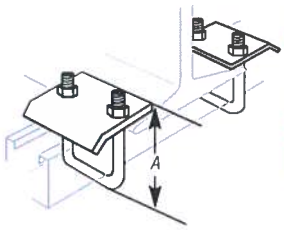
E-147
Flat Steel Washer



AB-241

CAT. NO.	ROD SIZE (IN.)	STD. CTN.
AB-241-1/4	1/4	100
AB-241-3/8	3/8	100
AB-241-1/2	1/2	100

H-119
Rod Coupling

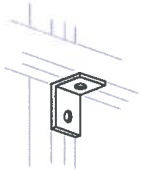


U501, U502

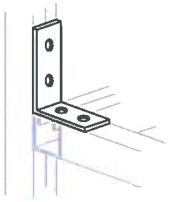
CAT. NO.	FOR CHANNEL	A (IN.)	STD. CTN.
U501	A-1200 A-1400 B-1200 B-1400 C-1200 B-1402	3 3/16	20
U502	A-1202 A-1402 C-1202 H-1200	4 13/16	20

Furnished complete

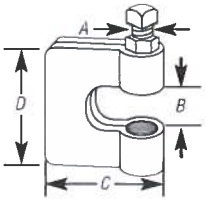
Design Load U501 — 2150 lbs.
U502 — 3000 lbs.



AB201

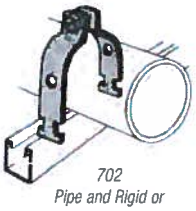


AB205

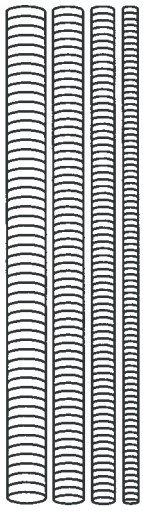


C-775L — Clamp with Lock Nut

CAT. NO.	ROD SIZE (IN.)	DIMENSONS (IN.) A	B	C	D	DESIGN LOAD (LBS.)	STD. CTN.
C-775L	3/8	3/8	3/4	2 1/8	2 1/8	400	100
	1/2	2 3/8	2 3/16	2 3/16	2 1/8	500	100



702
Pipe and Rigid or
IMC Conduit Clamp

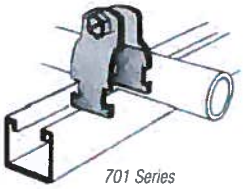


H-104

- Hanger rod
- Continuous threaded

CAT. NO.	NATIONAL COARSE THREAD SIZE (IN.)	THREADS PER INCH	DESIGN LOAD (LBS.)	STD. CTN.
H-104-1-1/4	1 1/4	20	150	500
H-104-3/8	3/8	16	610	500
H-104-1/2	1/2	13	1,130	500
H-104-5/8	5/8	11	1,810	500
H-104-3/4	3/4	10	2,710	500
H-104-7/8	7/8	9	3,770	500
H-104-1	1	8	4,960	500

Standard lengths 12' only



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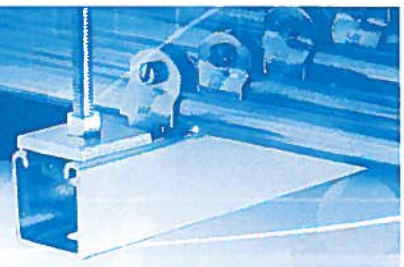
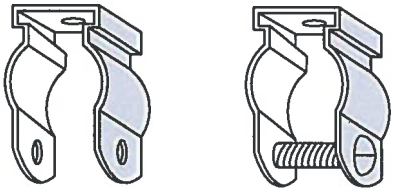
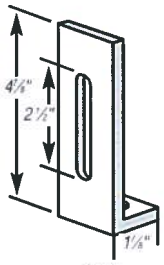


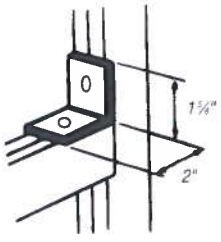
Type #304 Stainless Steel Products (SS Suffix) *(continued)*



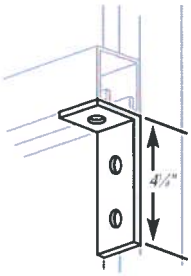
6H Series 6H-B Series
Conduit and Pipe Hanger



