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Comfort Systems USA (Arkansas), Inc.  
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Phone 501-834-3320  
Fax 501-834-5416

**Date:** 2/4/2025

**Return Request: 2/14/2025**

**Project:** City Of Sherwood Public Works (Administration Building)

**Supplier:** Comfort Systems USA (Arkansas), Inc.

**Manufacturer:** Various

## Submittal: Hangers & Supports (HVAC)

**Submittal Number:** 23 05 29-01

## Drawing # and Installation: Mechanical Drawings

**ARCHITECT**

Cromwell  
1300 East 6<sup>th</sup> Street  
Little Rock, AR 72202  
501-372-2900

**ENGINEER**

**Cromwell**  
1300 East 6<sup>th</sup> Street  
Little Rock, AR 72202  
501-372-2900

**GENERAL CONTRACTOR**

**Baldwin & Shell**  
1000 W. Capitol Ave.  
Little Rock, AR 72201  
501-374-8677

**MECHANICAL SUBCONTRACTOR**

Comfort Systems USA (Arkansas), Inc.  
9924 Landers Rd.  
N. Little Rock, AR 72117  
501-834-3320

Notes:

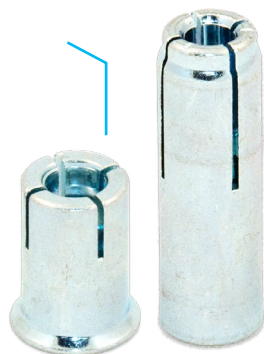
**CSUSA PROJECT NO.**

**24-6084**

[sean@comfortar.com](mailto:sean@comfortar.com)

9924 Landers Rd.  
No. Little Rock, AR 72117

## Drop-in Anchors Fig. 05-470



### Description

FPPI Drop-In Anchors and Mini Drop-In Anchors are UL listed in accordance with NFPA requirements. Zinc plating provides corrosion resistance. Follow NFPA requirements and installation instructions for proper use.

### Installation

**STEP 1:** Using a masonry bit suitable for the material being drilled, drill an appropriate diameter hole at the correct depth according to the table below.

Anchor Size	Drill Size	Minimum Hole Depth
$\frac{3}{8}$ " Standard	$\frac{1}{2}$ "	$1\frac{9}{16}$ "
$\frac{1}{2}$ " Standard	$\frac{5}{8}$ "	2"
$\frac{3}{8}$ " Mini	$\frac{1}{2}$ "	$\frac{3}{4}$ "

**STEP 2:** Insert the anchor into the hole until the edge of the anchor is flush\* with the surface of the material the anchor is being installed in. \*The Anchor may be installed at a greater depth by drilling the hole to the desired depth and threading the correct size bolt for the size anchor being installed and tapping the anchor into the drilled hole.

**STEP 3:** After inserting the anchor to the desired depth, insert the correct size setting tool into the anchor and drive the plug into the anchor until the shoulder of the setting tool meets the edge of the anchor. The anchor is now installed and ready to be used.

**Note:** It is recommended that when used in cinder block, that the anchor be placed between the cells.

### Average Pullout Values For 4000psi Concrete

Part Number	Bolt Size	Pullout Value
<b>Standard Drop-In</b>		
05-470-00	$\frac{3}{8}$ "	5,530 lbs
05-471-00	$\frac{1}{2}$ "	8,080 lbs
<b>Mini Drop-In</b>		
05-472-00	$\frac{3}{8}$ "	1,980 lbs

### Specifications

#### Materials:

Zinc Plated Steel

#### Part Numbers:

05-470-00	$\frac{3}{8}$ "
05-471-00	$\frac{1}{2}$ "
05-472-00	$\frac{3}{8}$ ", mini

#### Use With:

05-475-00	
Setting Tool	$\frac{3}{8}$ "
05-474-00	
Setting Tool	$\frac{1}{2}$ "
05-476-00	
Setting Tool	$\frac{3}{8}$ ", mini



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
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Contractor:	Not approved
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## Universal C-type Clamp (Standard Throat)

**Fig. 92 (Formerly Afcon Fig. 100)**

### Material Specifications

#### Size Range

$\frac{3}{8}$ " and  $\frac{1}{2}$ "

#### Material

Ductile iron, hardened steel cup point set screw and locknut.

#### Finish

Plain

Zinc Plated (Hot-Dip Galvanized optional)

#### Service

Recommended for use under roof installations with bar joist type construction, or for attachment to the top or bottom flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joist or flange does not exceed  $\frac{3}{4}$ ".

#### Approvals

Complies with Federal Specification A-A-1192A (Type 19 & 23), WW-H-171-E (Type 23), ANSI/MSS SP-69 and MSS SP-58 (Type 19 & 23).  
UL, ULC Listed and FM Approved.

#### How to size

Size of clamp is determined by size of rod to be used.

#### Installation

Follow recommended set screw torque values per MSS-SP-69.

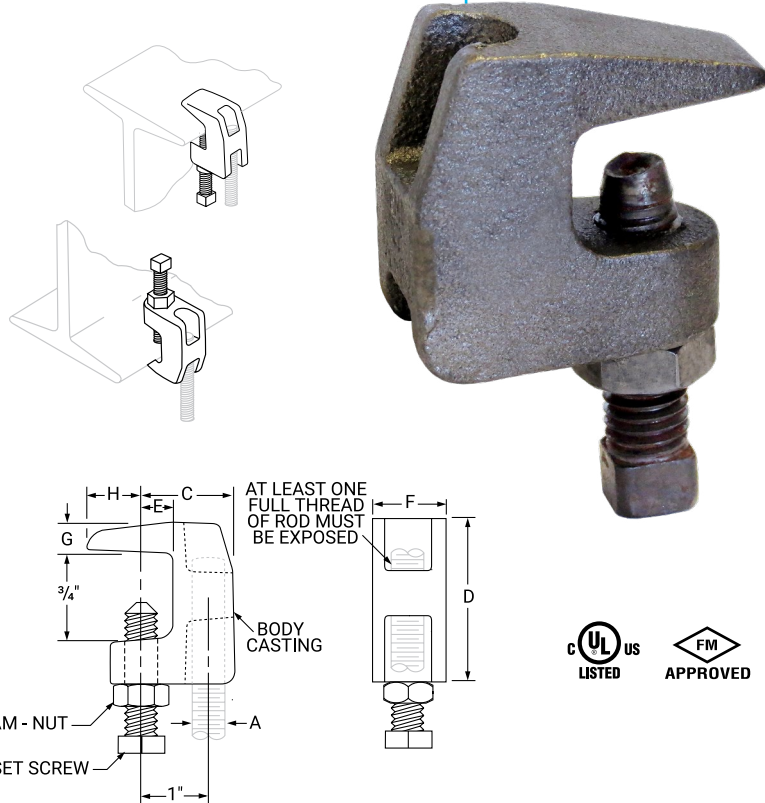
#### Features

- They may be attached to horizontal flanges of structural members in either the top beam or bottom beam positions.
- Secured in place by a cup-pointed Set Screw tightened against the flange. A Jam Nut is provided for tightening the Set Screw against the Body Casting.
- Thru tapping of the body casting permits extended adjustment of the threaded rod.
- Can be used with Fig 89X retaining clip for seismic applications.

#### Ordering

Specify rod size, figure number, name of clamp and finish.

Available with oversized tapped rod hole for Hot Dip Galvanized finish.



### Dimensions (In) - Load (Lbs) - Torque (In-Lbs) - Weight (Lbs)

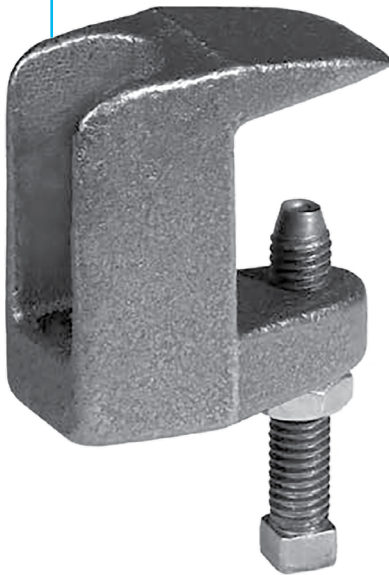
Rod Size A	Set Screw Size	Torque Value	Max Loads ■		Weight	C	D	E	F	G	H
			Top	Bottom							
In.	In.	In.-Lbs.	Lbs.	Lbs.	Lbs.	In.	In.	In.	In.	In.	In.
$\frac{3}{8}$	$\frac{3}{8}$	60	500	250	0.34	$1\frac{5}{16}$	$1\frac{9}{16}$	$\frac{9}{16}$	$\frac{13}{16}$	$\frac{3}{8}$	$\frac{1}{2}$
$\frac{1}{2}$	$\frac{1}{2}$	125	950	760	0.63	$1\frac{3}{8}$	$1\frac{13}{16}$	$\frac{1}{2}$	$1\frac{1}{16}$	$\frac{7}{16}$	$\frac{23}{32}$

#### Note:

- Maximum temperature of 450° F

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## Wide Throat Top Beam C-Clamp Fig. 94



### Features:

- Provides clamping to bar joists which are directly under roof installations.
- Provides for vertical hanger rod installed offset from the edge of the beam flange.
- Ductile iron body assures full thread engagement of rod.

