



SMART PROGRAM RENOVATIONS
NOVA MIDDLE SCHOOL – Loc #1311
SBBC Project: P.001898

SPEC SECTION **16072**
ELECTRICAL SUPPORTING DEVICES

By Integ : C. Gonzalez



USA
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Sunrise, FL 33351
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Miami, FL 33172



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Location: Calle Potrerillos, de Holcim,
100 mts al este, Contiguo a Ofibodegas
Milano, Costa Rica.
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PANAMÁ
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Teléfono: + (507) 398-3483



BRASIL
Location: Rua Padre Machado,
455, CJ 13, São Paulo - Brasil
Teléfono: + 55 11 5081-3252

Submittal #519

FO-INTEG-PROJECT-PO0001-REV.03 Gestión de Control de Calidad / Quality Management

Information

Status: In Review

P.R.S

Legend
 Overdue Issue On Time Delayed
 Start Inactive

Company: Integ Miami LLC

Project (CDC) - Job Number: 511-P-E-NOVA MD SCHOOL - 15JUL2020

Customer Name

Project (CDC) - Customer Name

Project (CDC) - Location: 3602 College Avenue, Fort Lauderdale, Florida 33314

Submittal

Description: 16072 - Electrical Supporting Devices

- Anchors
- Fasteners
- Hangers
- Supports

Title: SECTION 16072 (26 05 29)	Spec Section: 16072 Paragraphs 2.1.A	Subdivision: Electrical	Submittal Type: Product Data	Submitted On: 29-07-2020	Responsible Contractor: Integ Miami LLC
Electrical Supporting Devices					

Submittal Manager: Claudia Gonzalez

Issue Date: 29-07-2020 12:00 AM Final Due Date:

Ball in Court: Burke Construction Lead Time: 2 Priority: Intermedium

Attachment

Attachment:

Linked Drawings:

Notes:

Stamp Info

Stamp Date:

Other Name:

 Show Stamp on PDF:**Submittal WorkFlow**

Add Submittal LOG

Submittal logs

Record ID#	Submittal # - Project (CDC) - CDC (Centro de Costo)	Submittal # - Status:	Submittal Status	Submittal # - Description:	Related Submittal #	Date Submittal REV	Comments:	Attachment Document:
499	511-P-E-NOVA MD SCHOOL - 15JUL2020	In Review	Rev 0	16072 - Electrical Supporting Devices - Anchors - Fasteners - Hangers - Supports	519	30-07-2020		

Submittal Approval

Approval

Approvers:

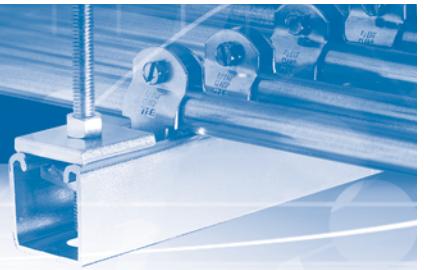
Name/Title:

Signature _____

This submittal has an approval time of 15 days. After this period of time elapses and no response has been provided from the Engineer/GC, Integ reserves the right to assume that the submittal has been approved.

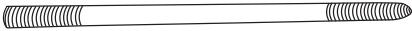
Responsible Henry Palma**Rp Email** Project M. Asistant

Created on July 29 at 2:37 PM (PDT). Last updated by [Project M. Asistant](#) today at 8:44 AM (PDT). Owned by [Project M. Asistant](#).



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	$\frac{3}{8}$	4, 6, 8, 10, 12	100
E-151-1/2	$\frac{1}{2}$	4, 6, 8, 10	100

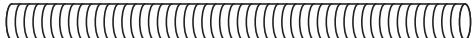
R-Series Continuous Thread Rod — Galvanized



CAT. NO.	ROD SIZE	ULTIMATE LOAD IN LBS.	DATA FOR PRESSURE PIPING				STD. CTN.
			#	ROOT AREA	NOMINAL THREAD	PIPE SIZE	
R628-6 FT.	$\frac{1}{4}$ -20	900	.027	—	—	—	300
R638-6 FT.	$\frac{3}{8}$ -16	1,900	.068	$\frac{3}{4}$ "-2"	610	150	
R648-6 FT.	$\frac{1}{2}$ -13	3,500	.126	$2\frac{1}{2}$ "-3 $\frac{1}{2}$ "	1,130	60	
R1028-10 FT.	$\frac{1}{4}$ -20	900	.027	—	—	500	
R1038-10 FT.	$\frac{3}{8}$ -16	1,900	.068	$\frac{3}{4}$ "-2"	610	250	
R1048-10 FT.	$\frac{1}{2}$ -13	3,500	.126	$2\frac{1}{2}$ "-3 $\frac{1}{2}$ "	1,130	100	

‡ Load Ratings based on safety factor of three.

H-104 — Hanger Rod: Continuous Thread



H-104 Series Rod

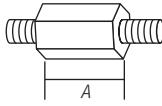
CAT. NO.	SIZE (IN.)	THREADS PER INCH	DESIGN LOAD LBS.	STD. CTN.
H-104-1/4	$\frac{1}{4}$	20	150	*
H-104-3/8	$\frac{3}{8}$	16	610	*
H-104-1/2	$\frac{1}{2}$	13	1,130	*
H-104-5/8	$\frac{5}{8}$	11	1,810	*
H-104-3/4	$\frac{3}{4}$	10	2,710	*
H-104-7/8	$\frac{7}{8}$	9	3,770	*
H-104-1	1	8	4,960	*

Black available upon request.

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

Standard Finish — GoldGalv®, unless otherwise stated.

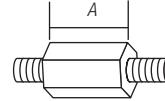
Standard Rod Coupling



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

Standard Finish — GoldGalv®, unless otherwise stated.

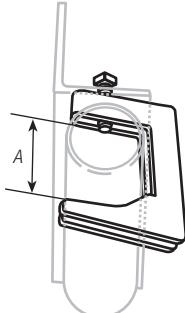
Reducing Rod Coupling



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

Beam Clamps for Mounting Pipe and Conduit

U-571, U-572 Conduit Clamp



U-571, U-572

CAT. NO.	CONDUIT SIZE (IN.)	MAX. FLANGE THICKNESS (IN.)	DIM. A (IN.)	STD. CTN.
U-571	$\frac{1}{2}$	1	$1\frac{1}{4}$	25
U-571	$\frac{3}{4}$	$\frac{3}{4}$	$1\frac{1}{4}$	25
U-571	1	$\frac{1}{2}$	$1\frac{1}{4}$	25
U-572	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{2}$	25
U-572	1	$1\frac{1}{4}$	$2\frac{1}{2}$	25
U-572	$1\frac{1}{4}$	1	$2\frac{1}{2}$	25
U-572	$1\frac{1}{2}$	$\frac{5}{8}$	$2\frac{1}{2}$	25

Standard Finish — GoldGalv® brand.

For attaching $\frac{1}{2}$ " thru $1\frac{1}{2}$ " conduit to beam, channel, angle or column.
Secures conduit to the support parallel or at right angles to it.

$\frac{7}{16}$ " set screw, 12 ga. material.

Corporate Office
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

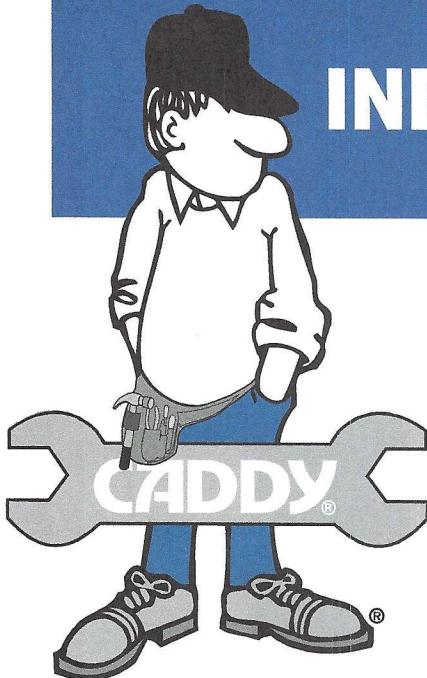
Customer Service
Tel: 800.816.7809
Fax: 800.816.7810

Technical Services
Tel: 888.862.3289
Fax: 901.252.1321

Tool Services
Tel: 800.284.8665

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INDUSTRIAL APPLICATIONS



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Our value-added, spring steel fasteners have earned a reputation for innovation and quality.

ERICO is building on this reputation by bringing CADDY Fasteners innovation to our new offering of supports and fasteners for the installation of heavier electrical systems.

*We manufactured a new family of fasteners specifically for heavy duty industrial construction.
For example, our 6000 Clamping System was made to specifically attach or suspend services such as cable tray, large equipment or pipe works, with maximum security onto steel beams.*



6000 Clamping System

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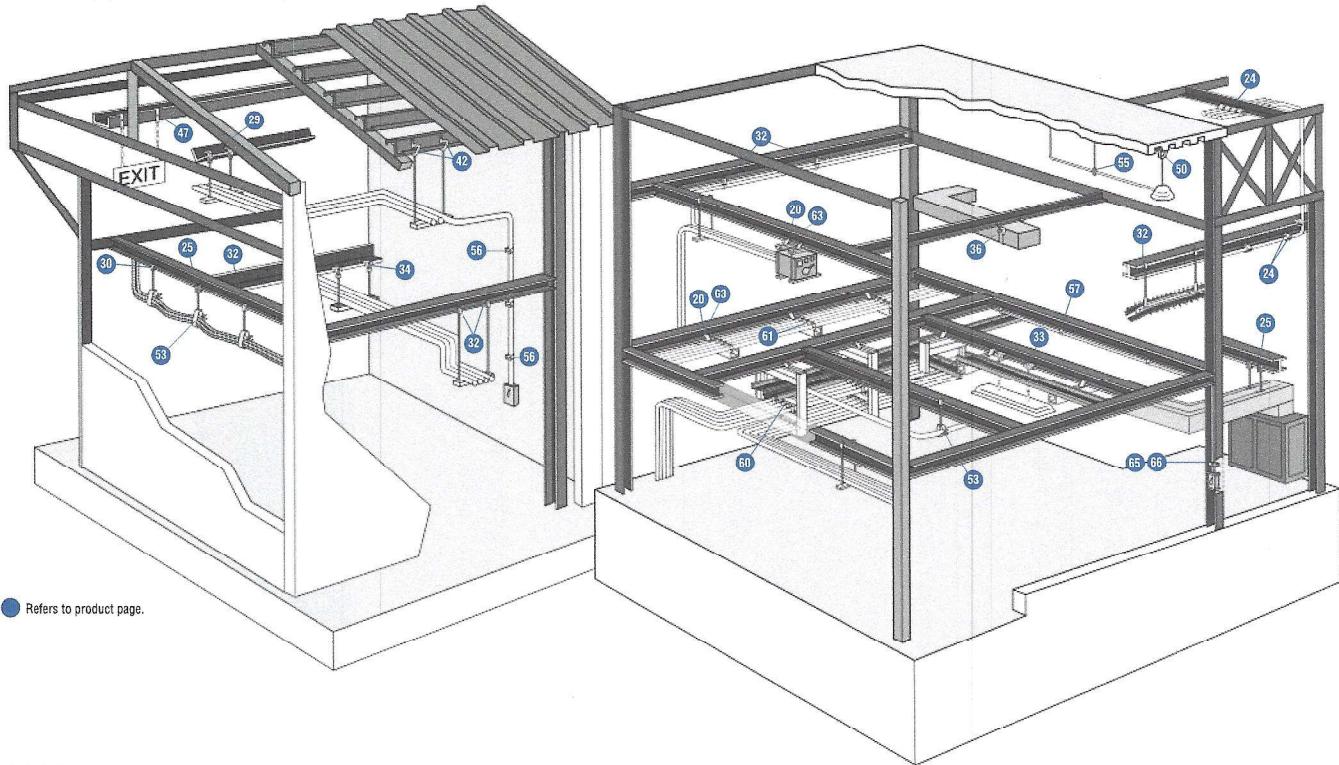


CADDY® Fasteners, a standard in the electrical industry



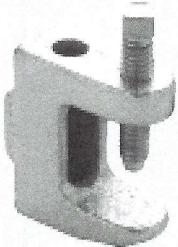
Structural fastening systems require a high degree of reliability, and any compromise on quality cannot be accepted. Every detail of a CADDY Fastener, from its initial conception through design, manufacture and corrosion protection qualities, is aimed towards increasing safety and reliability.

"On-Site" application examples . . .



● Refers to product page.