X201



AB202



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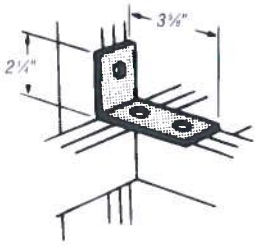

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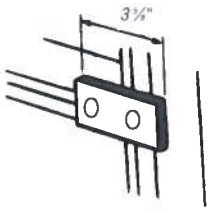

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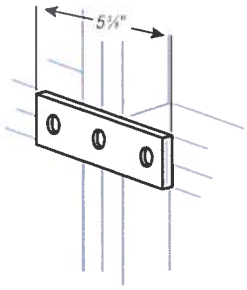
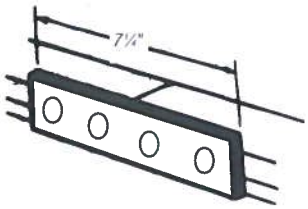


AB207



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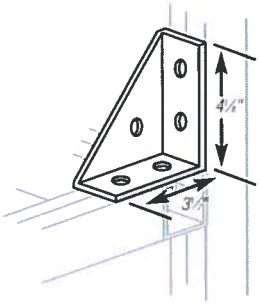

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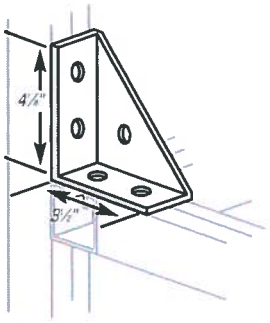

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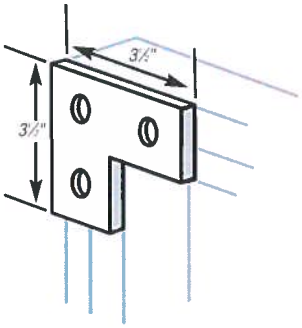
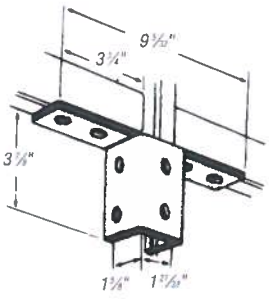
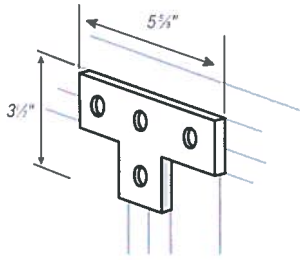


AB219

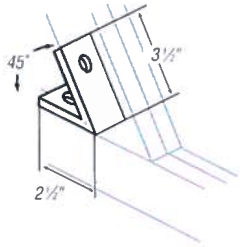


AW219

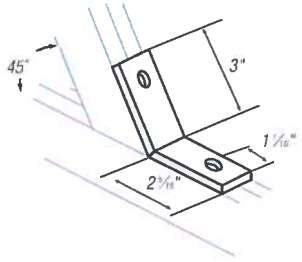
Type #304 Stainless Steel Products (SS Suffix) *(continued)*