### Material Specifications

**Size Range**  
5/8" and 3/4"

**Material**  
Ductile iron body, hardened steel cup point set screw and locknut.

**Finish**  
Plain or  
Zinc Plated (Hot-Dip Galvanized optional)

**Service**  
Recommended for use under roof installations with bar joist type construction, or for attachment to the top flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joists or flange does not exceed 1 5/16".

**Approvals**  
Complies with Federal Specification A-A-1192A (Type 19)  
WW-H-171-E (Type 19), ANSI/MSS SP-69 and MSS SP-58 (Type 19), UL Listed.

**How to size**  
Size of clamp is determined by size of rod to be used.

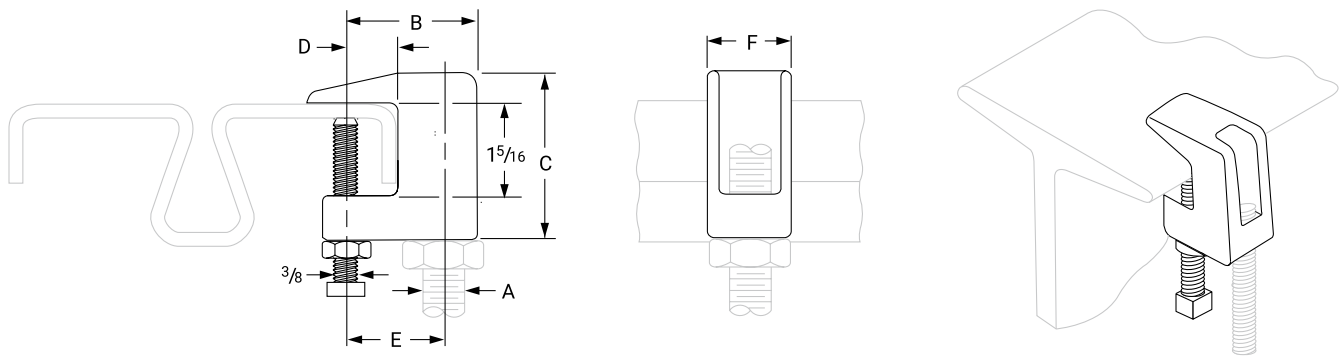
**Installation**  
Follow maximum recommended set screw torque values per MSS-SP-69.

**Ordering**  
Specify rod size, figure number, name of clamp and finish.  
Available with oversized tapped rod hole for Hot Dip Galvanized finish.



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Wide Throat Top Beam C-Clamp  
**Fig. 94**



Dimensions (In) • Load (Lbs) • Torque (In-Lbs) • Weight (Lbs)

Rod Size A	Set Screw Size	Torque Value	Max Loads*	Weight	B	C	D	E	F
5/8	3/8	60	1,200	0.66	1 3/4	2 1/4	3/4	1 1/4	1
3/4	3/8	60	1,600	0.83	1 7/8	2 3/8		1 3/8	1 3/16

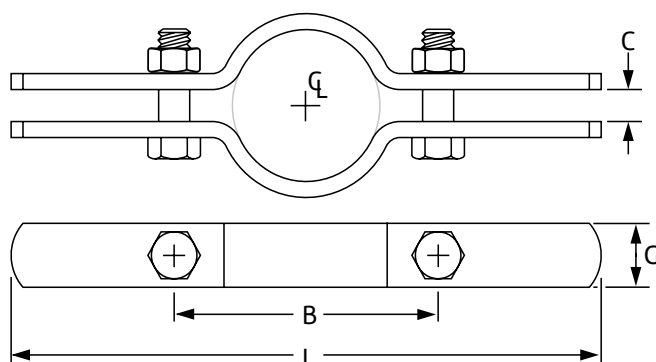
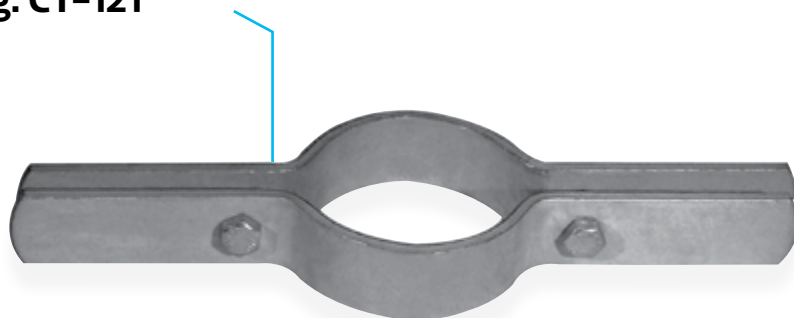
**Note:**  
\* Maximum temperature of 450° F



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## Copper Tubing Riser Clamp Fig. CT-121



**Size Range:** 1/2" through 4"

**Material:** Carbon steel

**Finish:** Copper plated

**Service:** Recommended for support and steadying of copper tube risers, either insulated or non-insulated. This product is not intended for use with hanger rods.

**Approvals:** Complies with Federal Specification A-A-1192A (Type 8), WW-H-171-E (Type 8), ANSI/MSS SP-69 and MSS SP-58 (Type 8).

**Service:** For support and steadying of copper tubing risers.

**Installation:** Clamp is fitted and bolted preferably below a coupling or fitting on the tubing. Do not over tighten bolts.

**Features:** Rounded ears provide greater safety for personnel.

**Ordering:** Specify tube size, figure number, and name.



**Fig. CT-121: Dimensions (in) • Loads (lbs) • Torque (ft-lbs) • Weight (lbs)**

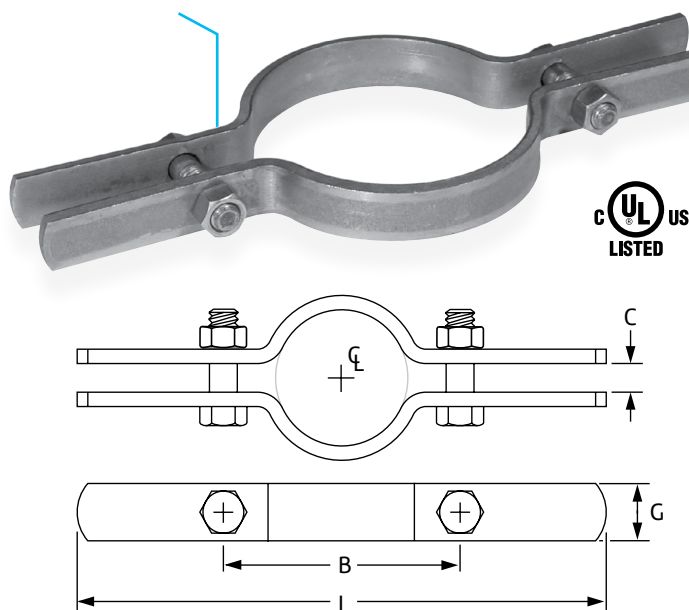
Tube Size	Max Load	Weight	L	G Width	B	C	Bolt Size	Torque Values
1/2	75	0.52	6 1/2	1	2 7/8	3/8	5/16	11
3/4		0.56	7					
1		0.94	9 3/8		3 1/8			
1 1/4	150	0.98	9 5/8	1 1/4	3 1/2	1/2	3/8	21
1 1/2		1.50	10		3 3/8			
2		1.50	10 3/8		4 1/4			
2 1/2	300	1.70	11 13/16	1	4 3/4	1/2	1/2	46
3		1.80	11 1/2		5 1/2			
3 1/2		1.90	12		6 1/2			
4		2.60	13		7			

**Note:** Minimum loads per MSS SP only applicable to 1 1/4" and up.

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## Extension Pipe or Riser Clamp

**Fig. 261** (Formerly Afcon Fig. 400)



**Size Range:** ¾" through 24"

**Material:** Carbon steel

**Finish:** Plain, Hot-Dip Galvanized with Zinc Plated Bolts & Nuts, Epoxy Coated or Painted.

**Service:** For support of stationary steel pipe risers, cast iron pipe or conduit. This product is not intended for use with hanger rods. For this application refer to Fig. 40 Riser Clamp.