(continued on page 12)



Page 30

BC26 Beam Clamp

3/4" (20 mm)

250 Lbs. (1.1 kN)



Page 31

BC200 & BC400

3/4" (20 mm)

200 Lbs. (0.9 kN)



Page 32

BC Beam Clamps

3/8" (16 mm)

100 Lbs. (0.5 kN)

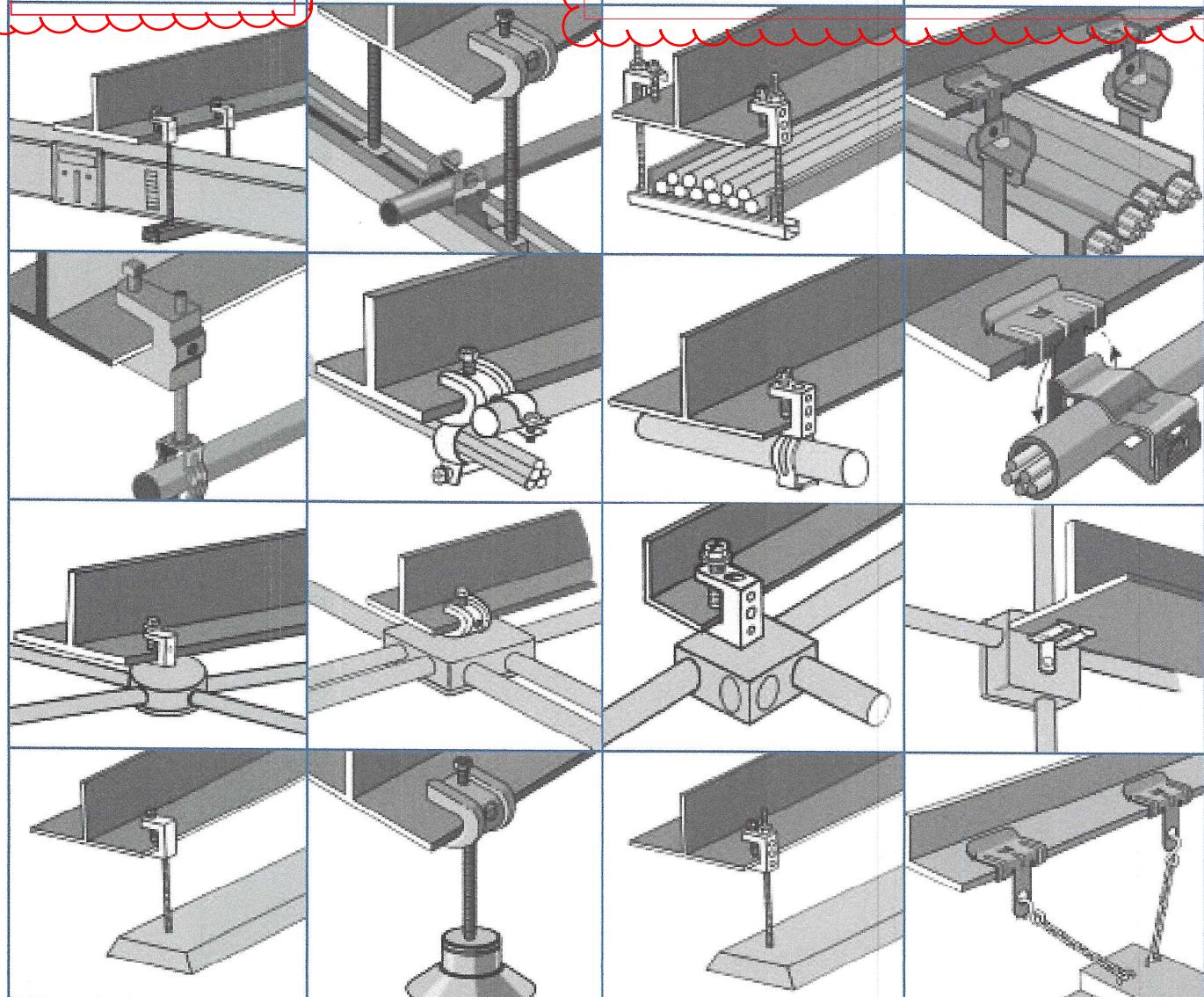


Page 33

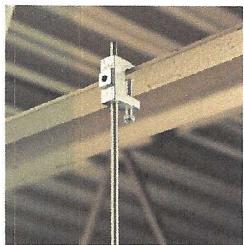
H Series Hammer On

3/4" (20 mm)

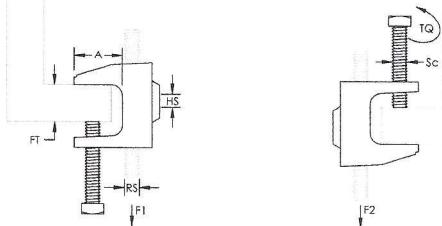
200 Lbs. (0.9 kN)



BC26 Universal Beam Clamp with Tapped Hole – BC260025EG



- One thru-hole for easier installation of threaded rod
- Conforms with Federal Specification WW-H-171 (Type 23), Manufacturers Standardization Society ANSI®/MSS-SP-58 (Type 19 and 23)



Part Number	BC260025EG
Material	Cast Iron
Finish	Electrogalvanized
Rod Size (RS)	1/4"
Flange Thickness (FT)	13/16" Max
A	13/16"
Hole Size (HS)	1/4"
Hole Type	Threaded
Screw Diameter (Sc)	1/4"
Torque (TQ)	40 ft-lb
Static Load 1 (F1)	250 lb
Static Load 2 (F2)	100 lb
Standard Packaging Quantity	100 pc
UPC	78285634025

Setscrew must be tightened and torqued onto the sloped side of the I-beam.

Recognizing that torque wrenches are generally not used or available on many job sites, the setscrew should be tightened so it contacts the I-beam and then an additional 1/4 to 1/2 turn added.

ANSI is a registered trademark of American National Standards Institute.

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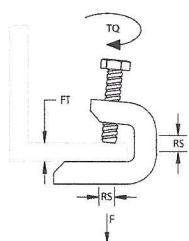
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BC200/BC400 Beam Clamp – BC200



- Threaded hole on back and bottom



Part Number	BC200
Material	Steel
Finish	Electrogalvanized
Rod Size (RS)	1/4"
Flange Thickness (FT)	1/2" Max
Torque (TQ)	20 in lb
Static Load (F)	100 lb
Certifications	cULus
Standard Packaging Quantity	50 pc
UPC	78285619300
CAN-13	8711893115123

Setscrew must be tightened and torqued onto the sloped side of the I-beam.

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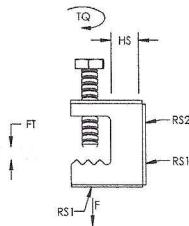
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BC Beam Clamp – BC



- Easy installation to beam flanges



Part Number	BC
Material	Spring Steel
Finish	nVent CADDY Armour
Rod Size 1 (RS1)	1/4"
Rod Size 2 (RS2)	#10
Hole Size (HS)	7/16"
Flange Thickness (FT)	1/2" Max
Torque (TQ)	20 in-lb
Static Load (F)	100 lb
Certifications	UL
Standard Packaging Quantity	100 pc
UPC	78285619100

Setscrew must be tightened and torqued onto the sloped side of the I-beam.

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WARNING

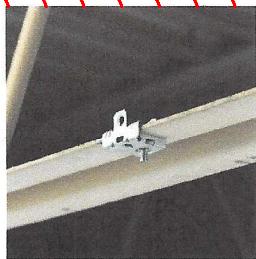
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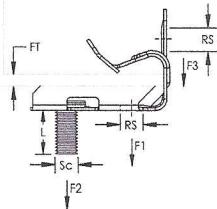
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Hammer-On Flange Clip, Bottom Mount with Stud – M58S



- Can be used to support boxes, fixtures or other applications from beam flanges
- Captive threaded stud minimizes the need for additional hardware
- Assorted attachment points provided to reduce inventory
- Requires only a hammer to install



Part Number	M58S
Material	Spring Steel
Finish	nVent CADDY Armour
Flange Thickness (FT)	5/16" – 1/2"
Rod Size (RS)	1/4"
Screw Diameter (Sc)	1/4"
Screw Length (L)	3/8"
Static Load 1 (F1)	100 lb
Static Load 2 (F2)	75 lb
Static Load 3 (F3)	25 lb
Certifications	cULus
Standard Packaging Quantity	100 pc
UPC	78285617638

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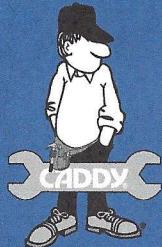
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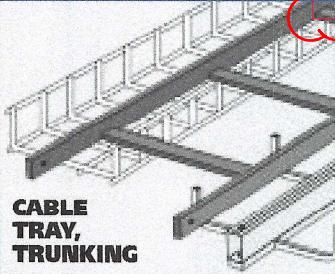
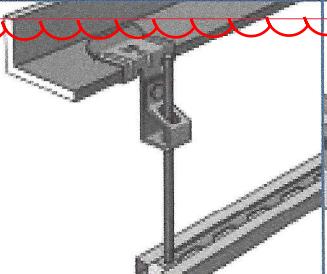
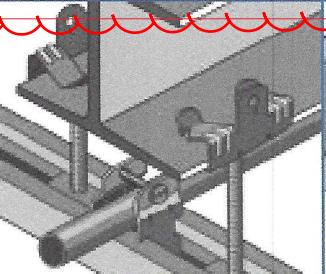
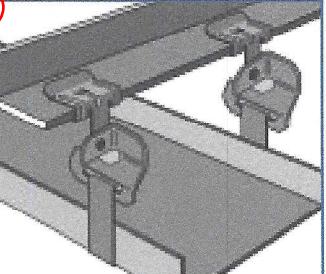
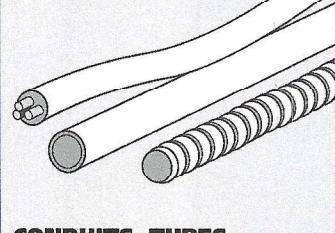
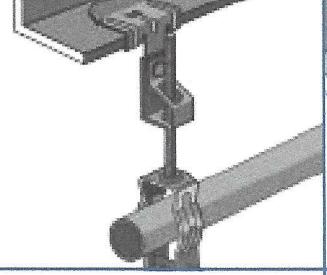
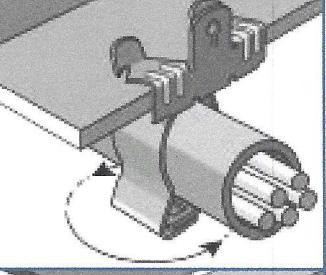
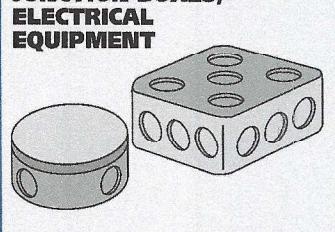
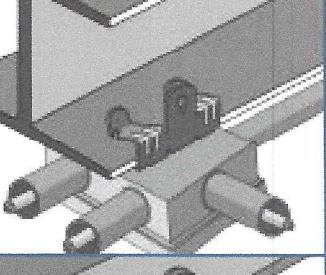
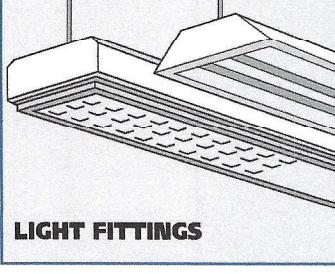
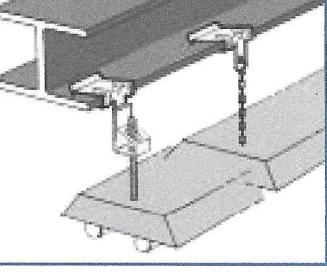
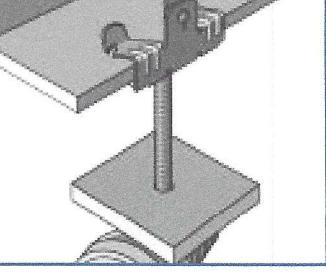


STEEL BEAMS

(continued from page 11)

REVIEWED

By Rafael A Mogollon at 4:18 pm, Jun 11, 2020

			
	Page 34	Page 35	Page 36
Flange Size (up to)	H Series Hammer On 3/4" (20 mm)	Hammer On Flange 3/4" (20 mm)	Strap Hanger Clips 3/4" (20 mm)
Load Rating (up to)	200 Lbs. (0.9 kN)	100 Lbs. (0.5 kN)	200 Lbs. (0.9 kN)
CABLE TRAY, TRUNKING 			
CONDUITS, TUBES 			
JUNCTION BOXES, ELECTRICAL EQUIPMENT 			
LIGHT FITTINGS 			

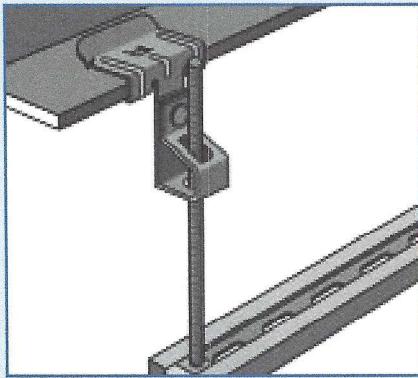


H SERIES HAMMER ON FLANGE CLIPS

For attaching or suspending conduits, pipe, cables or components with threaded rods from structural sections.

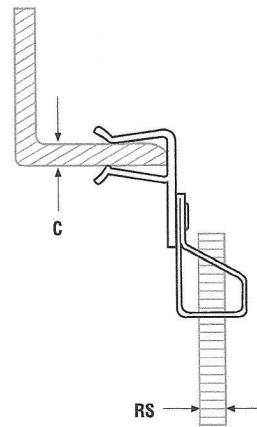


STEEL BEAM



FEATURES

- Used to suspend 1/4" or 3/8" threaded rod from beam flanges 1/8" - 3/4" (3 - 20 mm) thick.
- Requires only hammer to install.



Part Number	C IN	C mm	RS (Threaded)	Coating	Lbs. 100	N 200	N 0.90
4TI24	1/8" - 1/4"	3 - 8	1/4"-20	ZP	100	200	0.90
4TI58	5/16" - 1/2"	8 - 14	1/4"-20	ZP	100	200	0.90
4TI912	9/16" - 3/4"	14 - 20	1/4"-20	ZP	100	200	0.90
6TI24	1/8" - 1/4"	3 - 8	3/8"-16	ZP	100	200	0.90
6TI58	5/16" - 1/2"	8 - 14	3/8"-16	ZP	100	200	0.90
6TI912	9/16" - 3/4"	14 - 20	3/8"-16	ZP	100	200	0.90

INSTALLATION TOOLS

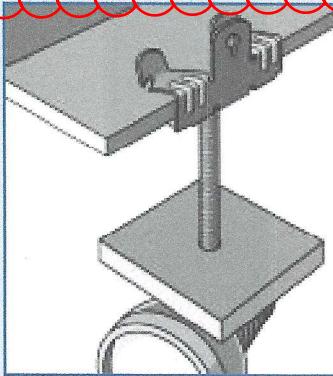
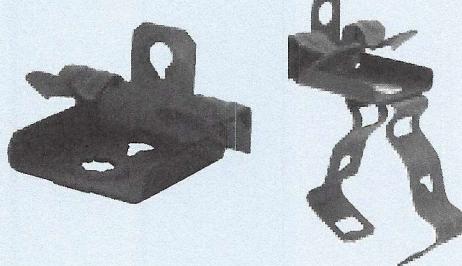


A = Flange Width C = Flange Size Ø = Diameter H = Fastener Height M = Bolt Size P = Fastener Width PS = Pipe Size Rigid/EMT RS = Rod Size



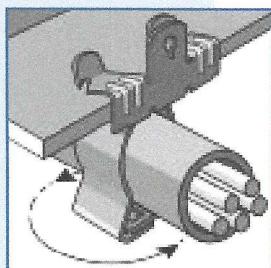
HAMMER ON FLANGE CLIPS

Threaded rod, direct attachment to beam clamps, or direct attachment to structure.