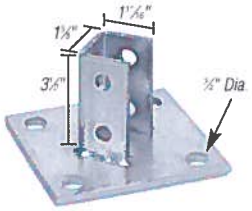
AB220



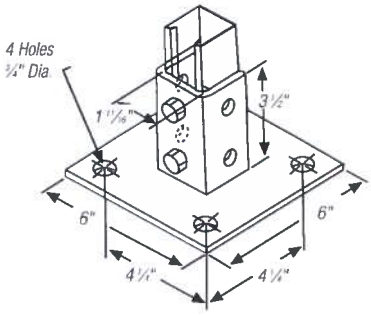
AB225



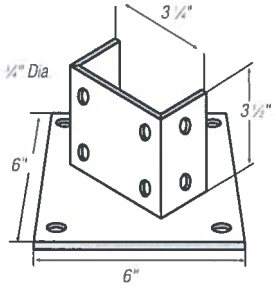
SPAB-227



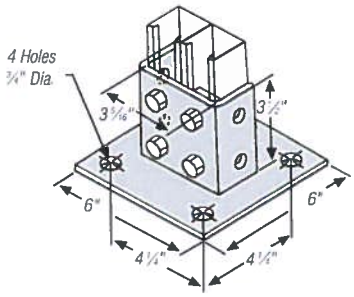
AP-232



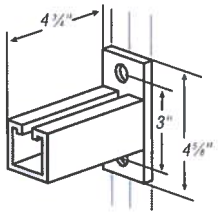
AP-232SQ



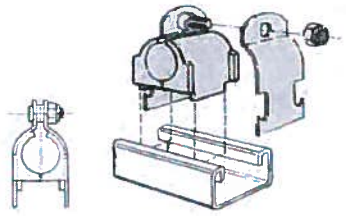
AP-235



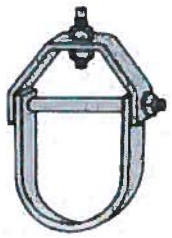
AP-235SQ



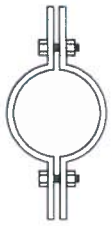
S-250
A is in lengths: 6,12,18 & 24.
May be installed inverted with no change in load ratings. Strut section made from half slot channel.



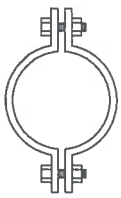
A-716
Cushioned Clamp Tube Series



C-710 Series
Standard Clevis



C-720



C-725

C-727
Standard Ring Hanger

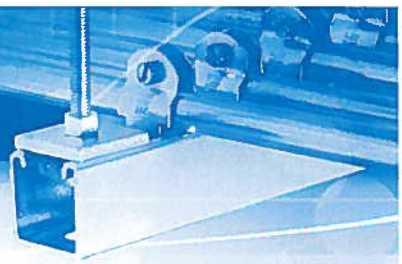
Thomas&Betts
www.tnb.com

Corporate Office
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

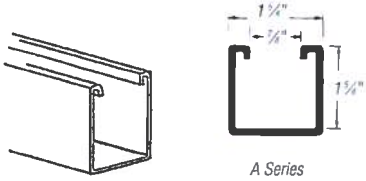
Customer Service
Tel: 800.816.7809
Fax: 800.816.7810

Technical Services
Tel: 888.862.3289
Fax: 901.252.1321

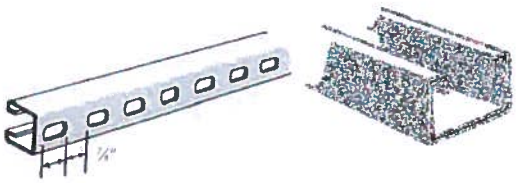
Tool Services
Tel: 800.284.8665



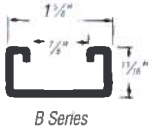
Type #316 Stainless Steel Products (T316SS Suffix)



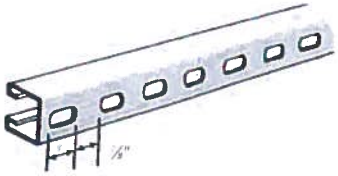
A-1200-T316SS



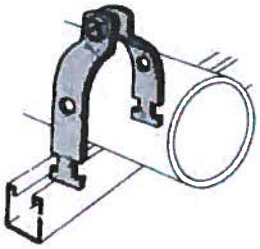
A-1200-HS-T316SS



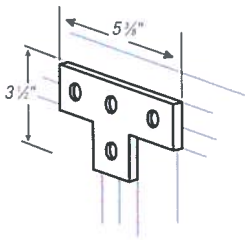
B-1400-T316SS



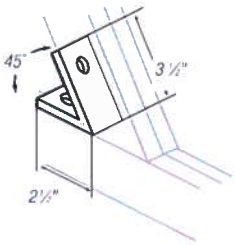
B-1400-HS-T316SS



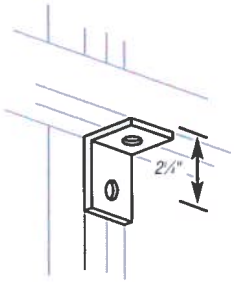
702
Pipe and Rigid or IMC Conduit Clamp



AB220



AB225



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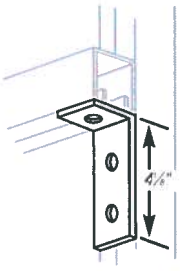
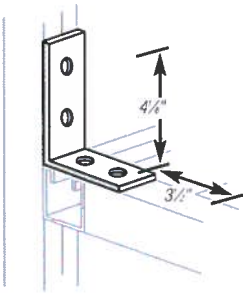