**Maximum Temperature:** Plain 650° F, Galvanized and Epoxy 450° F

**Approvals:** Complies with Federal Specification A-A-1192A (Type 8) WW-H-171-E (Type 8), ANSI/MSS SP-69 and MSS SP-58 (Type 8). UL, ULC Listed (Sizes 1½" – 8").

**Installation:** Clamp is fitted and bolted preferably below a coupling, hub or welded lugs on steel pipe. Bolt torques should be per industry standards (see page 248). Clamp is designed for standard steel pipe O.D. and this must be considered in sizing the riser for other types of piping.

**Ordering:** Specify pipe size, figure number, name and finish.

**Note:** Refer to Technical Data Section of the Pipe Hanger Catalog for cast iron soil pipe data.

**Fig. 261: Dimensions (in) • Loads (lbs) • Torque (ft-lbs) • Weight (lbs)**

Pipe Size	Max Load	Weight	L	G Width	B	C	Bolt Diameter	Torque Values
½ & ¾	220	1.1	8⅞	1	2⅞	⅜	⅜	21
1		1.1	3⅞					
1¼		1.6	3½					
1½	250	1.6	10¼		3⅞	½	⅞	32
2		1.7	4¼					
2½		1.9	4¾					
3	500	1.9	11⅜		5½	½	½	46
3½	600	2.3	12⅞		6½			
4	750	2.4	13¾		7			
5	1,500	3.6	14¾	1½	8	⅝	⅝	100
6	1,600	4.0	18½		9			
8	2,500	7.6	20¼		12			
10		11.1	22¾	13¾	¾	¾	150	
12		16.5	24	15¾				
14	17.7	26	17¼					
16	2,900	30.4	28	2½	19¾	¾	¾	150
18		33.8	30		21¾			
20		35.0	30		23¾			
24	3,200	82.0	36¾	3	30	1	⅞	190

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## Adjustable Clevis Hanger Fig. 260 (Formerly Afcon Fig. 371)

**Size Range:** ½" through 30"

**Material:** Carbon Steel

**Finish:** Plain, 8" & Smaller: Zinc Plated (Hot-Dip Galvanized optional), 10" & Larger: Hot-Dip Galvanized with Zinc Plated Bolts & Nuts, or Primed, also available in Plastic or Epoxy Coated.

**Service:** Recommended for the suspension of stationary pipe lines.

**Maximum Temperature:** Plain 650° F, Galvanized and Epoxy 450° F

**Approvals:** Complies with Federal Specification A-A-1192A (Type 1), WW-H-171-E (Type 1), ANSI/MSS SP-69 and MSS SP-58 (Type 1). FM Approved (Sizes ¾" through 8"), UL and ULC Listed (Sizes ½" through 8").

**Installation:** Hanger load nut above clevis must be tightened securely to assure proper hanger performance.

**Adjustment:** Vertical adjustment without removing pipe may be made from ¾" through 5/8", varying with the size of clevis. Tighten upper nut after adjustment.

### Features:

- Design has yoke on outside of lower U-strap so yoke cannot slide toward center of bolt, thus bending of bolt is minimized.
- Sizes 5" and up have rod and two nuts instead of bolt and nut; thread length on clevis rod is such that the thread locks the nuts in place, and threads are not in shear plane.

### Ordering:

Specify pipe size, figure number, name and finish.

### Notes:

- Punched forming holes may be present on certain sizes of this clevis hanger. These holes are solely for the purpose of manufacturing, and do not effect the structural integrity or load carrying capacities of these hangers.
- For insulated line options without shields, see Figures 260 ISS and Figure 300. For insulated line options with shields, see Figures 167 and 168. For ductile iron pipe sizes, see Figure 590.
- Fig. 260F (Felt lined) – available for use for suspension of copper (or other material) so as to prevent electrolysis between the dissimilar metals of the hanger and the pipe, tube or conduit.

### Caution:

When an oversize clevis is used, a pipe spacer or multispace should be placed over clevis bolt to ensure that the lower U-strap will not move in on the bolt.

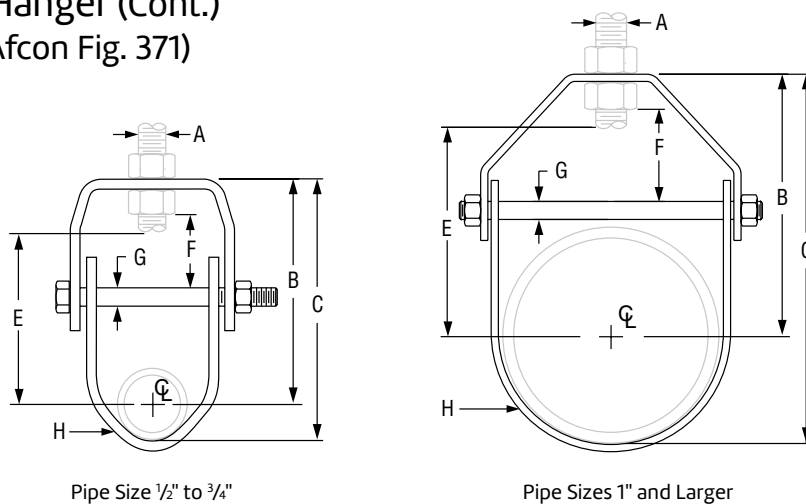


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Notes 2:	



## Adjustable Clevis Hanger (Cont.)

**Fig. 260** (Formerly Afcon Fig. 371)



**Fig. 260: Dimensions (in) • Loads (lbs) • Weight (lbs)**

Pipe Size	Max Load	Span Ft.	Weight	Rod Size A	B	C	Rod Take Out E	Adjust. F	G	H Width Lower
1/2	610	7*	0.34	3/8	2 <sup>3</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	5/8	1/4	1
3/4			0.34		2		1 <sup>5</sup> / <sub>16</sub>			
1			0.35		2 <sup>5</sup> / <sub>16</sub>		1 <sup>5</sup> / <sub>8</sub>			
1 1/4	730	9*	0.40	1/2	2 <sup>3</sup> / <sub>8</sub>	3 <sup>13</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	7/8	3/8	1 1/4
1 1/2			0.45		2 <sup>13</sup> / <sub>16</sub>		2 <sup>1</sup> / <sub>8</sub>			
2			0.50		3 <sup>5</sup> / <sub>16</sub>		2 <sup>5</sup> / <sub>8</sub>			
2 1/2	1,350	11*	0.65	5/8	4 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>	1/2	1 7/16
3		12*	0.85		4 <sup>3</sup> / <sub>4</sub>		4 <sup>1</sup> / <sub>16</sub>			
3 1/2		13*	1.10		5 <sup>1</sup> / <sub>16</sub>		4 <sup>3</sup> / <sub>16</sub>			
4	1,430	14*	1.51	3/4	5 <sup>9</sup> / <sub>16</sub>	7 <sup>13</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>2</sub>	1 <sup>11</sup> / <sub>16</sub>	5/8	1 3/16
5		16*	1.70		6 <sup>9</sup> / <sub>16</sub>		5 <sup>1</sup> / <sub>2</sub>			
6		17*	3.10		6 <sup>15</sup> / <sub>16</sub>		5 <sup>3</sup> / <sub>4</sub>			
8	2,000	19*	4.75	7/8	8 <sup>3</sup> / <sub>8</sub>	12 <sup>11</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>	2	3/4	2 1/2
10	3,600	22*	8.60		9 <sup>7</sup> / <sub>8</sub>		8 <sup>7</sup> / <sub>16</sub>			
12	3,800	23*	11.20		11 <sup>9</sup> / <sub>16</sub>		10 <sup>1</sup> / <sub>8</sub>			
14	4,200	25*	12.50	1	12 <sup>9</sup> / <sub>16</sub>	19 <sup>9</sup> / <sub>16</sub>	10 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>4</sub>	1	3
16	4,600	27	19.85		14		12			
18	4,800	28	22.25		15 <sup>15</sup> / <sub>16</sub>		13 <sup>15</sup> / <sub>16</sub>			
20	4,800	30	40.33	1 1/4	17 <sup>9</sup> / <sub>16</sub>	27 <sup>9</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>8</sub>	1 1/4	3
24**	4,800	32	49.83		19 <sup>13</sup> / <sub>16</sub>		17 <sup>5</sup> / <sub>16</sub>			
30***	6,000	33	70.18		24 <sup>3</sup> / <sub>16</sub>		21 <sup>9</sup> / <sub>16</sub>			