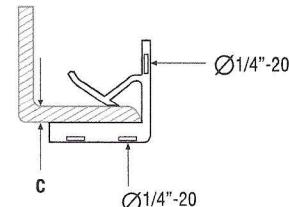


FEATURES

- Provided with 1/4"-20 thread impression to support threaded rod.
- Also available with a staked stud, 1/4"-20 x 3/8" to provide easier attachment of outlet boxes to beams. Eliminates having to use loose screws.
- Available with CADDY conduit clip bottom mounted or side mounted.
- Available for 3/8" thru 2" EMT, rigid and aluminum conduit.
- Requires only hammer and pliers to install.
- Will pivot thru 360°.

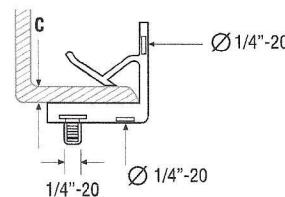


INSTALLATION TOOLS



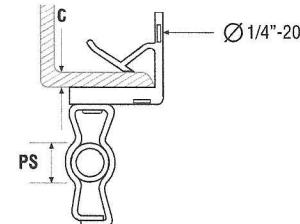
Flange Clip

Part Number	IN	mm	RS	Coating	Lbs.	kN
M24	1/8" - 1/4"	3 - 8	1/4"-20	ZP	100	100
M58	5/16" - 1/2"	8 - 14	1/4"-20	ZP	100	100
M912	9/16" - 3/4"	14 - 20	1/4"-20	ZP	100	100



Flange Clip with Stud

Part Number	C		Coating	Lbs.	kN
	IN	mm			
M24S	1/8" - 1/4"	3 - 8	ZP	100	0.33
M58S	5/16" - 1/2"	8 - 14	ZP	100	0.33
M912S	9/16" - 3/4"	14 - 20	ZP	100	0.33



ASSEMBLIES

Part Number	C		PS		Coating	Lbs.	kN
	IN	mm	Rigid & EMT	Coating			
6M24	1/8" - 1/4"	3 - 8	3/8" MC/AC	ZP	100	75	0.33
6M58	5/16" - 1/2"	8 - 14	3/8" MC/AC	ZP	100	75	0.33
6M912	9/16" - 3/4"	14 - 20	3/8" MC/AC	ZP	100	75	0.33
812M24	1/8" - 1/4"	3 - 8	1/2" to 3/4"	ZP	100	75	0.33
812M58	5/16" - 1/2"	8 - 14	1/2" to 3/4"	ZP	100	75	0.33
812M912	9/16" - 3/4"	14 - 20	1/2" to 3/4"	ZP	100	75	0.33
16M24	1/8" - 1/4"	3 - 8	1"	ZP	100	75	0.33
16M58	5/16" - 1/2"	8 - 14	1"	ZP	100	75	0.33
16M912	9/16" - 3/4"	14 - 20	1"	ZP	100	75	0.33
20M24	1/8" - 1/4"	3 - 8	1-1/4"	ZP	100	75	0.33
20M58	5/16" - 1/2"	8 - 14	1-1/4"	ZP	100	75	0.33
20M912	9/16" - 3/4"	14 - 20	1-1/4"	ZP	50	75	0.33
24M24	1/8" - 1/4"	3 - 8	1-1/2"	ZP	50	75	0.33
24M58	5/16" - 1/2"	8 - 14	1-1/2"	ZP	50	75	0.33
24M912	9/16" - 3/4"	14 - 20	1-1/2"	ZP	50	75	0.33
32M24	1/8" - 1/4"	3 - 8	2"	ZP	50	75	0.33
32M58	5/16" - 1/2"	8 - 14	2"	ZP	50	75	0.33

A = Flange Width

C = Flange Size

\odot = Diameter

H = Fastener Height

M = Bolt Size

P = Fastener Width

PS = Pipe Size Rigid/EMT

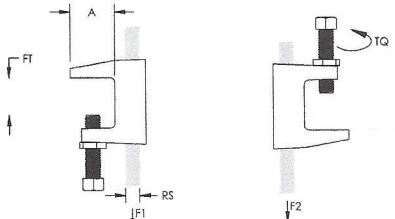
RS = Rod Size

STEEL BEAM

300 Universal Beam Clamp – 3000037EG



- Conforms with Federal Specification WW-H-171 (Type 23), Manufacturers Standardization Society ANSI®/MSS-SP-58 (Type 19 and 23)



Part Number	3000037EG
Material	Cast Iron
Finish	Electrogalvanized
Rod Size (RS)	3/8"
Flange Thickness (FT)	3/4" Max
A	1 1/8"
Torque (TQ)	5 ft lb
Static Load 1 (F1)	500 lb
Static Load 2 (F2)	250 lb
Certifications	cULus FM
Standard Packaging Quantity	100 pc
UPC	78285633976
EAN-13	8711893090734

Setscrew must be tightened and torqued onto the sloped side of the I beam.

Recognizing that torque wrenches are generally not used or available on many job sites, the setscrew should be tightened so it contacts the I-beam and then an additional 1/4 to 1/2 turn added.

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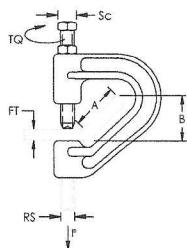
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315 Malleable Iron Purlin Clamp



- Attaches to lower flange of metal beams or purlins
- Supports 45° flanges up to 2" long, and 90° flanges up to 1-1/2" high
- Conforms with Federal Specification WW-H-171 (Type 23), Manufacturers Standardization Society ANSI®/MSS-SP-58 (Type 23)



Material: Cast Iron



Part Number	Rod Size RS	Flange Thickness FT	A	B	Screw Diameter Sc	Torque TQ	Pipe Size	Static Load F
Finish: Plain								
3150037PL	3/8"	1" Max	2"	1 1/2"	3/8"	5 ft lb	4" Max	400 lb
Finish: Electrogalvanized								
3150037EG	3/8"	1" Max	2"	1 1/2"	3/8"	5 ft lb	4" Max	400 lb

Setscrew must be tightened and torqued onto the sloped side of the I-beam.

Install in accordance with applicable code.

Recognizing that torque wrenches are generally not used or available on many job sites, the setscrew should be tightened so it contacts the I-beam and then an additional 1/4 to 1/2 turn added.

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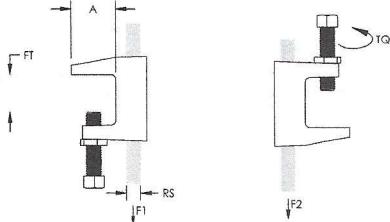
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310 Universal Beam Clamp, Thick Flange – 3100050EG



- Universal beam clamp for thick beams
- Conforms with Federal Specification WW-H-171 (Type 23), Manufacturers Standardization Society ANSI®/MSS-SP-58 (Type 19 and 23)



Part Number	3100050EG
Material	Cast Iron
Finish	Electrogalvanized
Rod Size (RS)	1/2"
Flange Thickness (FT)	1 1/4" Max
A	1"
Torque (TQ)	17 ft-lb
Static Load 1 (F1)	950 lb
Static Load 2 (F2)	760 lb
Certifications	cULus FM
Standard Packaging Quantity	50 pc
UPC	78285633991

Setscrew must be tightened and torqued onto the sloped side of the I-beam.

Recognizing that torque wrenches are generally not used or available on many job sites, the setscrew should be tightened so it contacts the I-beam and then an additional 1/4 to 1/2 turn added.

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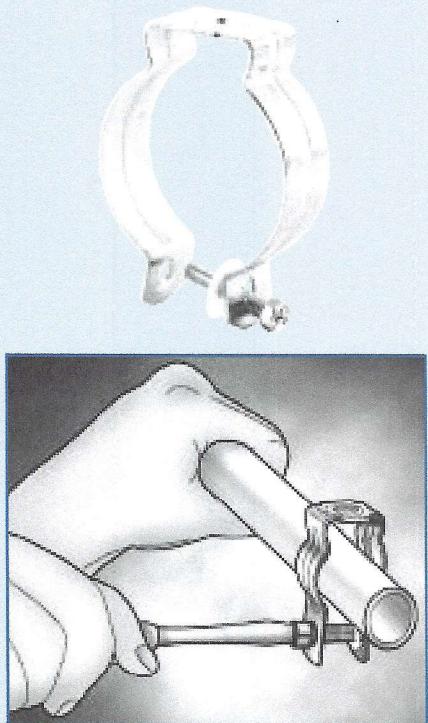
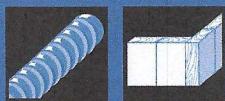
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CD SERIES CONDUIT CLIP

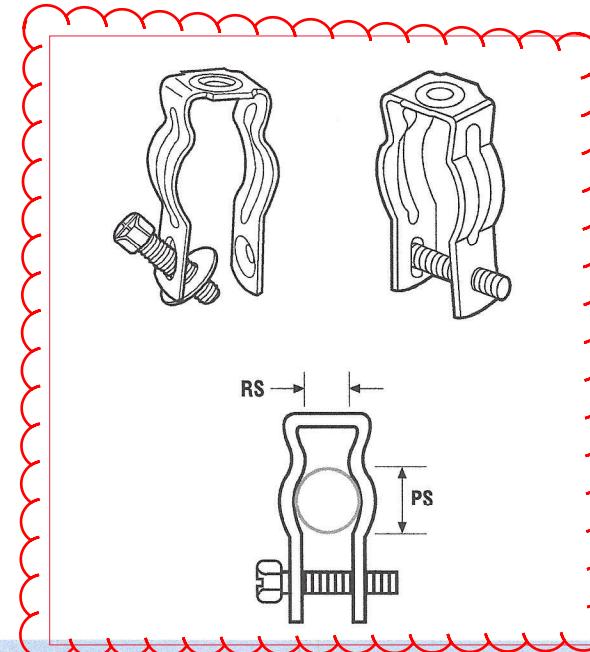
Conduit and pipe support for suspension from threaded rod, direct attachment to beam clamps, or direct attachment to structure.



FEATURES

- Fast and easy installation – installs with screwdriver or nut driver.
- Now with Slotted, Hex, Phillips, Robertson combo head.
- Accommodates 1/2" thru 4" EMT or rigid conduit.
- Mounting hole size CD0 thru CD3 for 1/4" bolt. CD4 thru CD9 for 5/16" bolt.
- Retained bolt and built-in nut means there are less parts to handle or drop. Electrogalvanized zinc finish.
- Can be used in all locations where EMT or rigid conduit is used.

INSTALLATION TOOLS



Mild Steel	Coating	Stainless Steel	Material	RS	PS		Lbs.	kN
					Rigid	EMT		
CD0B*	EG	CD0BSS	SS	1/4"	1/2"	1/2"	100	250
CD1B*	EG	CD1BSS	SS	1/4"	3/4"	3/4"	100	250
CD2B*	EG	CD2BSS	SS	1/4"	1	1	100	250
CD2.5B*	EG	CD2.5BSS	SS	1/4"	—	1-1/4"	100	250
CD3B*	EG	CD3BSS	SS	1/4"	1-1/4"	1-1/2"	100	250
CD4B*	EG	CD4BSS	SS	5/16"	1-1/2"	—	50	350
CD5B*	EG	CD5BSS	SS	5/16"	2	2	50	350
CD6B	EG	CD6BSS	SS	5/16"	2-1/2"	2-1/2"	25	350
CD7B	EG	CD7BSS	SS	5/16"	3	3	25	350
CD8B	EG	CD8BSS	SS	5/16"	3-1/2"	3-1/2"	10	350
CD9B	EG	CD9BSS	SS	5/16"	4	4	10	350

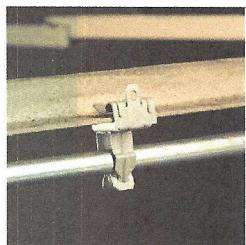
*Manufactured with retained bolt and built-in nut.

Also available in stainless steel 302. Contact factory for price and delivery.

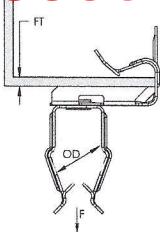
To order add suffix **SS** (ie. CD2B-**SS**).

Stainless does not have nutless feature.

EM-P Conduit to Flange Clip – 16P58



- Requires only a hammer to install
- Available for EMT, rigid, IMT and aluminum conduit
- Will pivot thru 360°



Part Number	16P58
Material	Spring Steel
Finish	nVent CADDY Armour
EMT Conduit Size	1"
Rigid Conduit Size	3/4"
Outer Diameter (OD)	1.181" – 1.378"
Flange Thickness (FT)	5/16" – 1/2"
Ultimate Static Load (F)	25 lb
Orientation	Top Mount
Standard Packaging Quantity	50 pc
UPC	78285617266
EAN-13	8711893751536

WARNING

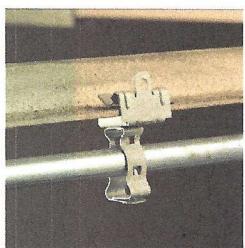
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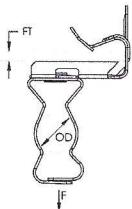
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EM-M Conduit/Pipe to Flange Clip – 812M24



- Supports conduit/pipe or cable from beam flanges
- Snap close clip pivots a full 360°
- Requires only a hammer to install



Part Number	812M24
Material	Spring Steel
Finish	nVent CADDY Armour
EMT Conduit Size	1/2" 3/4"
Rigid Conduit/Pipe Size	1/2" 3/4"
Outer Diameter [OD]	0.71" – 1.18"
Flange Thickness [FT]	1/8" – 1/4"
Static Load (F)	75 lb
Standard Packaging Quantity	10 pc
UPC	78285616210

WARNING

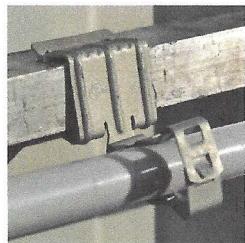
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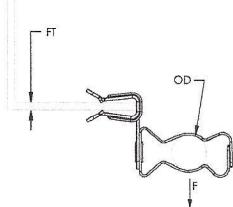
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H-MSM Conduit/Pipe to Flange Clip, Side Mount – 24M24SM



- Supports conduit/pipe or cable from beam flanges
- Snap close clip pivots a full 360°
- Requires only a hammer to install



Part Number	24M24SM
Material	Spring Steel
Finish	nVent CADDY Armour
EMT Conduit Size	1 1/2"
Rigid Conduit/Pipe Size	1 1/2"
Outer Diameter (OD)	1.54" - 1.98"
Flange Thickness (FT)	1/8" - 1/4"
Static Load (F)	25 lb
Certifications	UL®
Standard Packaging Quantity	50 pc
UPC	78285611224
EAN-13	8711893766936

UL, UR, cUL, cUR, cULus and cURus are registered certification marks of UL LLC.