AB203



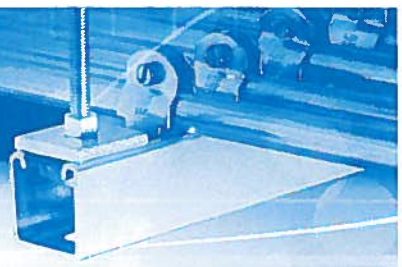
AB205

H-104

- Hanger rod
- Continuous threaded

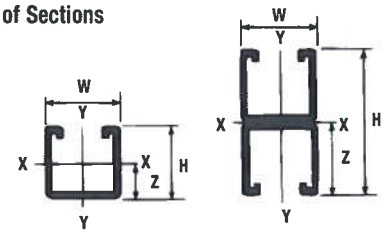
CAT. NO.	NATIONAL COARSE THREAD SIZE (IN.)	THREADS PER INCH	DESIGN LOAD (LBS.)	STD. CTN.
H-104-1-1/4SS316	1¼	20	150	500
H-104-3/8SS316	⅜	16	610	500
H-104-1/2SS316	½	13	1,130	500
H-104-5/8SS316	⅝	11	1,810	500
H-104-3/4SS316	¾	10	2,710	500
H-104-7/8SS316	⅞	9	3,770	500
H-104-1SS316	1	8	4,960	500

Standard lengths 12' only



Design Data — Metal Framing Channel

Elements of Sections



Single Channels *Double Channels*

Nominal Thickness (IN.)

12 ga. = .105
14 ga. = .075
16 ga. = .060

I — Moment of Inertia
S — Section of Modulas
r — Radius of Gyration
Z — Nominal Axis
A — Area

Table 1 — Properties for Design: Single Channel

CAT. NO.	H IN.	W IN.	A IN.2	X-X AXIS I IN.4	X-X AXIS S IN.3	X-X AXIS R IN.	X-X AXIS Z IN.	Y-Y AXIS I IN.4	Y-Y AXIS S IN.3	Y-Y AXIS R IN.
A-1200	1.625	1.625	.557	.192	.212	.587	.719	.237	.292	.652
B-1200	.813	1.625	.381	.031	.063	.283	.331	.137	.168	.600
C-1200	1.375	1.625	.500	.121	.155	.492	.595	.205	.252	.640
E-1200	2.438	1.625	.726	.529	.399	.853	1.112	.335	.413	.679
H-1200	3.250	1.625	.897	1.100	.635	1.107	1.507	.436	.536	.697
A-1400	1.625	1.625	.401	.134	.146	.577	.707	.184	.226	.677
B-1400	.813	1.625	.280	.024	.051	.295	.338	.103	.127	.607

Table 1 — Properties for Design: Double Channel

CAT. NO.	H IN.	W IN.	A IN.2	X-X AXIS I IN.4	X-X AXIS S IN.3	X-X AXIS R IN.	X-X AXIS Z IN.	Y-Y AXIS I IN.4	Y-Y AXIS S IN.3	Y-Y AXIS R IN.
A-1202	3.250	1.625	1.114	.948	.583	.992	1.625	.474	.584	.652
B-1202	1.626	1.625	.762	.147	.181	.439	.813	.274	.337	.600
C-1202	2.750	1.625	1.000	.595	.433	.772	1.375	.409	.504	.640
E-1202	4.876	1.625	1.450	2.854	1.171	1.402	2.438	.672	.827	.680
H-1202	6.500	1.625	1.794	6.273	1.930	1.870	3.250	.871	1.072	.697
A-1402	3.250	1.625	.801	.668	.411	.913	1.625	.367	.452	.677
B-1402	1.626	1.625	.560	.112	.138	.447	.813	.206	.254	.607

Table 2 — Load Ratings for ½" Strut Nuts used in Superstrut Channel

CHANNEL NO.	SLIP RESISTANCE (LBS.)	PULL-OUT STRENGTH (LBS.)
A-1200	1,500	2,000
C-1200	1,500	2,000
B-1200	1,400	1,400
A-1400	1,000	1,400
B-1400	1,000	1,400

Safety Factor of 3

If connections will be subjected to dynamic or seismic loading conditions, contact Thomas & Betts Technical Services for design assistance.