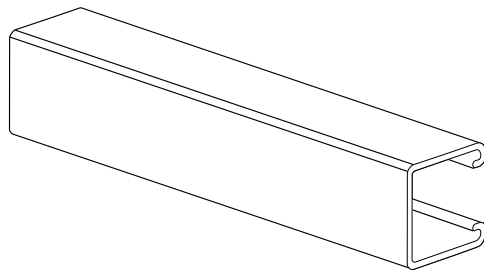
"Span" represents the maximum recommended distance between hangers on a continuous and straight run of horizontal standard weight steel pipe filled with water. In all cases, verify that chosen location of hangers does not subject hangers to a load greater than the maximum recommended load shown above.

\*Indicates that span represents the maximum span for water filled pipe.

\*\*The 24" pipe size assembly includes a 1 1/4" SCH 40 pipe spacer over the 7/8" threaded rod.

\*\*\*The 30" pipe size assembly includes a 1 1/4" SCH 40 pipe spacer over the 1 1/4" threaded rod. When assembled, the U-strap sits outside of the yoke.

## Channel Fig. AS 200

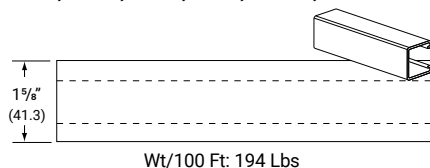


### Description

Anvil-Strut channels are manufactured by a series of forming dies, or rolls, which progressively cold work the strip steel into the desired channel configuration. This method produces a cross section of uniform dimensions within a tolerance of plus or minus 0.015", on outside dimensions.

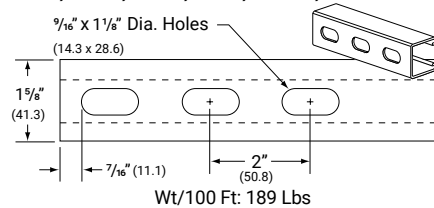
### Solid AS 200

PL, GR, PG, SS, ZTC, HG



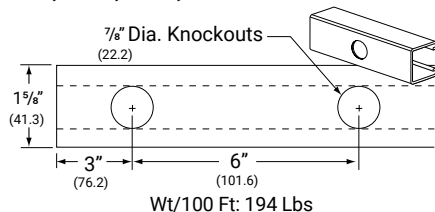
### With Elongated Holes AS 200EH

PL, GR, PG, SS, ZTC, HG



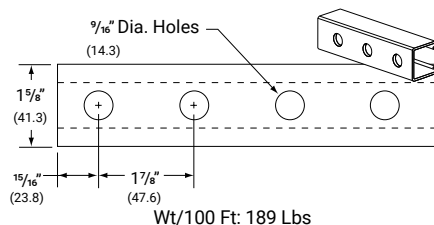
### With Knock Out AS 200KO

PL, GR, PG, Other



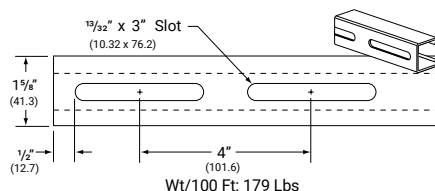
### With Holes AS 200H

PL, GR, PG, Other



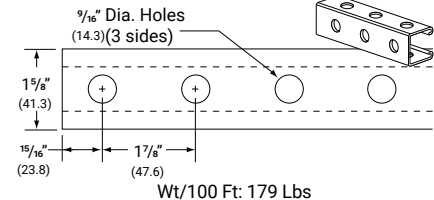
### With Long Slots AS 200S

PL, GR, PG, Other



### With Holes on 3 Sides AS 200H3

PL, GR, PG, Other



### Specifications

#### Size:

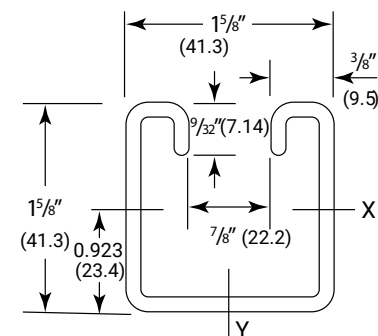
1<sup>5</sup>/<sub>8</sub>" X 1<sup>5</sup>/<sub>8</sub>" (41.3 x 41.3mm)  
12 Gauge Channel • wt./100 ft. - 194 lbs.

#### Materials:

Carbon Steel  
Stainless Steel  
Aluminum

#### Finishes

Pre-Galvanized  
Hot Dip Galvanized - Post Fabrication  
Supr-Green Powder Coated  
Zinc Trivalent Chromium  
PVC



#### LEGEND:

GR: Powder Coated Supr-Green  
EG: Electro-Galvanized  
PG: Pre-Galvanized  
AL: Aluminum  
HG: Hot Dipped Galvanized  
PL: Plain  
SS: Stainless Steel  
ZTC: Zinc Trivalent Chromium Stainless Steel (SS), Zinc Trivalent Chromium (ZTC) and Hot Dipped Galvanized (HG) are specialty finishes. Pricing is located in the Specialty Strut Section of the Anvil-Strut price book.



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## Channel Fig. AS 200

1<sup>5</sup>/<sub>8</sub>" X 1<sup>5</sup>/<sub>8</sub>" (41.3 x 41.3mm)  
12 Gauge Channel • wt./100 ft. – 194 lbs  
Stocked in pre-galvanized, plain, powder coated  
Supr-Green, zinc trivalent chromium, and hot dipped  
galvanized, in 10 & 20 ft. lengths. Note: Also available in  
Stainless Steel 304 & 316 Alloys. Other materials, finishes  
& lengths are available upon request.

### Properties of Section

Catalog Number	Wt./Ft.		Area of Selection		X-X Axis						Y-Y Axis					
	Lbs.	Kg.	Sq. In.	Sq. CM	I in <sup>4</sup>	I cm <sup>4</sup>	S in <sup>3</sup>	S cm <sup>3</sup>	r in	r cm	I in <sup>4</sup>	I cm <sup>4</sup>	S in <sup>3</sup>	S cm <sup>3</sup>	r in	r cm
AS 200	1.94	2.9	0.552	3.561	0.188	7.825	0.208	3.409	0.584	1.483	0.236	9.823	0.290	4.752	0.654	1.661

I = Moment of Inertia      S = Section Modulus      r = Radius of Gyration

### Beam and Column Loads

Span or Unbraced Height	Static Beam Load (X-X Axis)						Column Loading Data				
	Max Allowable Uniform Load	Deflection at Uniform Load	Uniform Load at Deflection				Max. Allowable Load at Slot Face	Max. Column Load Applied at C.G.			
			Span/180 Deflection	Span/240 Deflection	Span/360 Deflection	Weight of Channel		k=.65	k=.80	k=1.0	k=1.2
In	Lbs	In	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs
12	3,480	0.01	3,480	3,480	3,480	1.9	3,850	12,240	11,940	11,480	10,960
18	2,320	0.03	2,320	2,320	2,320	2.9	3,710	11,540	10,960	10,130	9,290
24	1,740	0.06	1,740	1,740	1,740	3.9	3,530	10,690	9,850	8,740	7,710
30	1,390	0.09	1,390	1,390	1,310	4.9	3,330	9,780	8,740	7,470	6,380
36	1,160	0.13	1,160	1,160	910	5.8	3,120	8,880	7,710	6,380	5,310
42	990	0.17	990	990	670	6.8	2,910	8,020	6,800	5,470	4,430
48	870	0.23	870	770	510	7.8	2,710	7,240	6,000	4,690	3,810
60	700	0.35	660	490	330	9.7	2,340	5,910	4,690	3,630	2,960
72	580	0.51	460	340	230	11.6	2,040	4,840	3,810	2,960	2,400
84	500	0.69	340	250	170	13.6	1,800	4,040	3,200	2,480	1,980
96	430	0.90	260	190	130	15.5	1,600	3,480	2,750	2,110	1,670
108	390	1.14	200	150	100	17.5	1,440	3,050	2,400	1,820	**
120	350	1.41	160	120	80	19.4	1,290	2,700	2,110	**	**
144	290	2.03	110	90	60	23.3	1,060	2,180	1,670	**	**
168	250	2.77	80	60	40	27.2	**	1,790	**	**	**
180	230	3.18	70	50	40	29.1	**	**	**	**	**
192	220	3.61	60	50	NR	31.6	**	**	**	**	**
216	190	4.57	50	40	NR	34.9	**	**	**	**	**
240	170	5.65	40	NR	NR	38.8	**	**	**	**	**

# Bearing Load may limit load

\*\* Not recommended - KL/r exceeds 200

#### Notes

- The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
- Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
- The above chart shows beam capacities for strut without holes. For strut with holes, multiply by the following:  
EH by 88%,      S by 90%,  
H (¾ holes) by 88%,      KO by 82%.
- Refer to the Anvil-Strut Catalog for reduction factors for unbraced lengths.