WARNING

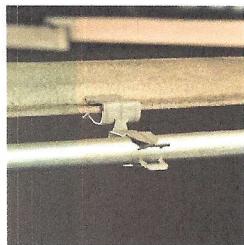
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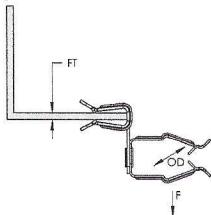
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H-PSM Conduit to Flange Clip, Side Mount



- Requires only a hammer to install
- Available for EMT, rigid and aluminum conduit
- Will pivot thru 360°



Orientation: Side Mount

Material: Spring Steel

Finish: nVent CADDY Armour

Part Number	Article Number	Outer Diameter OD	Flange Thickness FT	Ultimate Static Load F
8P4SM	175170	18 - 22 mm	2 - 3 mm	111 N
8P24SM	175180	18 - 22 mm	3 - 8 mm	111 N
8P58SM	175190	18 - 22 mm	8 - 14 mm	111 N
8P912SM	175200	18 - 22 mm	14 - 20 mm	111 N
12P4SM	175210	22 - 30 mm	2 - 3 mm	111 N
12P24SM	175220	22 - 30 mm	3 - 8 mm	111 N
12P58SM	175230	22 - 30 mm	8 - 14 mm	111 N
12P912SM	175240	22 - 30 mm	14 - 20 mm	111 N
16P4SM	175250	30 - 35 mm	2 - 3 mm	111 N
16P24SM	175260	30 - 35 mm	3 - 8 mm	111 N
16P58SM	175270	30 - 35 mm	8 - 14 mm	111 N
16P912SM	175280	30 - 35 mm	14 - 20 mm	111 N

WARNING

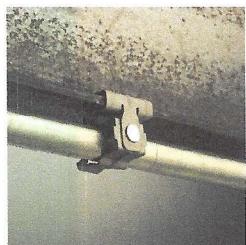
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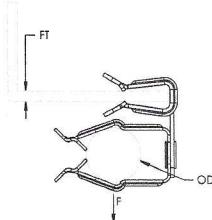
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H-PIN Conduit to Flange Clip



- Supports conduit from beam
- Requires only a hammer to install



Material: Spring Steel

Finish: nVent CADDY Armour

Part Number	Article Number	Outer Diameter OD	Flange Thickness FT	Static Load F
8P4IN	175290	18 - 22 mm	2 - 3 mm	70 N
8P24IN	175300	18 - 22 mm	3 - 8 mm	70 N
8P58IN	175310	18 - 22 mm	8 - 14 mm	70 N
12P4IN	175320	22 - 30 mm	2 - 3 mm	70 N
16P4IN	175330	30 - 35 mm	2 - 3 mm	70 N

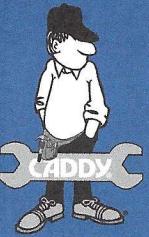
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STRUT NUTS

ACCESSORIES

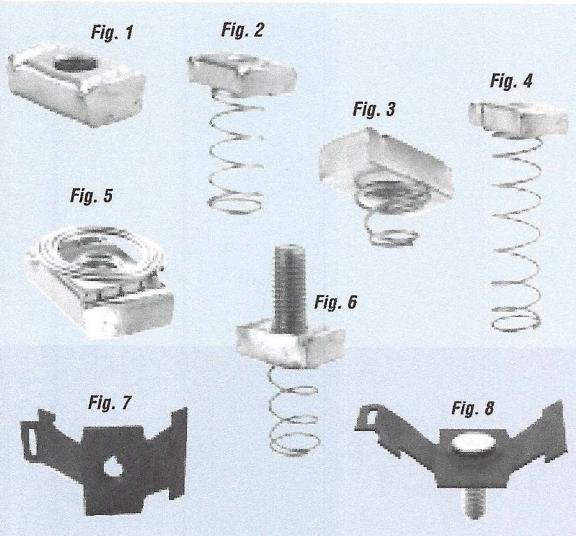


Fig. No.	Description	1/4	5/16	3/8	1/2	5/8	3/4
	1 Fits all strut 1-5/8" (41 mm) wide	NUT0025EG	NUT0031EG	NUT0037EG	NUT0050EG	NUT0062EG	NUT0075EG
	2 Fits 1-5/8" x 1-5/8" (41 mm x 41 mm) Fits 1-5/8" x 1-3/8" (41 mm x 35 mm)	SO	SPRA0037EG	SPRA0050EG	SO	SO	N/A
	3 Fits 1-5/8" x 1-13/16" (41 mm x 21 mm)	SPRC0025EG	SO	SPRC0037EG	SPRC0050EG	SO	SO
	4 Fits 1-5/8" x 2-7/16" (41 mm x 62 mm) Fits 1-5/8" x 3-1/4" (41 mm x 83 mm)	SPRD0025EG	SO	SPRD0037EG	SPRD0050EG	SO	SO
	5 Fits all strut 1-5/8" (41 mm) wide	TSNT0025EG	SO	TSNT0037EG	TSNT0050EG	SO	SO
	7 Fits all strut 1-5/8" (41 mm) wide	MFA4I	N/A	N/A	N/A	N/A	N/A
Length (L)		1/4	5/16	3/8	1/2	5/8	3/4
	8 5/8" (16 mm)	MFA625		NA		NA	
	6 7/8" (22 mm) 1-1/8" (28 mm) 1-3/8" (35 mm)	SPRM2508EG SPRM2511EG SO		SO SPRM3711EG SO		SO SPRM5011EG SPRM5013EG	

SO = Special Order

A = Flange Width C = Flange Size Ø = Diameter H = Fastener Height M = Bolt Size P = Fastener Width PS = Pipe Size Rigid/EMT RS = Rod Size

AMERICAN FITTINGS

Industrial SPECgrade EMT Steel Straps
One Hole and Two Hole Type



Since 1946



AMFICO Industrial **SPEC-grade™** EMT Straps

Materials:

Steel, Bright Electro-Zinc Plated Finish for Corrosion Resistance

Compliances:

Certified Made in the USA
Indoor or Outdoor Use



AMFICO Steel One and Two Hole Straps Snap On to the Conduit Allowing the Installer to Easily Position the Strap Prior to Mounting. Oversized Bolt Holes Make Alignment of the EMT Quick and Easy.

One-Hole EMT Type

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
CSE501	1/2"	100	1000	3
CSE751	3/4"	100	500	4
CSE1001	1"	50	250	6
CSE1251	1-1/4"	30	150	9
CSE1501	1-1/2"	25	125	13
CSE2001	2"	20	100	17
CSER2501	2-1/2"	-	20	42
CSER3001	3"	-	10	49
CSER3501	3-1/2"	-	10	71
CSER4001	4"	-	10	78

Two-Hole EMT Type

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
CSE502	1/2"	100	1000	2
CSE752	3/4"	100	500	3
CSE1002	1"	50	250	3
CSE1252	1-1/4"	30	150	6
CSE1502	1-1/2"	25	125	8
CSE2002	2"	15	75	14
CSER2502	2-1/2"	-	20	17
CSER3002	3"	-	10	23
CSER3502	3-1/2"	-	10	26
CSER4002	4"	-	10	33

One-Hole BX Type

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
CSBX381	12-2, 12-3, 10-2, 10-3	100	1000	1

AMERICAN FITTINGS

Industrial SPECgrade Rigid Conduit Steel Straps
One Hole and Two Hole



Since 1946



AMFICO Industrial **SPEC-grade™** Rigid Straps

Materials:

Steel, Bright Electro-Zinc Plated Finish for Corrosion Resistance

Compliances:

Certified Made in the USA
Indoor or Outdoor Use



AMFICO Steel One and Two Hole Straps Snap On to Rigid Conduit Allowing the Installer to Easily Position the Strap Prior to Mounting. Oversized Bolt Holes Make Alignment of the Rigid Conduit Quick and Easy.

One-Hole Rigid Type

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
CSR251	1/4"	100	1000	2
CSR371	3/8"	100	1000	3
CSR501	1/2"	50	500	4
CSR751	3/4"	50	250	5
CSR1001	1"	50	250	8
CSR1251	1-1/4"	25	125	11
CSR1501	1-1/2"	20	100	17
CSR2001	2"	10	50	22
CSER2501	2-1/2"	-	20	42
CSER3001	3"	-	10	49
CSER3501	3-1/2"	-	10	71
CSER4001	4"	-	10	78

Two-Hole Rigid Type

Cat. #	Size	Unit Ctn	Std Pkg	WT/ 100
CSR502*	1/2"	50	500	2
CSR752*	3/4"	50	250	3
CSR1002*	1"	50	250	5
CSR1252*	1-1/4"	25	125	7
CSR1502*	1-1/2"	20	100	12
CSR2002*	2"	10	50	15
CSER2502*	2-1/2"	-	20	17
CSER3002*	3"	-	10	23
CSER3502*	3-1/2"	-	10	26
CSER4002*	4"	-	10	33

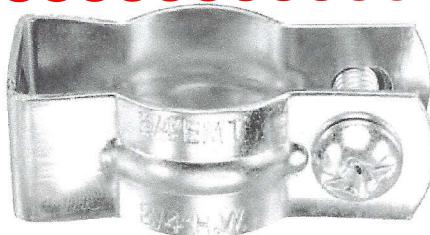
AMERICAN FITTINGS

Industrial SPECgrade

Bolted Hangers for EMT & Rigid Conduit



Since 1946



AMFICO Industrial **SPEC-grade™** EMT & Rigid Hanger

Materials:

Steel, Bright Electro-Zinc Plated Finish for Corrosion Resistance

Compliances:

Certified Made in the USA
Indoor or Outdoor Use



AMFICO Steel Hangers with Bolt, Fasten and Secure EMT or Rigid Conduit to Threaded Rod, Supports or Directly to Mounting Surface.

Selection Table

Cat. #	Trade Size	Conduit Size		Unit / CTN	Std / Pkg	WT/100
		Rigid	EMT			
CHBOUS	0	3/8"-1/2"	1/2"	50	250	7
CHB1US	1	3/4"	3/4"	50	250	7
CHB2US	2	1"	1"	25	125	8
CHB25US	2-1/2	-	1-1/4"	20	100	11
CHB3US	3	1-1/4"	1-1/2"	20	100	11
CHB4US	4	1-1/2"	-	10	50	19
CHB5US	5	2"	2"	10	50	22
CHB6US	6	2-1/2"	2 1/2"	-	25	28
CHB7US	7	3"	3"	-	20	31
CHB8US	8	3-1/2"	3-1/2"	-	10	32
CHB9US	9	4"	4"	-	10	37

EMT STRAPS

FOR EMT CONDUIT

APPLICATION

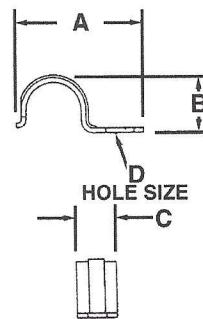
Click-on type one-hole straps for E.M.T. Provides support for the conduits, as required by the National Electrical Code.

STANDARD MATERIALS

Steel

STANDARD FINISH

Zinc Plated

**One-Hole****TYPE 143S**

CATALOG NUMBER	TRADE SIZE	DIM A	DIM B	DIM C	DIM D	UNIT PACK	MASTER PACK	LBS. / 100 PCS.	UPC #
142S	1/2"	1.720	0.700	0.550	0.312	100	1000	2	81427
143S	3/4"	1.980	0.975	0.630	0.312	100	1000	3	81437
144S	1"	2.210	1.090	0.750	0.312	50	500	4	81447
145S	1-1/4"	2.880	1.540	0.880	0.355	50	500	10	81457
146S	1-1/2"	3.140	1.750	0.990	0.335	-	50	16	81467
147S	2"	3.890	2.150	1.110	0.450	-	50	22	81477
158S	2-1/2"	4.925	2.825	1.245	0.550	-	25	62	81587
159S	3"	5.540	3.430	1.250	0.550	-	25	76	81597
160S	3-1/2"	6.260	3.900	1.250	0.575	-	10	120	81607
161S	4"	6.830	4.390	1.240	0.575	-	10	125	81613

APPLICATION

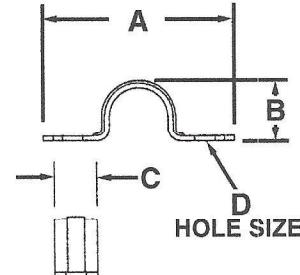
Snap-on type two-hole straps for E.M.T. are used where higher load bearing supports are desired.