## Channel Fig. AS 200

### Beam and Column Loads – Metric

Span or Unbraced Height	Static Beam Load (X-X Axis)							Column Loading Data			
	Max Allowable Uniform Load	Deflection at Uniform Load	Uniform Load at Deflection				Max. Allowable Load at Slot Face	Max. Column Load Applied at C.G.			
			Span/180 Deflection	Span/240 Deflection	Span/360 Deflection	Weight of Channel		k=.65	k=.80	k=1.0	k=1.2
mm	Kn	mm	Kn	Kn	Kn	Kg	Kn	Kn	Kn	Kn	Kn
305	15.5	0.3	15.5	15.5	15.5	0.9	17.1	54.4	53.1	51.1	48.8
457	10.3	0.8	10.3	10.3	10.3	1.3	16.5	51.3	48.8	45.1	41.3
610	7.7	1.5	7.7	7.7	7.7	1.8	15.7	47.6	43.8	38.9	34.3
762	6.2	2.3	6.2	6.2	5.8	2.2	14.8	43.5	38.9	33.2	28.4
914	5.2	3.3	5.2	5.2	4.0	2.6	13.9	39.5	34.3	28.4	23.6
1,067	4.4	4.3	4.4	4.4	3.0	3.1	12.9	35.7	30.2	24.3	19.7
1,219	3.9	5.8	3.9	3.4	2.3	3.5	12.1	32.2	26.7	20.9	16.9
1,524	3.1	8.9	2.9	2.2	1.5	4.4	10.4	26.3	20.9	16.1	13.2
1,829	2.6	13.0	2.0	1.5	1.0	5.3	9.1	21.5	16.9	13.2	10.7
2,134	2.2	17.5	1.5	1.1	0.8	6.2	8.0	18.0	14.2	11.0	8.8
2,438	1.9	22.9	1.2	0.8	0.6	7.0	7.1	15.5	12.2	9.4	7.4
2,743	1.7	29.0	0.9	0.7	0.4	7.9	6.4	13.6	10.7	8.1	**
3,048	1.6	35.8	0.7	0.5	0.4	8.8	5.7	12.0	9.4	**	**
3,658	1.3	51.6	0.5	0.4	0.3	10.6	4.7	9.7	7.4	**	**
4,267	1.1	70.4	0.4	0.3	0.2	12.3	**	8.0	**	**	**
4,572	1.0	80.8	0.3	0.2	0.2	13.2	**	**	**	**	**
4,877	1.0	91.7	0.3	0.2	**	14.1	**	**	**	**	**
5,486	0.8	116.1	0.2	0.2	**	15.8	**	**	**	**	**
6,096	0.8	143.5	0.2	**	**	17.6	**	**	**	**	**

## Channel Fig. AS 200

### Materials

**Carbon Steel:** Channels are formed from high-quality, structural grade carbon steel which has been manufactured in accordance with ASTM A-1011-04– SS Grade 33 (hot rolled), or ASTM 366 (cold rolled), with mechanical properties of 33 ksi minimum yield and 52 ksi minimum tensile strength. The precision roll-forming process by which the channels are formed “cold works” the steel, thereby increasing its mechanical properties.

**Stainless Steel:** Channels are formed from chromium–nickel stainless steel sheet manufactured in accordance with ASTM A-240 specification, offered in both AISI Type 304 and 316 material to provide protection in varying corrosive conditions.

**Aluminum:** Extruded aluminum channel is produced from 6063-T6 alloy, and fittings are produced from 5052-H32 alloy, both in accordance with ASTM B-221 specifications. Aluminum is suitable for use in various corrosive environments.

### Finishes

**Pre-Galvanized:** Hot dip, mill galvanized coating produced through a process of continuously passing the steel through a bath of molten zinc. This process is performed in accordance with ASTM A-653. The thickness of the zinc coating conforms with ASTM G-90 which represents a coating thickness of .90 ounces of zinc per square foot. This coating is applied to the steel master coils prior to slitting and fabrication.

**Hot Dip Galvanized – Post Fabrication:** The finished channel is completely immersed in a bath of molten zinc, resulting in the complete coating of all surfaces of the product, including edges and welds. Strut channels that are hot dip galvanized, have a total coating weight of 3.0 ounces of zinc per square foot in accordance with ASTM A-123 specification. This coating provides superior results in applications calling for prolonged outdoor exposure.

**Supr-Green Powder Coating:** Strut channels are coated after fabrication with polyester powder finish. This coating is applied using an electrostatic spray process, beginning with cleaning and phosphating, through a bonderite pretreatment process, and ending with oven curing. The resulting finish provides a high quality appearance and durability. Powder Coating is in accordance with ASTM B-117 (standard practice for operating salt spray (fog) apparatus) to 500 hours with less than 1/8” scribe creep.

**Zinc Trivalent Chromium:** The finished channel undergoes a multi-step process consisting of electrogalvanizing, in accordance with ASTM B-633-85, followed by an application of zinc trivalent chromium, which provides the distinctive gold coloration of the finish. All surfaces are coated because the process is performed after fabrication.

**PVC:** A corrosive resistant PVC (polyvinyl chloride) coating is applied over the completed strut channel. The coating process consists of surface pretreatment, followed by preheating of the part, which is then passed through a fluidized bed of vinyl plastic powder. The powder melts onto the heated channel forming a smooth coating which undergoes a final heat curing.

## Cushion Clamp Assembly Figs. AS 0040D through AS 106P



### Description

Anvil-Strut Pipe Clamps are all manufactured to fit into the standard openings of 1<sup>5</sup>/<sub>8</sub>" channel to support runs of piping where desired, to secure the pipe in place.

AS 0040D Thru AS 106P EG, 304SS, 316SS, ZTC

### LEGEND:

**GR:** Powder Coated Supr-Green **EG:** Electro-Galvanized **PG:** Pre-Galvanized **AL:** Aluminum  
**HG:** Hot Dipped Galvanized **PL:** Plain SS: Stainless Steel  
**ZTC:** Zinc Trivalent Chromium Stainless Steel (**SS**), Zinc Trivalent Chromium (**ZTC**) and Hot Dipped Galvanized (**HG**) are specialty finishes. Pricing is located in the Specialty Strut Section of the Anvil-Strut price book.