STANDARD MATERIALS

Steel

STANDARD FINISH

Zinc Plated

**Two-Hole****TYPE 2143S**

CATALOG NUMBER	TRADE SIZE	DIM A	DIM B	DIM C	DIM D	UNIT PACK	MASTER PACK	LBS. / 100 PCS.	UPC #
2142S	1/2"	2.200	0.790	0.560	0.200	-	250	1	21427
2143S	3/4"	2.700	0.980	0.620	0.200	-	200	2	21437
2144S	1"	2.975	1.185	0.690	0.200	-	100	4	21447
2145S	1-1/4"	3.650	1.535	0.750	0.275	-	50	5	21457
2146S	1-1/2"	4.250	1.765	0.870	0.275	-	50	8	21467
2147S	2"	4.730	2.300	0.995	0.325	-	25	13	21477
2158S	2-1/2"	6.025	2.855	0.985	0.345	-	25	20	21533
2159S	3"	6.460	3.425	0.995	0.345	-	20	25	21597
2160S	3-1/2"	7.300	3.925	0.990	0.345	-	10	33	21535
2161S	4"	7.895	4.435	0.995	0.345	-	10	36	21617





CONDUIT SUPPORT FITTINGS



Conduit Hangers with Bolts



Conduit Hangers with Threaded Holes

APPLICATIONS

- For use in wet or dry locations to support runs of rigid/IMC and EMT conduit from ceilings and walls

PRODUCT FEATURES:**HANGERS WITH BOLTS**

- Furnished with nut and bolt to speed installation
- Pregalvanized finish provides corrosion protection

COMPLIANCES

- UL - Standard 514B (trade size 0-9)
- cUL - Canada (trade size 0-9)

PRODUCT FEATURES:**HANGERS WITH THREADED HOLE**

- Hangers are supplied with a retained bolt and threaded hole eliminating the need for a nut
- The design allows for quick and easy installation using a screwdriver or nut driver
- Pregalvanized finish provides corrosion protection

COMPLIANCE

- cUL us

UL LISTED E195968

APPLICATIONS

- For use with hangers, bridle rings, and drop rods to support conduit from I-beams

PRODUCT FEATURES

- Rugged steel/malleable iron construction will last the lifetime of the installation
- Zinc electro plated for corrosion resistance

COMPLIANCE

- cUL us

UL FILE E195968

CATALOG NUMBER	TRADE SIZE	RIGID & IMC SIZE	EMT SIZE	SHIP CTN. QTY.	MAXIMUM LOAD LBS.	UPC BAR CODE
Conduit Hangers with Bolts - Steel						

2052	0	1/2"	1/2"	100	50	—
2053	1	3/4"	3/4"	100	50	—
2054	2	1"	1"	100	60	—
2041	2-1/2	—	1-1/4"	100	75	—
2055	3	1-1/4"	1-1/2"	100	80	—
2056	4	1-1/2"	—	100	80	—
2058	5	2"	2"	50	100	—
2057	6	2-1/2"	2-1/2"	25	125	—
2059	7	3"	3"	25	165	—
2060	8	3-1/2"	3-1/2"	10	200	—
2061	9	4"	4"	10	230	—

CATALOG NUMBER	TRADE SIZE	INSIDE OPENING SIZE	MAX. LOAD LBS.	UNIT CTN. QTY.	SHIP CTN. QTY.	UPC BAR CODE
Conduit Hangers with Threaded Hole - Steel						
2052TH	0	1/2"	1/2"	100	50	—
2053TH	1	3/4"	3/4"	100	50	—
2054TH	2	1"	1"	100	60	—
2041TH	2-1/2	—	1-1/4"	100	75	—
2055TH	3	1-1/4"	1-1/2"	100	80	—
2056TH	4	1-1/2"	—	100	80	—
2058TH	5	2"	2"	50	100	—

BEAM CLAMPS - STEEL/MALLEABLE IRON



Beam Clamp - Steel * Beam Clamps - Malleable Iron

CATALOG NUMBER	TRADE SIZE	INSIDE OPENING SIZE	MAX. LOAD LBS.	UNIT CTN. QTY.	SHIP CTN. QTY.	UPC BAR CODE
Beam Clamps - Steel/Malleable Iron						
2500*	1"	21/32"	50	—	100	—
2524	1"	27/32"	60	—	100	—
2536	1-1/2"	15/16"	60	—	50	—
2538	2"	1-3/16"	100	—	25	—
2510	2-1/2"	1-1/4"	200	—	25	—

* Catalog no. 2500 is steel.

SEE END OF SECTION (PG B125) FOR DETAILED DRAWINGS ➤





RIGID STRAPS

TWO HOLE STRAPS - MALLEABLE IRON



CATALOG NUMBER	TRADE SIZE	UNIT CARTON QTY.	SHIP CARTON QTY.	UPC BAR CODE
One Hole Straps – Malleable Iron				
1301	3/8"	—	100	—
1302	1/2"	—	100	—
1303	3/4"	—	100	—
1304	1"	—	50	—
1305	1-1/4"	—	25	—
1306	1-1/2"	—	25	—
1308	2"	—	25	—
1310	2-1/2"	—	10	—
1312	3"	—	10	—
1314	3-1/2"	—	5	—
1316	4"	—	5	—

APPLICATION

- For use in mounting rigid/IMC conduit in wet or dry locations
- RACO® Rigid/IMC conduit straps are suitable for use on liquidtight flexible metal conduit and liquidtight flexible nonmetallic conduit (type B)

PRODUCT FEATURES

- All malleable construction insures mechanical protection
- All straps are zinc electro plated for corrosion protection

SEE END OF SECTION (PG B106) FOR DETAILED DRAWINGS >>



RIGID CLAMP BACKS

RACO

CLAMP BACKS - MALLEABLE IRON

**APPLICATION**

- For use with RACO® 1300 Series straps to permit space between the conduit and the mounting surface
- Use of clamp backs in outdoor locations can prevent the buildup of snow and rain between the conduit and the mounting surface

PRODUCT FEATURES

- All malleable construction insures durability and mechanical protection
- Elongated bolt holes make alignment with straps easy

COMPLIANCE

- UL LISTED E195968

CATALOG NUMBER	TRADE SIZE		UNIT CARTON QTY.	SHIP CARTON QTY.	UPC BAR CODE
	RIGID SIZE	EMT SIZE			
<i>Clamp Backs – Malleable Iron</i>					
1342	1/2"	3/4"	—	100	—
1343	3/4"	1"	—	100	—
1344	1"	1-1/4"	—	50	—
1345	1-1/4"	1-1/2"	—	25	—
1346	1-1/2"	2"	—	25	—
1348	2"	2"	—	10	—
1347	2-1/2"	2-1/2"	—	10	—
1349	3"	3"	—	10	—
1350	3-1/2"	3-1/2"	—	5	—
1351	4"	4"	—	5	—

SEE END OF SECTION (PG B107) FOR DETAILED DRAWINGS >>



MISCELLANEOUS FITTINGS

RACO

KNOCKOUT SEALS - STEEL



Knockout Seals - One Piece



Knockout Seals - Two Piece*

APPLICATIONS

- For use in closing off unused openings in boxes or panelboards

PRODUCT FEATURES

- All steel construction provides installation integrity
- Zinc electroplated for added corrosion protection

COMPLIANCE

- - Standard 514B (1037 - 1041)
UL Listed E195973

CATALOG NUMBER	TRADE SIZE	UNIT CTN. QTY.	SHIP CTN. QTY.	UPC BAR CODE
<i>Knockout Seals, One Piece – Steel</i>				
1042	1/2"	100	1000	—
1043	3/4"	100	1000	—
1044	1"	100	400	—
1045	1-1/4"	50	200	—
1046	1-1/2"	—	50	—
1048	2"	—	25	—
<i>Knockout Seals, Two Piece – Steel</i>				
1037	2-1/2"	—	10	—
1039	3"	—	10	—
1040	3-1/2"	—	10	—
1041	4"	—	10	—

*Two piece seals include two discs, bolt and nut in a poly bag.

MISCELLANEOUS FITTINGS

REDUCING WASHERS - STEEL



Reducing Washers

APPLICATIONS

- For use when a raceway is smaller in trade size than the trade size of the knockout it is intended to enter
- Use reducing washers in pairs. One inside and one outside the box or enclosure

PRODUCT FEATURES

- All steel construction provides installation integrity
- Reducing washer is stamped with trade size information for ease of product identification
- Zinc electroplated for added corrosion protection

CATALOG NUMBER	TRADE SIZE	DIMENSIONS		UNIT CTN. QTY.	SHIP CTN. QTY.	UPC BAR CODE
		A	B			
Reducing Washers - Steel						
1365	3/4" - 1/2"	1-1/4"	7/8"	200	1000	—
1366	1" - 1/2"	1-17/32"	7/8"	100	1000	—
1367	1" - 3/4"	1-17/32"	1-3/32"	100	1000	—
1368	1-1/4" - 1/2"	1-31/32"	7/8"	—	100	—
1369	1-1/4" - 3/4"	1-31/32"	1-3/32"	—	100	—
1370	1-1/4" - 1"	1-31/32"	1-3/8"	—	100	—
1371	1-1/2" - 1/2"	2-5/32"	7/8"	—	50	—
1372	1-1/2" - 3/4"	2-5/32"	1-3/32"	—	50	—
1373	1-1/2" - 1"	2-5/32"	1-3/8"	—	50	—
1374	1-1/2" - 1-1/4"	2-5/32"	1-3/4"	—	50	—
1375	2" - 1/2"	2-11/16"	7/8"	—	50	—
1376	2" - 3/4"	2-11/16"	1-3/32"	—	50	—
1377	2" - 1"	2-11/16"	1-3/8"	—	50	—
1378	2" - 1-1/4"	2-11/16"	1-3/4"	—	50	—
1379	2" - 1-1/2"	2-11/16"	1-31/32"	—	50	—
1380	2-1/2" - 1"	3-3/16"	1-3/8"	—	50	—
1381	2-1/2" - 1-1/4"	3-3/16"	1-3/4"	—	50	—
1382	2-1/2" - 1-1/2"	3-3/16"	1-31/32"	—	50	—
1383	2-1/2" - 2"	3-3/16"	2-15/32"	—	50	—
1384	3" - 1-1/4"	3-13/16"	1-3/4"	—	25	—
1385	3" - 1-1/2"	3-13/16"	1-31/32"	—	25	—
1386	3" - 2"	3-13/16"	2-15/32"	—	25	—
1387	3" - 2-1/2"	3-13/16"	3"	—	25	—
1389	3-1/2" - 2"	4-3/8"	2-15/32"	—	10	—
1390	3-1/2" - 2-1/2"	4-3/8"	3"	—	10	—
1391	3-1/2" - 3"	4-3/8"	3-5/8"	—	10	—
1392	4" - 2"	4-29/32"	2-15/32"	—	10	—
1393	4" - 2-1/2"	4-29/32"	3"	—	10	—
1394	4" - 3"	4-29/32"	3-5/8"	—	10	—

SEE END OF SECTION (PG B127) FOR DETAILED DRAWINGS >>



CHANNEL NUTS & HARDWARE

Channel Nuts

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 x1.5	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
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 A593
SS6	Stainless Steel Type 316	MPIF 35/ASTM A593
AL	Aluminum	ASTM F468 S4

*Unless otherwise noted.

Metric

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



Standard Channel Nuts

Numbering Example:

N 7 25 - (*) WO

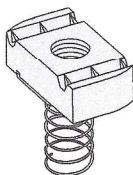
Nut Type	Channel Type	Thread Size	Stud Length	Suffix
N = Standard Nut	7 = Tall Channels	21 = #8-32	* = Specify Length	WO = Without Spring
TN = Twirl-Nut™	B11	22 = #10-24	of stud below	___ = Twirl-Nut™ or nuts
SN = Stud Nut	B12	27 = #10-32	for Stud Nut or	with springs have
STN = Stud Twirl-Nut™	2 = Medium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

Metric Channel Nuts

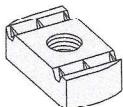
Numbering Example:

BMS - 6 M

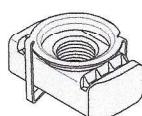
Nut Type	Metric Thread Size	Suffix
BMS = Spring Nut	3 = M3.5	S = Short Spring
BMS-D = Spring Nut (1/2" thick)	4 = M4	M = Medium Spring
BMT = Twirl-Nut™	5 = M5	L = Long Spring
BMT-D = Twirl-Nut™ (1/2" thick)	6 = M6	___ = Twirl-Nut™ and nuts
BMM = Spring Nut (Mini channel)	8 = M8	without springs have
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



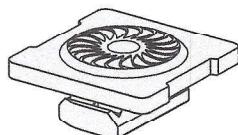
Spring Nut



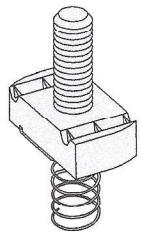
Nut without Spring



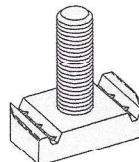
Twirl-Nut™



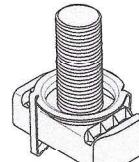
Combo Nut Washer



Stud Nut with Spring



Stud Nut without Spring



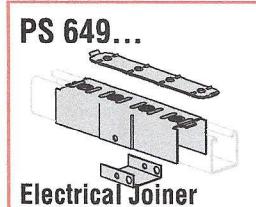
Twirl Stud Nut

Versatile Solutions from POWER-STRUT®

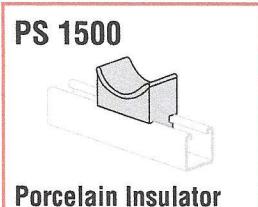


ELECTRICAL

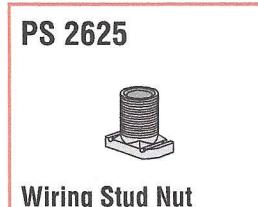
Power-Strut offers a versatile means of supporting lighting, conduits, cable & other portions of an electrical system. Power-Strut is listed as an electrical raceway by Underwriters Laboratories as specified by the NEC



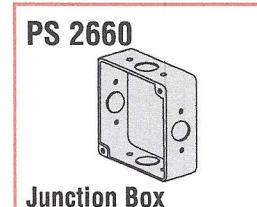
Electrical Joiner



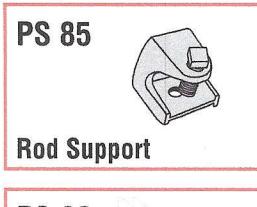
Porcelain Insulator



Wiring Stud Nut



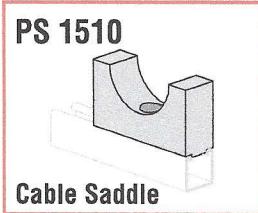
Junction Box



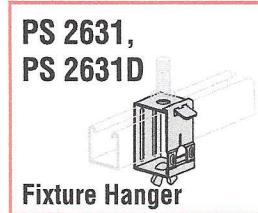
Rod Support



End Cap



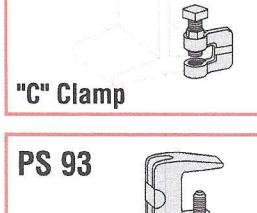
Cable Saddle



Fixture Hanger



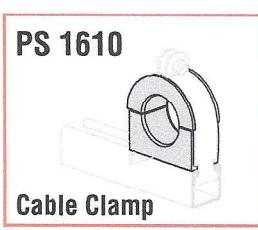
Junction Box Cover



"C" Clamp



Channel Hanger



Cable Clamp



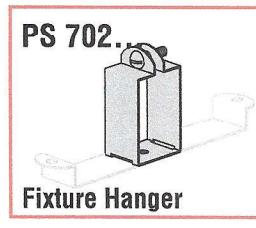
Channel Hanger



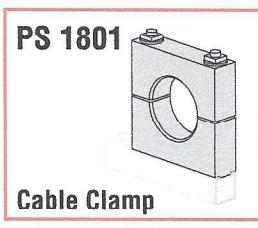
Hub Assembly



Universal "C" Clamp



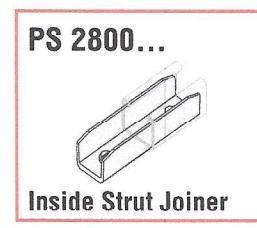
Fixture Hanger



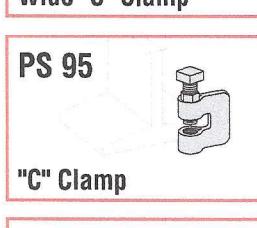
Cable Clamp



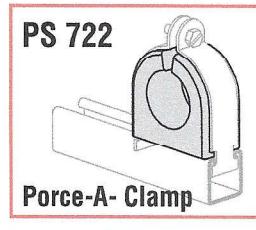
Fixed Stud Nut



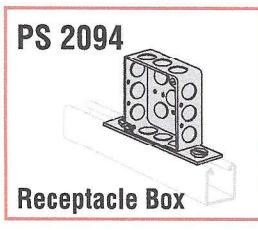
Inside Strut Joiner



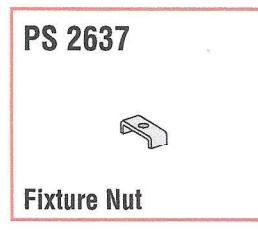
"C" Clamp



Porce-A- Clamp



Receptacle Box



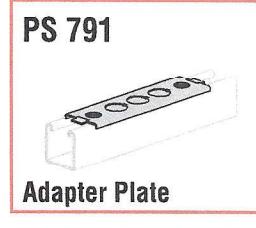
Fixture Nut



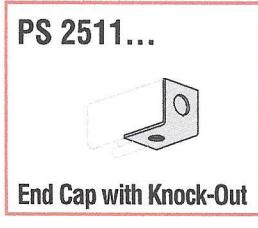
Fixture Hanger



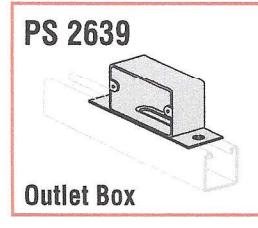
Light Duty Beam Clamp



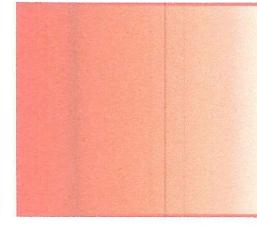
Adapter Plate



End Cap with Knock-Out



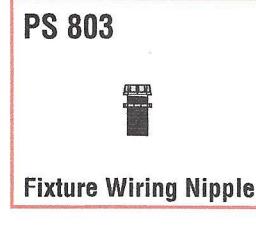
Outlet Box



Beam Clamp



Beam Clamp



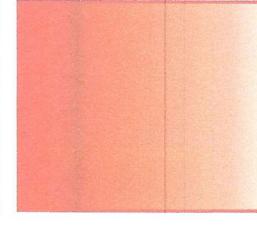
Fixture Wiring Nipple



Connector Fitting



Wire Retainer



"I" Beam Clamp

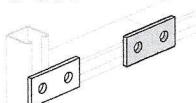
Versatile Solutions from POWER-STRUT®



FITTINGS

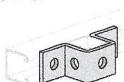
Power-Strut has a wide variety of Fittings to meet all of your application requirements. All Power-Strut fittings are formed in punch press dies from mild, pickled & oiled, bar or strip steel. Plain or electro-galvanized fittings meet the requirements for ASTM k575 & A-576, or ASTM A-36.

PS 601



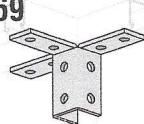
2 Hole Splice Plate

PS 613



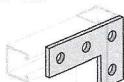
"U" Support

PS 669



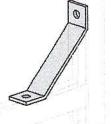
12 Hole Triple Wing C.

PS 719



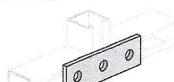
Flat Angle Plate

PS 926



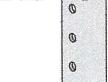
Strut Brace

PS 602



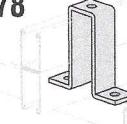
3 Hole Splice Plate

PS 616



4 Hole Splice Clevis

PS 678



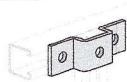
3 Hole "U" Support

PS 745



3 Hole Corner Angle

PS 929



"U" Support

PS 603



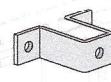
2 hole End Angle C.

PS 619



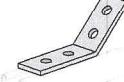
Square Washer

PS 679



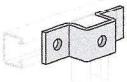
"U" Support

PS 781



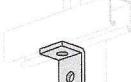
4 Hole Open Angle C.

PS 978



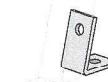
"U" Support

PS 604



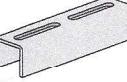
2 Hole Corner Angle C.

PS 624



2 Hole Closed Angle C.

PS 704



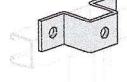
Slotted Joiner

PS 793



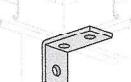
4 Hole Closed Angle C.

PS 2119



"U" Support

PS 605



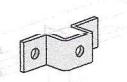
3 Hole Corner Angle C.

PS 633



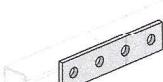
2 Hole Open Angle C.

PS 710



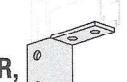
"U" Support

PS 888



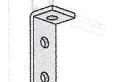
4 Hole Splice Plate

PS 2128



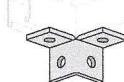
L or R,
4 Hole Corner Connector

PS 606



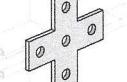
3 Hole Corner Angle C.

PS 665



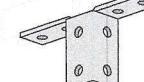
4 Hole Dbl. Corner C.

PS 712



Cross Plate

PS 913



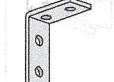
10 Hole Dbl. Wing C.

PS 2504



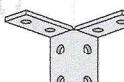
Guided Square Washer

PS 607



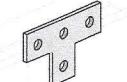
4 Hole Corner Angle C.

PS 667



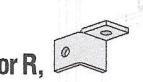
8 Hole Dbl. Corner C.

PS 714



Tee Plate

PS 922



L or R,
2 Hole Corner Connector

PS 2521



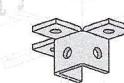
2 Wheel Trolley

PS 611



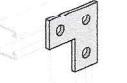
Zee Support

PS 668



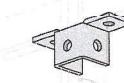
6 Hole Trible Wing C.

PS 718



Flat Angle Plate

PS 923



5 Hole Dbl. Wing C.

PS 2522



4 Wheel Trolley

FASTENERS

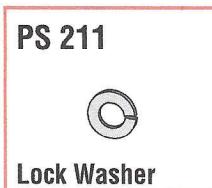
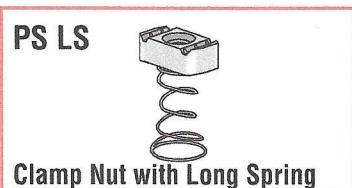
Power-Strut nuts, bolts, and threaded rod
Work with all your strut needs

CHANNEL NUTS

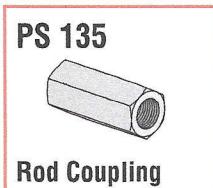
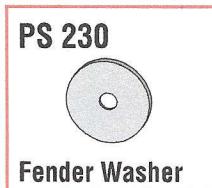
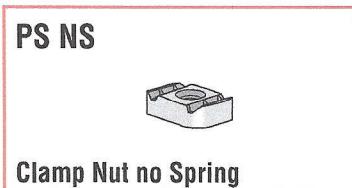
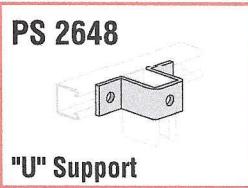
Channel nuts are Cold Form with 6 sharp teeth, then case hardened.


PS 2528
Trolley Beam Std. Support

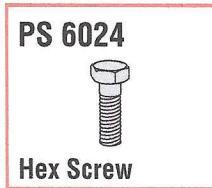
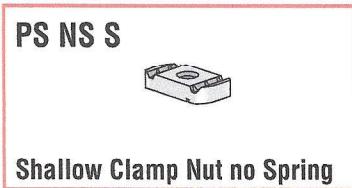
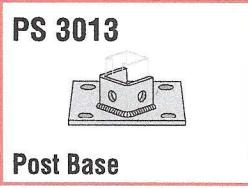
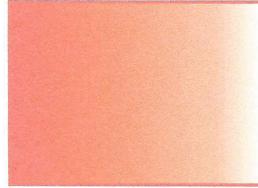
PS 9402
2 Hole Hinge Connector

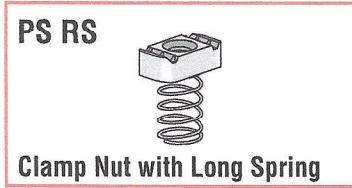
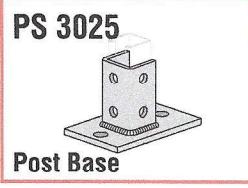
PS 83
Hex Nut

PS 211
Lock Washer

PS LS
Clamp Nut with Long Spring

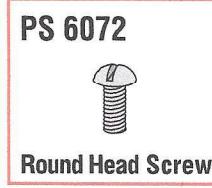
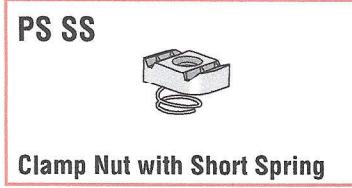
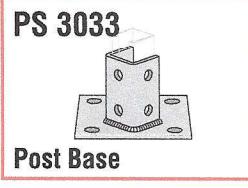
PS 2528-1
Trolley Beam Hwy. Support

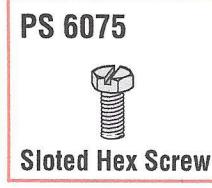
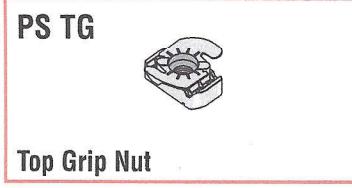
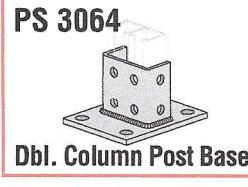
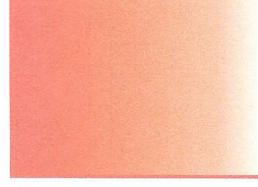
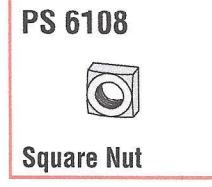
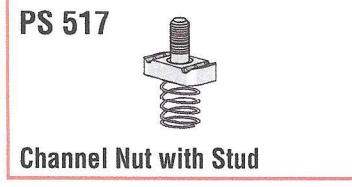
PS 9403
3 Hole Hinge Connector

PS 135
Rod Coupling

PS 230
Fender Washer

PS NS
Clamp Nut no Spring

PS 2648
'U' Support

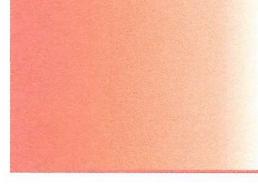
PS 9404
4 Hole Hinge Connector

PS 146
Threaded Rod

PS 6024
Hex Screw

PS NS S
Shallow Clamp Nut no Spring

PS 3013
Post Base

PS 202
Eyelet

PS 6064
Square Set Screw

PS RS
Clamp Nut with Long Spring

PS 3025
Post Base

PS 203
Linked Eyelet w Stud

PS 6072
Round Head Screw

PS SS
Clamp Nut with Short Spring

PS 3033
Post Base

PS 204
Linked Eyelet

PS 6075
Slotted Hex Screw

PS TG
Top Grip Nut

PS 3064
Dbl. Column Post Base

PS 205
Eyelet with Stud

PS 6108
Square Nut

PS 517
Channel Nut with Stud

PS 3373
Univ. Corner Connector

PS 209
Flat Washer

PS 3500
Seismic Rod Stiffener

Bolt Anchors

Bolt anchors are designed to be installed flush with the surface of the base material. They are used in conjunction with a threaded machine bolt or in some types, a threaded rod. For temporary applications, some types can be subset below the surface of the base material to allow patching after the fixture is removed.

Screw Anchors

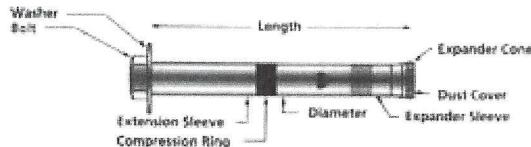
Screw anchors are designed to be installed flush with the surface of the base material. They are used in conjunction with sheet metal, wood, or lag screws depending on the anchor type.

Section/ Anchor Type	Base Material		Working Load	Diameter Range		Coating / Plating or Material
	Concrete	Stone		Solid Brick	Hollow Brick	
39.0 Lag Shield	●	○ ○ ○ ○ ○ ○	400 lbs. or less.	●	●	Lead
40.0 Fiberplug™	● ● ● ○ ○ ○ ○	● ○ ○ ○ ○ ○	400 to 4,000 lbs.	●	●	Zamac Alloy
41.0 Scru-Lead	● ○ ○ ○ ○ ○	● ○ ○ ○ ○ ○	Above 4,000 lbs.	●	●	Engineered Plastic
42.0 Bantam Plug	● ● ● ○ ○ ○ ○	● ○ ○ ○ ○ ○	No. 4 Sheet / Wood	●	●	Wire Fiber
43.0 Fluted Plastic	● ● ● ○ ○ ○ ○	● ○ ○ ○ ○ ○	No. 5 Sheet / Wood	●	●	
			No. 6 Sheet / Wood	●	●	
			No. 7 Sheet / Wood	●	●	
			No. 8 Sheet / Wood	●	●	
			No. 9 Sheet / Wood	●	●	
			No. 10 Sheet / Wood	●	●	
			No. 12 Sheet / Wood	●	●	
			No. 14 Sheet / Wood	●	●	
			No. 16 Sheet / Wood	●	●	
			No. 18 Sheet / Wood	●	●	
			No. 20 Sheet / Wood	●	●	
			1/4" Lag	●	●	
			5/16" Lag	●	●	
			3/8" Lag	●	●	
			1/2" Lag	●	●	
			5/8" Lag	●	●	
			3/4" Lag	●	●	

● Suitable ○ May be Suitable Depending upon Application

EXPANSION ANCHORS

Power-Bolt™



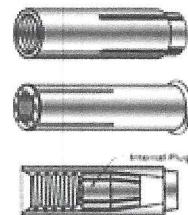
Carbon Steel Hex Head Power-Bolt™ F/N SBHX

Carbon steel Power-Bolt Anchors are manufactured using a Grade 5 bolt. They are plated with a commercial bright zinc finish and have a supplementary chromate treatment in accordance with ASTM Specification B 633.