### Specifications

#### Materials:

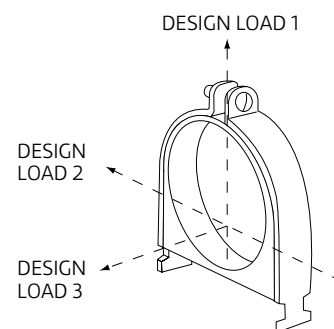
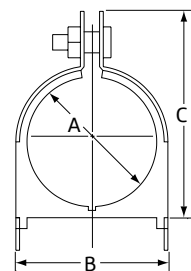
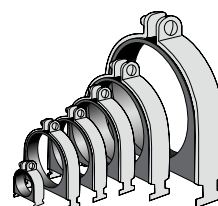
Clamp: 1008-1018 Carbon Steel  
Cushion: High Strength TPE  
Locknut: Nylon Insert

#### Service Temperature:

-65°F to 275°F

#### Approvals:

UL 2043 Fire Test for Heat and Visible Smoke Release  
25/50 Flame Spread/Smoke Development Index



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

## Cushion Clamp Assembly Figs. AS 004OD through AS 106P

### Tube Series

Part Number	O.D. Size	A	B	C	Std Pkg	Wt/100 pcs
AS 004OD	1/4"	0.25	0.62	0.98	25	10
AS 006ODN	3/8"	0.37	0.82	1.13	25	11
AS 008ODN	1/2"	0.50	0.94	1.34	25	13
AS 010ODN	5/8"	0.62	1.06	1.54	25	14
AS 012ODN	3/4"	0.75	1.20	1.68	25	14
AS 014ODN	7/8"	0.87	1.31	1.82	25	15
AS 016OD	1"	1.00	1.44	1.95	25	17
AS 018ODN	1 1/8"	1.12	1.57	2.08	20	18
AS 020OD	1 1/4"	1.25	1.70	2.21	20	18
AS 022ODN	1 3/8"	1.37	1.82	2.34	20	20
AS 024OD	1 1/2"	1.50	1.95	2.47	20	33
AS 026ODN	1 5/8"	1.62	2.07	2.60	20	35
AS 028OD	1 3/4"	1.75	2.20	2.73	20	37
AS 032OD	2"	2.00	2.45	3.04	10	41
AS 034OD	2 1/8"	2.12	2.57	3.23	10	46
AS 040OD	2 1/2"	2.50	2.94	3.79	10	49
AS 042OD	2 5/8"	2.62	3.07	3.92	5	51
AS 048OD	3"	3.00	3.57	4.42	5	57
AS 050OD	3 1/8"	3.12	3.57	4.42	5	60
AS 058OD	3 5/8"	3.62	4.20	5.11	5	70
AS 066OD	4 1/8"	4.12	4.57	5.54	5	94
AS 082OD	5 1/8"	5.12	5.57	6.54	5	125
AS 098OD	6 1/8"	6.12	6.57	7.54	5	130

Std Pkg & Wt/100 pcs: See charts above.

### Specifications

#### Materials:

Clamp: 1008-1018 Carbon Steel

Cushion: High Strength TPE

Locknut: Nylon Insert

#### Service Temperature:

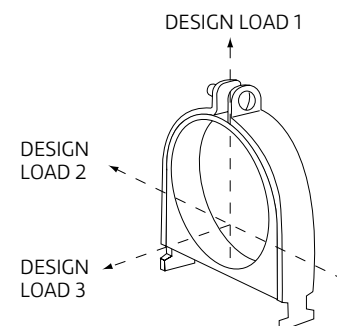
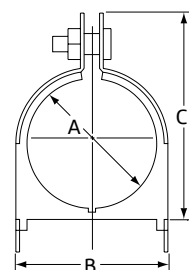
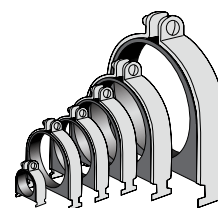
-65°F to 275°F

#### Approvals:

UL 2043 Fire Test for Heat and

Visible Smoke Release

25/50 Flame Spread/Smoke Development Index



## Cushion Clamp Assembly Figs. AS 0040D through AS 106P

### Tube Series

Copper & Steel Tube O.D. Size	Design Load 1 (lbs)	Design Load 2 (lbs)	Design Load 3 (lbs)
1/4"	400	50	50
3/8"	400	50	50
1/2"	400	50	50
5/8"	400	50	50
3/4"	600	75	75
7/8"	600	75	75
1"	600	75	75
1 1/8"	600	75	75
1 1/4"	600	75	75
1 3/8"	600	75	75
1 1/2"	600	75	75
1 5/8"	600	75	75
1 3/4"	800	125	125
1 7/8"	800	125	125
2"	800	125	125
2 1/8"	800	125	125
2 1/4"	800	125	125
2 3/8"	800	125	125
2 1/2"	800	125	125
2 5/8"	800	125	125
3"	800	125	125
3 1/8"	800	125	125
3 5/8"	1000	200	150
4 1/8"	1000	200	150
6 1/8"	1000	200	150

Std Pkg & Wt/100 pcs: See charts above.

### Specifications

#### Materials:

Clamp: 1008-1018 Carbon Steel

Cushion: High Strength TPE

Locknut: Nylon Insert

#### Service Temperature:

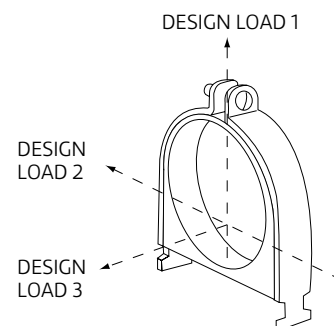
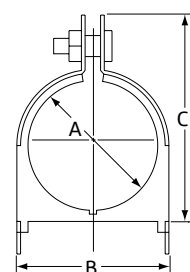
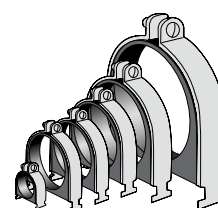
-65°F to 275°F

#### Approvals:

UL 2043 Fire Test for Heat and

Visible Smoke Release

25/50 Flame Spread/Smoke Development Index





## Cushion Clamp Assembly Figs. AS 004OD through AS 106P

### Pipe Series

Part Number	O.D. Size	A	B	C	Std Pkg	Wt/100 pcs
AS 009P	1/4" Pipe	0.54	0.98	1.34	25	13
AS 011P	3/8" Pipe	0.67	1.13	1.54	25	14
AS 014P	1/2" Pipe	0.84	1.29	1.82	25	15
AS 017P	3/4" Pipe	1.05	1.50	2.08	20	17
AS 021P	1" Pipe	1.31	1.76	2.34	20	19
AS 027P	1 1/4" Pipe	1.66	2.17	2.73	20	35
AS 030ODP	1 1/2" Pipe	1.90	2.35	2.86	20	39
AS 038ODP	2" Pipe	2.37	2.82	3.67	10	47
AS 046ODP	2 1/2" Pipe	2.87	3.32	4.17	5	55
AS 056ODP	3" Pipe	3.50	3.95	4.79	5	55
AS 064ODP	3 1/2" Pipe	4.00	4.45	5.42	5	88
AS 072ODP	4" Pipe	4.50	4.95	5.92	5	110
AS 089P	5" Pipe	5.56	6.01	6.92	5	130
AS 106P	6" Pipe	6.62	7.07	8.23	5	140

### Pipe Series

Pipe Sizes (Nominal)	Design Load 1 (lbs)	Design Load 2 (lbs)	Design Load 3 (lbs)
1/4"	400	50	50
3/8"	600	75	75
1/2"	600	75	75
3/4"	600	75	75
1"	600	75	75
1 1/4"	800	125	125
1 1/2"	800	125	125
2"	800	125	125
2 1/2"	800	125	125
3"	1000	200	150
3 1/2"	1000	200	150
4"	1000	200	150
5"	1000	200	150
6"	1000	200	150

Std Pkg & Wt/100 pcs: See charts above.

### Specifications

#### Materials:

Clamp: 1008-1018 Carbon Steel

Cushion: High Strength TPE

Locknut: Nylon Insert

#### Service Temperature:

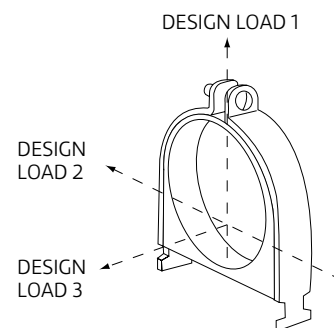
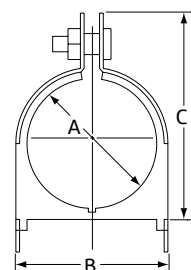
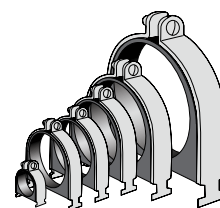
-65°F to 275°F

#### Approvals:

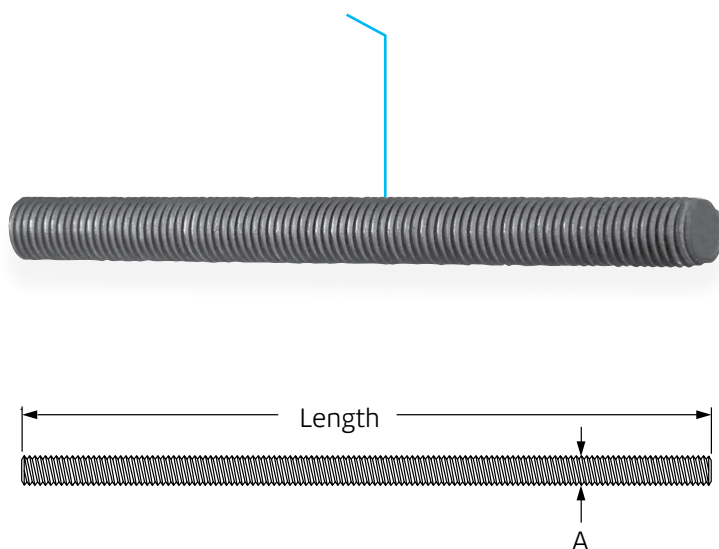
UL 2043 Fire Test for Heat and

Visible Smoke Release

25/50 Flame Spread/Smoke Development Index



## Continuous Threaded Rod Fig. 146 (Formerly Afcon Fig. 650)



**Size Range:** ¼" through 1½" stocked in six, ten, and twelve foot lengths. Other even foot lengths can be furnished to order.