Size	Drill Dia.	Min. Depth	Std. Box	Std. Ctn.	Wt./100
1/4" x 1"	1/4"	7/8"	100	600	2
1/4" x 1-3/4"	1/4"	1-1/4"	100	600	3
1/4" x 3"	1/4"	1-1/4"	100	600	5
5/16" x 1-3/4"	5/16"	1-1/2"	100	600	5
5/16" x 2-1/2"	5/16"	1-1/2"	50	300	6
5/16" x 3-1/2"	5/16"	1-1/2"	50	300	8
3/8" x 2-1/4"	3/8"	2"	50	300	8
3/8" x 3"	3/8"	2"	50	300	11
3/8" x 3-1/2"	3/8"	2"	50	300	12
3/8" x 4"	3/8"	2"	50	300	14
1/2" x 2-3/4"	1/2"	2-1/2"	50	200	16
1/2" x 3-3/4"	1/2"	2-1/2"	25	150	21
1/2" x 4-3/4"	1/2"	2-1/2"	25	150	26
1/2" x 5-3/4"	1/2"	2-1/2"	25	150	32
5/8" x 3"	5/8"	2-3/4"	20	120	28
5/8" x 4"	5/8"	2-3/4"	15	90	40
5/8" x 5"	5/8"	2-3/4"	15	90	47
5/8" x 6"	5/8"	2-3/4"	15	90	57
5/8" x 8-1/2"	5/8"	2-3/4"	10	40	77
3/4" x 3-1/4"	3/4"	3"	15	90	47
3/4" x 4-1/4"	3/4"	3"	10	60	58
3/4" x 5-1/4"	3/4"	3"	10	60	70
3/4" x 7-1/4"	3/4"	3"	10	40	105
3/4" x 8-1/4"	3/4"	3"	10	40	110
1" x 6"	1"	4-1/4"	10	90	170
1" x 7"	1"	4-1/4"	10	90	195
1-1/4" x 7"	1-1/4"	6"	5	15	290
1-1/4" x 9"	1-1/4"	6"	5	15	360

The published length is measured from below the washer to the end of the anchor.

Steel Drop-In F/N DIAS



33.4 Anchor Sizes and Styles

The following tables list the sizes and styles of Steel Drop-In anchors including both zinc plated carbon steel and stainless steel.

Carbon Steel—Smooth Wall F/N DIAS

Size	Drill Dia.	Min. Depth	Thread Depth	Std. Box	Std. Ctn.	Wt./100
1/4"	3/8"	1"	7/16"	100	1000	2
3/8"	1/2"	1-9/16"	5/8"	50	500	6
1/2"	5/8"	2"	13/16"	50	250	12
5/8"	7/8"	2-1/2"	1-3/16"	25	125	32
3/4"	1"	3-3/16"	1-3/8"	10	50	48

Carbon Steel Flanged Drop-In (Lipped) F/N DIAF

Size	Drill Dia.	Min. Depth	Thread Depth	Std. Box	Std. Ctn.	Wt./100
1/4"	3/8"	1"	7/16"	100	1000	2
3/8"	1/2"	1-9/16"	5/8"	50	500	6
1/2"	5/8"	2"	13/16"	50	250	12





EXPANSION ANCHORS

SPIKE®

Mushroom Head Carbon Steel SPIKE®
F/N SPMH



Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
3/16" x 1"	3/16"	7/8"	100	1000	1-1/4
3/16" x 1-1/4"	3/16"	7/8"	100	1000	1-1/2
3/16" x 1-1/2"	3/16"	1-1/4"	100	1000	1-3/4
3/16" x 2"	3/16"	1-1/4"	100	1000	2
3/16" x 2-1/2"	3/16"	1-1/4"	100	1000	2
3/16" x 3"	3/16"	1-1/4"	100	1000	2-1/2
3/16" x 3-1/2"	3/16"	1-1/4"	100	1000	3-1/2
3/16" x 4"	3/16"	1-1/4"	100	500	4
1/4" x 1"	1/4"	7/8"	100	1000	1-1/2
1/4" x 1-1/4"	1/4"	1"	100	1000	2-1/4
1/4" x 1-1/2"	1/4"	1-1/4"	100	1000	2-1/2
1/4" x 2"	1/4"	1-1/4"	100	1000	3
1/4" x 2-1/2"	1/4"	1-1/4"	100	1000	4
1/4" x 3"	1/4"	1-1/4"	100	1000	4-1/2
1/4" x 3-1/2"	1/4"	1-1/4"	100	1000	5
1/4" x 4"	1/4"	1-1/4"	100	500	6
3/8" x 2"	3/8"	1-3/4"	25	250	7-1/2
3/8" x 2-1/2"	3/8"	1-3/4"	25	250	9
3/8" x 3"	3/8"	1-3/4"	25	250	10
3/8" x 3-1/2"	3/8"	1-3/4"	25	250	11
3/8" x 4"	3/8"	1-3/4"	25	250	12
3/8" x 5"	3/8"	1-3/4"	25	250	18
3/8" x 6"	3/8"	1-3/4"	25	250	20
1/2" x 2-3/4"	1/2"	2-1/2"	50	200	18
1/2" x 3-1/2"	1/2"	2-1/2"	50	200	22
1/2" x 4"	1/2"	2-1/2"	25	150	27
1/2" x 5"	1/2"	2-1/2"	25	150	31
1/2" x 6-1/2"	1/2"	2-1/2"	25	150	42

The published length is measured from below the head to the end of the anchor.



Threaded Carbon Steel SPIKE®

Size	Drill Dia.	Min. Embed.	Thread Length	Std. Box	Std. Ctn.	Wt./ 100
1/4" x 1-3/4"	1/4"	1-1/4"	5/8"	100	500	3-1/4
1/4" x 2-1/4"	1/4"	1-1/4"	7/8"	100	500	3-3/4
1/4" x 3"	1/4"	1-1/4"	1-1/2"	100	500	5-1/4
3/8" x 2-1/4"	3/8"	1-3/4"	3/4"	50	250	8-3/4
3/8" x 2-3/4"	3/8"	1-3/4"	1-1/8"	50	250	10-1/2
3/8" x 3"	3/8"	1-3/4"	1-1/8"	50	250	11
3/8" x 5"	3/8"	1-3/4"	2-1/2"	50	250	17-1/2
1/2" x 3-1/4"	1/2"	2-1/2"	1"	50	200	18
1/2" x 5-1/2"	1/2"	2-1/2"	2-1/4"	50	150	34
1/2" x 7"	1/2"	2-1/2"	2-3/4"	25	100	44

The published length is the overall length of the anchor. All threaded SPIKE anchors are supplied with nuts and washers.



Flat Head Carbon Steel SPIKE® F/N SPFH

Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
3/16" x 2-1/2"	3/16"	1-1/4"	100	1000	2
3/16" x 3"	3/16"	1-1/4"	100	1000	2-1/2
3/16" x 4"	3/16"	1-1/4"	100	1000	4
1/4" x 1-1/2"	1/4"	1-1/4"	100	1000	2-1/2
1/4" x 2"	1/4"	1-1/4"	100	1000	3
1/4" x 2-1/2"	1/4"	1-1/4"	100	1000	3-3/4
1/4" x 3"	1/4"	1-1/4"	100	1000	4-1/2
1/4" x 3-1/2"	1/4"	1-1/4"	100	1000	5
1/4" x 4"	1/4"	1-1/4"	100	500	5-3/4

The published length is the overall length of the anchor.

Mushroom Head Type 316
Stainless Steel SPIKE® F/N SPMH



Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
3/16" x 1"	3/16"	7/8"	100	1000	1-1/4
3/16" x 1-1/4"	3/16"	7/8"	100	1000	1-1/2
3/16" x 1-1/2"	3/16"	7/8"	100	1000	1-1/2
3/16" x 2"	3/16"	1-1/4"	100	1000	2
3/16" x 1-1/2"	3/16"	1-1/4"	100	1000	1-3/4
3/16" x 2-1/2"	3/16"	1-1/4"	100	1000	2-1/4
1/4" x 1"	1/4"	7/8"	100	1000	1-1/2
1/4" x 1-1/4"	1/4"	1"	100	1000	2-1/4
1/4" x 1-1/2"	1/4"	1-1/4"	100	1000	2-1/2
1/4" x 2"	1/4"	1-1/4"	100	1000	3
1/4" x 2-1/2"	1/4"	1-1/4"	100	1000	2-1/2
1/4" x 3"	1/4"	1-1/4"	100	1000	4
1/4" x 3-1/2"	1/4"	1-1/4"	100	1000	5
1/4" x 4"	1/4"	1-1/4"	100	1000	6

The published length is measured from below the head to the end of the anchor.

*Supplied with EPDM Sealing Washer

Special Application SPIKE® Anchors

Rod Hanging



Pipe SPIKE® F/N SPPS

Head Size	Shank Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
1/4"	3/16"	1-1/4"	100	1000	4
3/8"	1/4"	1-3/4"	50	500	6

Suspended Ceilings



Tie-Wire SPIKE® F/N SPTW

Size	Drill Dia.	Min. Embed.	Tie-Wire Hole Size	Std. Box	Std. Ctn.	Wt./ 100
3/16"	3/16"	1-1/4"	3/16"	100	500	2
1/4"	1/4"	1-1/4"	9/32"	100	500	2-1/2

Concrete Forming

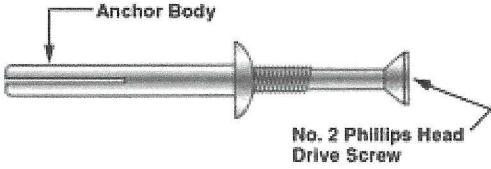
Forming SPIKE® F/N SPFS



Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
3/16" x 1-1/2"	3/16"	1-1/4"	100	1000	2-1/2
3/16" x 2"	3/16"	1-1/4"	100	1000	3
3/16" x 2-3/4"	3/16"	1-1/4"	100	1000	4
1/4" x 2-3/4"	1/4"	1-1/4"	100	1000	5

EXPANSION ANCHORS

Zamac HAMMER-SCREW®



**Zamac Hammer-Screw® Anchor
Mushroom Head with No. 2 Phillips Type Screw
F/N NIHS**

Anchor Size	Drill Dia.	Std. Box	Std. Ctn.	Wt./100
1/4" x 3/4"	1/4"	100	500	1-1/2
1/4" x 1"	1/4"	100	500	1-3/4
1/4" x 1-1/4"	1/4"	100	500	2-1/4
1/4" x 1-1/2"	1/4"	100	500	2-1/2
1/4" x 2"	1/4"	100	500	3
1/4" x 2-1/4"	1/4"	100	500	3-1/2
1/4" x 3"	1/4"	100	500	4-1/4

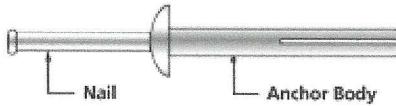
Zamac NAILIN®



Flat Head

**Flat Head Zamac Nailin® — Carbon Steel Nail
F/N NIFH**

Size	Drill Dia.	Std. Box	Std. Ctn.	Wt./100
1/4" x 1-1/2"	1/4"	100	500	2-1/2
1/4" x 2"	1/4"	100	500	3



Mushroom Head

**Mushroom Head Zamac Nailin® — Carbon Steel Nail
F/N NIMH**

Size	Drill Dia.	Std. Box	Std. Ctn.	Wt./100
3/16" x 7/8"	3/16"	100	500	3/4
1/4" x 3/4"	1/4"	100	500	1-1/2
1/4" x 1"	1/4"	100	500	1-3/4
1/4" x 1-1/4"	1/4"	100	500	2-1/4
1/4" x 1-1/2"	1/4"	100	500	2-1/2
1/4" x 2"	1/4"	100	500	3

Mushroom Head Zamac Nailin® — 304S/S Nail

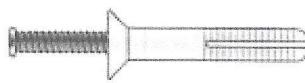
Size	Drill Dia.	Std. Box	Std. Ctn.	Wt./100
1/4" x 1"	1/4"	100	500	1-3/4
1/4" x 1-1/4"	1/4"	100	500	2-1/4
1/4" x 1-1/2"	1/4"	100	500	2-1/2
1/4" x 2"	1/4"	100	500	3

31.0 Nylon Nailin®



**Round Head Nylon Nailin® — Steel Nail
F/N NIRH**

Size	Drill Diameter	Std. Box	Std. Ctn.	Wt./100
3/16" x 1"	3/16"	100	1000	1/2
3/16" x 1-1/2"	3/16"	100	1000	3/4
1/4" x 1"	1/4"	100	1000	3/4
1/4" x 1-1/2"	1/4"	100	1000	1
1/4" x 2"	1/4"	100	1000	1



**Flat Head Nylon Nailin® — Steel Nail
F/N NIFH**

Size	Drill Diameter	Std. Box	Std. Ctn.	Wt./100
3/16" x 1"	3/16"	100	1000	1/2
3/16" x 1-1/2"	3/16"	100	1000	3/4
1/4" x 1"	1/4"	100	1000	3/4
1/4" x 1-1/2"	1/4"	100	1000	1
1/4" x 2"	1/4"	100	1000	1



**Mushroom Head Nylon Nailin®
F/N NIMH**

Size	Drill Diameter	Std. Box	Std. Ctn.	Wt./100
1/4" x 1"	1/4"	100	500	1/2
1/4" x 3/4"	1/4"	100	1000	1/2
1/4" x 1"	1/4"	100	1000	3/4
1/4" x 1-1/2"	1/4"	100	1000	1
1/4" x 2"	1/4"	100	1000	1
1/4" x 3"	1/4"	100	1000	2-1/4
1/4" x 4"	1/4"	100	1000	2-3/4
1/4" x 6"	1/4"	100	4--	4



Toggle Bolt

PRODUCT INFORMATION

Toggle Bolt Hollow Wall Anchor

PRODUCT DESCRIPTION

The Toggle Bolt is a spring wing type hollow wall anchor designed for use in block, wallboard and other hollow base materials. The Toggle Bolt is a two-part assembly consisting of a machine screw and a spring wing toggle. Sizes range from 1/8" diameter x 2" length to 1/2" diameter x 6" length with combo round, flat mushroom, tie-wire or slotted hex head styles.

FEATURES AND BENEFITS

- + Adjustable to accommodate various wall thickness up to 2 1/2"
- + Easy to use and works in a variety of base materials

MATERIAL SPECIFICATIONS

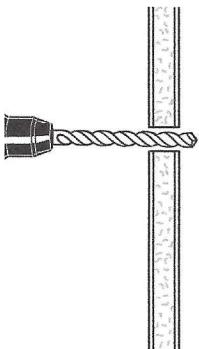
Anchor Component	Component Material
Wing	AISI 1010
1/8"-3/8" Trunion Nut	AISI 1010
1/2" Trunion Nut	Zamac Alloy
Bolt	Carbon Steel – ANSI B18.6.3
Zinc Plating	ASTM B633, SC1, Type III, (Fe/Zn 5)

INSTALLATION SPECIFICATIONS

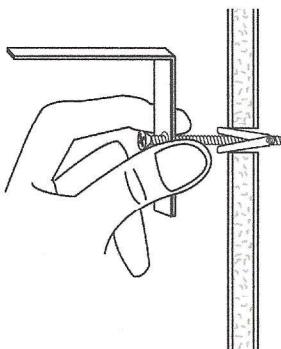
Dimension	Anchor Diameter, d					
	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"
Minimum ANSI Drill	3/8	1/2	5/8	7/8	7/8	1-1/4
Bit Size, d_{bit} (in.)	Hollow CMU	1/2	9/16	3/4	7/8	1
Wing Clearance (in.)		1 1/16	1 3/8	1 1/2	2 1/8	2 1/8
Thread Size (UNC)	6-32	10-24	1/4-20	5/16-18	3/8-16	1/2-13

Installation Guidelines

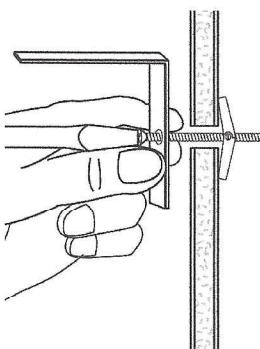
Drill the required hole through the base material. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.14. In denser materials such as high strength concrete, drill the hole 1/16" larger.



Insert the bolt through the fixture to be fastened, thread on wings, then fold the wings completely back and insert through the hole until wings spring open.



Pull back on assembly to hold the wings inside the wall to prevent the wings from spinning while tightening bolt. Turn the bolt with the screwdriver until firmly tightened.



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Toggle Bolt

ANCHOR MATERIALS

Carbon Steel

ANCHOR SIZE RANGE (TYP.)

1/8" diameter x 2" length to
1/2" diameter x 6" length

SUITABLE BASE MATERIALS

Wallboard

Plaster

Hollow Concrete Masonry (CMU)

PERFORMANCE DATA

Ultimate Load Capacities for Toggle Bolt in Wallboard¹

Anchor Diameter <i>d</i> in. (mm)	3/8" Wallboard		1/2" Wallboard		5/8" Wallboard		3/4" Wallboard	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/8 (3.2)	115 (0.5)	120 (0.5)	150 (0.7)	135 (0.6)	190 (0.9)	180 (0.8)	220 (1.0)	210 (0.9)
3/16 (4.8)	130 (0.6)	140 (0.6)	185 (0.8)	190 (0.9)	235 (1.1)	235 (1.1)	290 (1.3)	280 (1.3)
1/4 ² (6.4)	215 (1.0)	210 (0.9)	235 (1.1)	235 (1.1)	265 (1.2)	260 (1.2)	315 (1.4)	300 (1.4)
5/16 (7.9)	240 (1.1)	240 (1.1)	250 (1.1)	280 (1.3)	275 (1.2)	300 (1.4)	320 (1.4)	340 (1.5)
3/8 (9.5)	245 (1.1)	250 (1.1)	255 (1.1)	295 (1.3)	290 (1.3)	315 (1.4)	340 (1.5)	355 (1.6)
1/2 (12.7)	255 (1.1)	275 (1.2)	325 (1.5)	315 (1.4)	390 (1.8)	375 (1.7)	415 (1.9)	400 (1.8)

1. The values listed above are ultimate load capacities which should be reduced by a minimum safety factor of 4.0 or greater to determine the allowable working load.

2. Also applies to the 1/4" Tie-Wire Acoustical Toggle.

Allowable Load Capacities for Toggle Bolt in Wallboard¹

Anchor Diameter <i>d</i> in. (mm)	3/8" Wallboard		1/2" Wallboard		5/8" Wallboard		3/4" Wallboard	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/8 (3.2)	30 (0.1)	30 (0.1)	40 (0.2)	35 (0.2)	50 (0.2)	45 (0.2)	55 (0.2)	55 (0.2)
3/16 (4.8)	35 (0.2)	35 (0.2)	45 (0.2)	50 (0.2)	60 (0.3)	60 (0.3)	75 (0.3)	70 (0.3)
1/4 ² (6.4)	55 (0.2)	55 (0.2)	60 (0.3)	60 (0.3)	65 (0.3)	65 (0.3)	80 (0.4)	75 (0.3)
5/16 (7.9)	60 (0.3)	60 (0.3)	65 (0.3)	70 (0.3)	70 (0.3)	75 (0.3)	80 (0.4)	85 (0.4)
3/8 (9.5)	60 (0.3)	65 (0.3)	65 (0.3)	75 (0.3)	75 (0.3)	80 (0.4)	85 (0.4)	90 (0.4)
1/2 (12.7)	65 (0.3)	70 (0.3)	80 (0.4)	80 (0.4)	100 (0.5)	95 (0.4)	105 (0.5)	100 (0.5)

1. Allowable load capacities listed are calculated using an applied safety factor of 4.0.

2. Also applies to the 1/4" Tie-Wire Acoustical Toggle.

Ultimate and Allowable Load Capacities for Toggle Bolt in Hollow Concrete Masonry^{1,2}

Anchor Diameter <i>d</i> in. (mm)	$f'_m \geq 1,500 \text{ psi}$ (10.4 MPa)			
	Ultimate Load		Allowable Load	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/8 (3.2)	195 (0.9)	180 (0.8)	40 (0.2)	35 (0.2)
3/16 (4.8)	250 (1.1)	355 (1.6)	50 (0.2)	70 (0.3)
1/4 ³ (6.4)	350 (1.6)	595 (2.7)	70 (0.3)	120 (0.5)
5/16 (7.9)	430 (1.9)	680 (3.1)	85 (0.4)	135 (0.6)
3/8 (9.5)	710 (3.2)	705 (3.2)	140 (0.6)	140 (0.6)
1/2 (12.7)	1,160 (3.2)	800 (3.6)	230 (0.6)	160 (0.7)

1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, medium and normal-weight concrete masonry units. Mortar must be minimum Type N.

2. Allowable loads are based on average ultimate values using a safety factor of 5.0.

3. Also applies to the 1/4" Tie-Wire Acoustical Toggle.

Toggle Bolt

PRODUCT INFORMATION

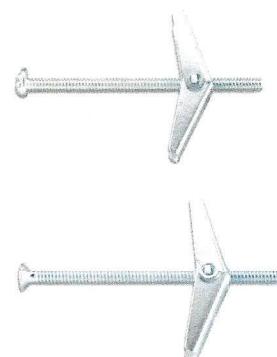
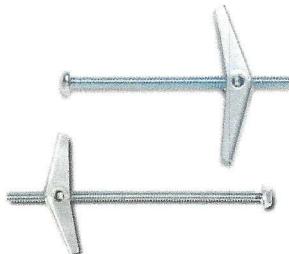
ORDERING INFORMATION

Mushroom and Slotted Hex Head Toggle Bolt

Catalog Number		Anchor Size	Drill Diameter	Standard Box	Standard Carton	Wt./100
MH	SHH					
4023	4028*	1/8" x 2"	3/8"	50	500	1 1/4
4033	4038	1/8" x 3"	3/8"	50	500	1 1/2
4043	-	1/8" x 4"	3/8"	50	500	2
4133	-	3/16" x 3"	1/2"	50	500	4
4143	-	3/16" x 4"	1/2"	50	500	5
4233	-	1/4" x 3"	5/8"	50	500	6 1/2
4243	-	1/4" x 4"	5/8"	50	500	7 1/2

MH = Mushroom Head
SHH = Slotted Hex Head

* Discontinued item once current stock is exhausted.



Round and Flat Hex Head Toggle Bolt

Catalog Number		Anchor Size	Drill Diameter	Standard Box	Standard Carton	Wt./100
Round	Flat					
4021	-	1/8" x 2"	3/8"	50	500	1 1/4
4031	4032	1/8" x 3"	3/8"	50	500	1 1/2
4041	-	1/8" x 4"	3/8"	50	500	2
4121	-	3/16" x 2"	1/2"	50	500	3 1/4
4131	4132	3/16" x 3"	1/2"	50	500	4
4141	4142	3/16" x 4"	1/2"	50	500	5
4151	-	3/16" x 5"	1/2"	50	500	5 1/2
4161	-	3/16" x 6"	1/2"	50	500	6 1/4
4231	4232	1/4" x 3"	5/8"	50	500	6 1/2
4241	4242	1/4" x 4"	5/8"	50	500	7 1/2
4251	-	1/4" x 5"	5/8"	50	500	8 1/2
4261	-	1/4" x 6"	5/8"	50	500	9 1/2
4331	-	5/16" x 3"	7/8"	25	250	13
4341	-	5/16" x 4"	7/8"	25	250	14
4351	-	5/16" x 5"	7/8"	25	250	16
4361	-	5/16" x 6"	7/8"	25	250	18
4431	-	3/8" x 3"	7/8"	25	250	16
4441	-	3/8" x 4"	7/8"	25	250	18
4451	-	3/8" x 5"	7/8"	25	125	20
4461	-	3/8" x 6"	7/8"	25	125	23
4541	-	1/2" x 4"	1 1/4"	25	25	42
4561	-	1/2" x 6"	1 1/4"	25	25	50

Toggle Wings Only

Catalog Number	Anchor Size	Drill Dia.	Std. Box	Std. Carton	Wt./100
4000	1/8"	3/8"	100	500	1
4020	3/16"	1/2"	100	1,000	2
4220	1/4"	5/8"	100	1,000	3
4330	5/16"	7/8"	50	500	7
4430	3/8"	7/8"	50	500	7
4540	1/2"	1 1/4"	25	25	19



Tie Wire Acoustical Toggle

Catalog Number	Anchor Size	Tie Wire Hole Size	Drill Dia.	Std. Box	Std. Carton	Wt./100
4247	1/4" x 4"	7/32"	5/8"	100	100	9
4257	1/4" x 5"	7/32"	5/8"	100	100	12



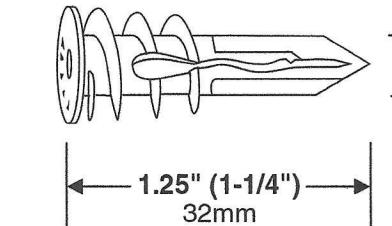
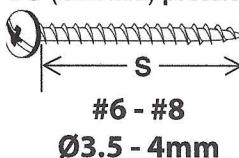
SnapSkru® Self-Drilling Drywall Anchors

TOGGLER®
HIGH-PERFORMANCE ANCHORS

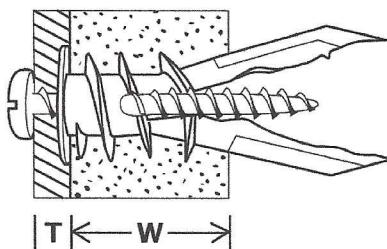
Installation and Performance Data – SPM™ MINI



#6 (Ø3.5mm) preferred



0.25" (1/4")
Ø6mm



| T | W |

(W)	Wall thickness Min. 3/8" (10mm) Max. 5/8" (16mm) <i>Tip:</i> The anchor can be used in double thickness drywall (1-1/4") — drill a 3/16" pilot hole first.
(T)	Item thickness
(S)	Screw length = T + 1" (T+25mm)

Item thickness (T) must be considered when selecting screw length (S).

SPM Specifications

System of Measurment	Head Dia.	Screw Sizes	Preferred Screw	Min. Screw Length (S)	Wall Thickness (W)	*Min. Clearance Behind Wall
UNC	0.4"	#6, #8	#6	1" + item (T)	3/8"-5/8"	1-1/8" minus (W)
Metric	11mm	Ø3.5, 4mm	Ø3.5mm	25mm + item (T)	10-16mm	29mm minus (W)

Notes:

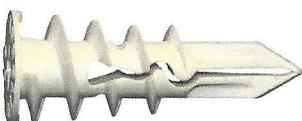
*Additional clearance may be needed for extra-long screws

SPM Ultimate Load (lbs.)

Tested Screw Size	3/8" Drywall		1/2" Drywall		5/8" Drywall	
	Tension	Shear	Tension	Shear	Tension	Shear
#6 x 1-1/4"	57	105	65	131	95	175

Notes:

- Industry safety standards recommend using only 1/4 of ultimate tensile and shear values as the maximum load per anchor.
- Ultimate tensile and shear values for a SnapSkru anchor vary directly with the strength and thickness of the wall material, the screw size, and the extent of the screw engagement.
- The above table of ultimate tensile and shear values is to be used as a guide only. Due to variability and condition of wall materials and construction methods, TOGGLER Anchor System cannot guarantee that you will achieve the same results. The age, condition, and capacity of the substrate must be considered.

Order Information**SnapSkru SP® Regular Anchors**

Catalog No.	Included Screw Size In Bag/Box	Box/Bag (pcs.)	Inner Carton (pcs.)	Master Carton (pcs.)
30010	100 #8 x 1-1/2" Combo Screws	100	1000	3000
30011	No Screws	100	1000	3000
30012	50 #8 x 1-1/2" Combo Screws	50	500	2500
50125	20 #8 x 1-1/2" Combo Screws	20	200	2000
50100	4 #8 x 1-1/2" Combo Screws	4	40	800

**SnapSkru MINI Anchors**

Catalog No.	Included Screw Size In Bag/Box	Box/Bag (pcs.)	Inner Carton (pcs.)	Master Carton (pcs.)
30030	100 #6 x 1-1/4" Combo Screws	100	1000	5000
30031	No Screws	100	1000	5000
30032	50 #6 x 1-1/4" Combo Screws	50	500	2500
50175	25 #6 x 1-1/4" Combo Screws	25	250	2500
50150	6 #6 x 1-1/4" Combo Screws	6	60	1200

For more information, please contact:

TOGGLER®
HIGH-PERFORMANCE ANCHORS®

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