**Material:** Carbon steel or Stainless Steel Gr 304

**Threads:** National Coarse (UNF), rod threaded complete length.

**Finish:** Plain or Zinc Plated (Hot-Dip Galvanized optional)

**Maximum Temperature:**  
Zinc Plated 450°F, Stainless Steel 650°F

**Approvals:** Complies with MSS SP-58.

**Ordering:** Specify rod diameter and length, figure number, name and finish.

**Note:** The acceptability of galvanized coatings at temperatures above 450°F is at the discretion of the end user.

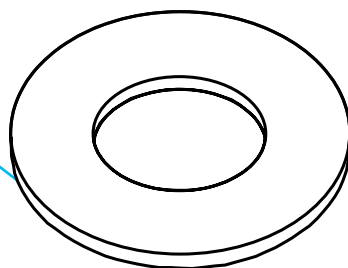


**Fig. 146: Dimensions (in) • Loads (lbs) • Weight (lbs)**

Rod Size A	Threads per Inch	Max Load	Weight per Ft.
		650° F	
¼	20	240	0.12
⅜	16	730	0.30
½	13	1,350	0.53
⅝	11	2,160	0.84
¾	10	3,230	1.20
⅞	9	4,480	1.70
1	8	5,900	2.30
1¼	7	9,500	3.60
1½	6	13,800	5.10

PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

## Flat Washer Figs. AS 209, AS 3500, AS 211, AS 83, AS 209, AS 6108, AS 230

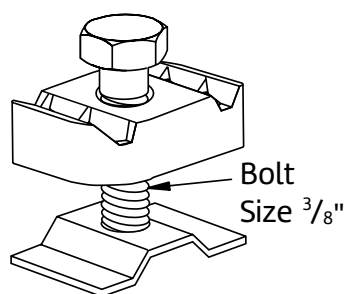


### Description

Anvil-Strut Hardware, when used in conjunction with Anvil-Strut Channel and Nuts, provides a superior grip between channels and fittings.

### Seismic Rod Stiffener

AS 3500 EG, ZTC

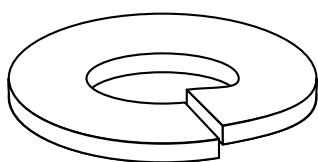


Size	Wt./100 Pcs.
$\frac{3}{8}$ " - $\frac{5}{8}$ "	16

Std Pkg: 25 - Wt/100 pcs: See chart above.

### Lock Washer

AS 211 EG



Size	Wt./100 Pcs.
$\frac{1}{4}$ "	0.3
$\frac{3}{8}$ "	0.7
$\frac{1}{2}$ "	1.5

Std Pkg: 100 - Wt/100 pcs: See chart above.

#### LEGEND:

**GR:** Powder Coated Supr-Green **EG:** Electro-Galvanized **PG:** Pre-Galvanized **AL:** Aluminum  
**HG:** Hot Dipped Galvanized **PL:** Plain **SS:** Stainless Steel  
**ZTC:** Zinc Trivalent Chromium Stainless Steel (**SS**), Zinc Trivalent Chromium (**ZTC**) and Hot Dipped Galvanized (**HG**) are specialty finishes. Pricing is located in the Specialty Strut Section of the Anvil-Strut price book.



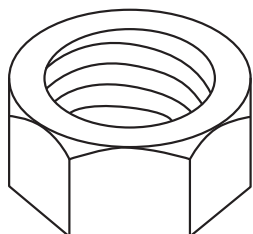
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Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

## Flat Washer

**Figs. AS 209, AS 3500, AS 211, AS 83, AS 209, AS 6108, AS 230**

## Hexagon Nut

AS 83 EG

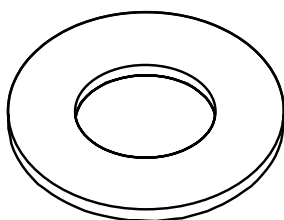


Size	Std. Pkg.	Wt./100 Pcs.
1/4"	500	0.6
3/8"	500	1.6
1/2"	100	4.8
5/8"	50	7.0
3/4"	50	12.0

Std Pkg & Wt/100 pcs: See chart above.

## Flat Washer

AS 209 EG

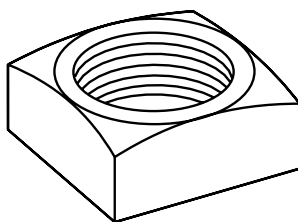


Size	Std. Pkg.	Wt./100 Pcs.
1/4"	200	0.7
3/8"	100	1.5
1/2"	100	3.5
5/8"	100	8.0
3/4"	100	11.0

Std Pkg & Wt/100 pcs: See chart above.

## Square Nut

AS 6108 EG

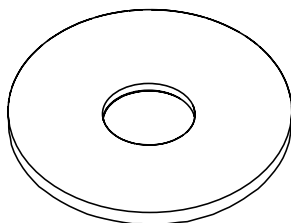


Size	Std. Pkg.	Wt./100 Pcs.
1/4"	100	0.9
5/16"	100	1.6
3/8"	100	2.7
1/2"	100	5.8

Std Pkg & Wt/100 pcs: See chart above.

## Square Nut

AS 230 EG



Size	Std. Pkg.	Wt./100 Pcs.
1/4"	100	3.3
3/8"	100	3.0
1/2"	100	2.8

Std Pkg & Wt/100 pcs: See chart above.

### LEGEND:

**GR:** Powder Coated Supr-Green **EG:** Electro-Galvanized **PG:** Pre-Galvanized **AL:** Aluminum

**HG:** Hot Dipped Galvanized **PL:** Plain **SS:** Stainless Steel

**ZTC:** Zinc Trivalent Chromium Stainless Steel (**SS**), Zinc Trivalent Chromium (**ZTC**) and Hot Dipped Galvanized (**HG**) are specialty finishes. Pricing is located in the Specialty Strut Section of the Anvil-Strut price book.

# DURA-BLOK Rooftop Supports



DURA-BLOK™ is made from 100% recycled rubber and qualifies for LEED credits. Reflective strips on both sides allow for easy product visibility.

Channels are through bolted on all sizes for added strength and a 1" (25.4mm) gap between blocks allows water to flow freely around longer assemblies.

Product composition is not sharp or abrasive, helping to extend the roof life and no penetration through the roof is required.

The DURA-BLOK dampens vibration, needs no supplemental rubber pad, and will not float or blow away.

The DURA-BLOK is UV resistant and is suitable for any type roofing material or other flat surface. For sloped surfaces see page 289 for adjustable hinge fitting (B634).

The open ends allow for easier adjustments to DBE, DBR, and DBM series supports. A drainage channel through the center of the block keeps water from pooling under the support.

DURA-BLOK can be used to support piping, HVAC/Ducts, roof walkways, conduit and cable tray.



# DURA-BLOK Rooftop Supports

## DB - Series

**Base with Galv. Channel - 1" (25.4mm) high**

**Dimensions** - 5" (127mm) High x 6" (152mm) Wide x Length (overall length)

**Material** - 100% recycled rubber, UV resistant

**Ultimate Load Capacity** - (uniform load) \*

DB5 = 500 lbs. (2.22kN)

DB10 = 500 lbs. (2.22kN)

DB20 = 1,000 lbs. (4.45kN)

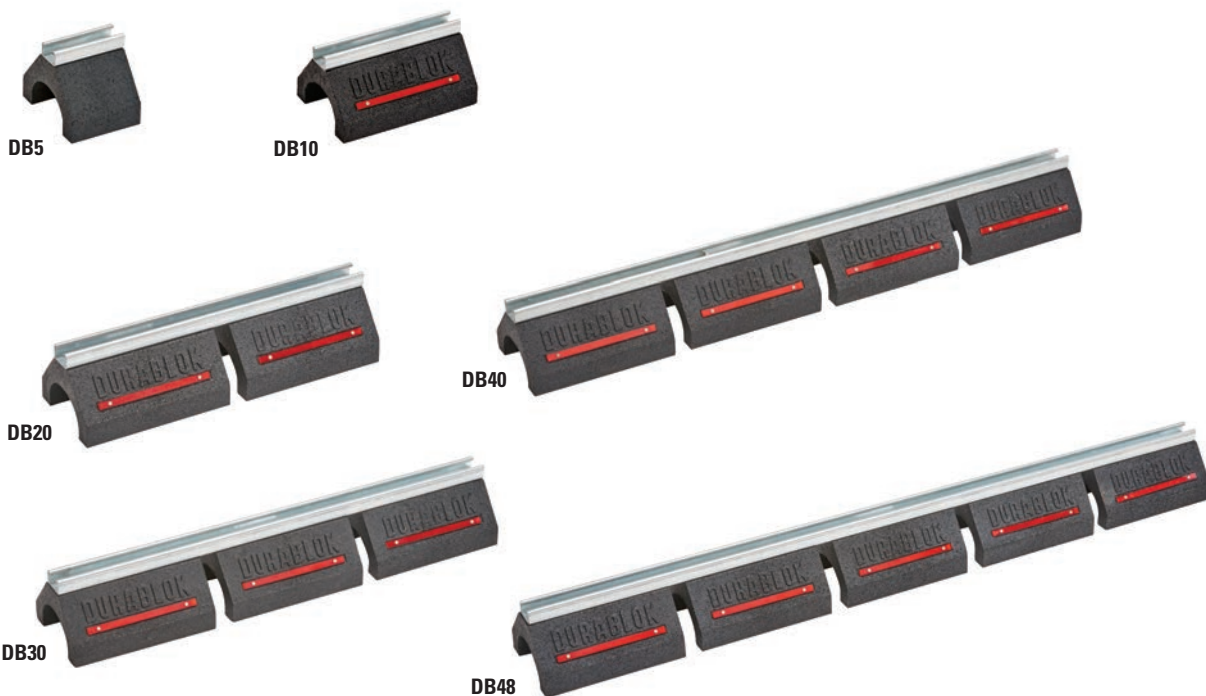
DB30 = 1,500 lbs. (6.67kN)

DB40 = 2,000 lbs. (8.89kN)

DB48 = 2,500 lbs. (11.12kN)



DURA-BLOK™ DB-Series channel support is designed for superior support of piping systems, cable tray, HVAC equipment, walkway systems and many other applications. The DURA-BLOK is UV resistant and suitable for installation on any type of roofing material or other flat surfaces. For sloped roofs see adjustable hinge fitting (B634).



Part No.	Height in. (mm)	Width in. (mm)	Overall Length in. (mm)	Weight Each lbs. (kg)
<b>DB5</b>	5" (127)	6" (152)	4.8" (122)	2.75 (1.25)
<b>DB10</b>	5" (127)	6" (152)	9.6" (244)	5.28 (2.39)
<b>DB20</b>	5" (127)	6" (152)	20.2" (513)	10.63 (4.82)
<b>DB30</b>	5" (127)	6" (152)	30.8" (782)	15.99 (7.25)
<b>DB40</b>	5" (127)	6" (152)	41.4" (1052)	21.34 (9.68)
<b>DB48</b>	5" (127)	6" (152)	52.0" (1321)	26.70 (12.4)

*For pipe straps/clamps, rollers and roller supports that can be used with these DURA-BLOK supports, see page 302.*

**\* For Roof Loading, Consult Roofing Manufacturer or Engineer. As with most commercial roofs, the weakest point may be the insulation board beneath the rubber membrane.**

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

## DB6 - Series

**Base with Galv. Channel - 27/16" (62mm) high**

**Dimensions** - 67/16" (163mm) High x 6" (152mm) Wide x Length (overall length)

**Material** - 100% recycled rubber, UV resistant

**Ultimate Load Capacity** - (uniform load) \*

DB610 = 500 lbs. (2.22kN)

DB620 = 1,000 lbs. (4.45kN)

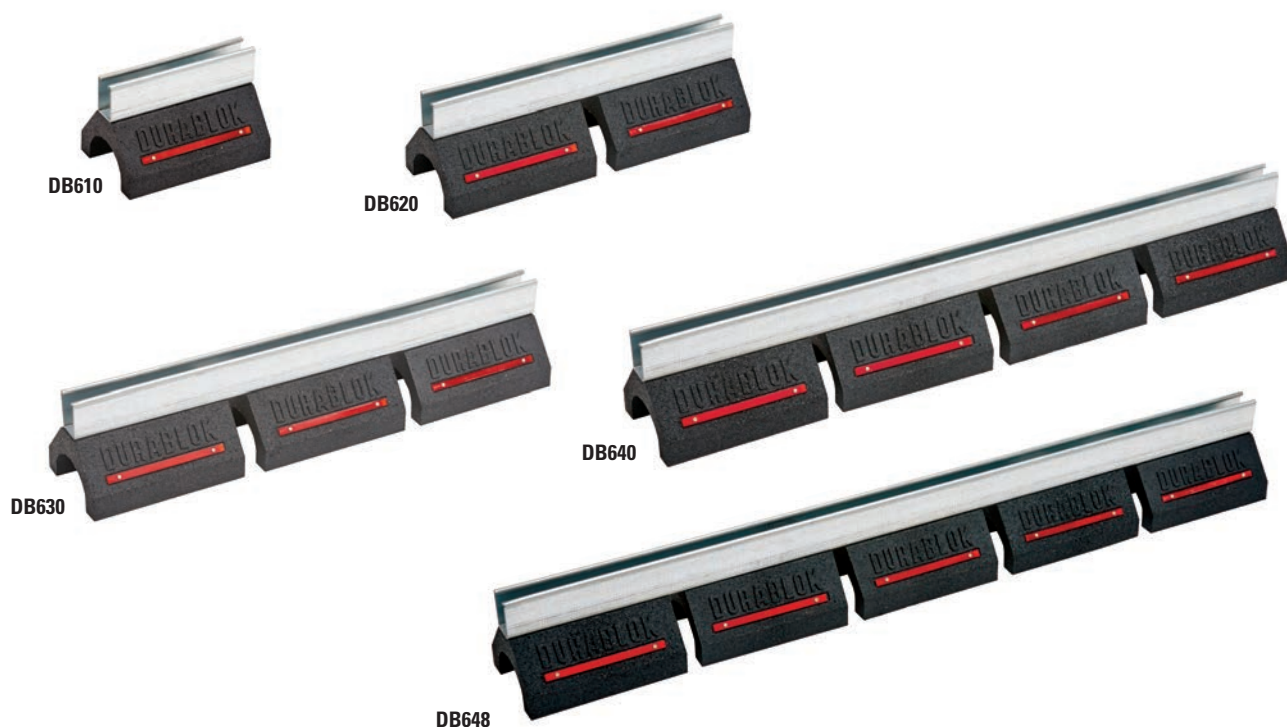
DB630 = 1,500 lbs. (6.67kN)

DB640 = 2,000 lbs. (8.89kN)

DB648 = 2,500 lbs. (22.12kN)



DURA-BLOK™ DB6-Series channel support is designed for superior support of piping systems, cable tray, HVAC equipment, walkway systems and many other applications. The DURA-BLOK is UV resistant and suitable for installation on any type of roofing material or other flat surfaces. For sloped roofs see adjustable hinge fitting (B634).



Part No.	Height in. (mm)	Width in. (mm)	Overall Length in. (mm)	Weight Each lbs. (kg)
DB610	67/16" (167)	6" (152)	9.6" (244)	6.36 (2.88)
DB620	67/16" (167)	6" (152)	20.2" (513)	12.90 (5.85)
DB630	67/16" (167)	6" (152)	30.8" (782)	19.45 (8.82)
DB640	67/16" (167)	6" (152)	41.4" (1052)	26.00 (11.79)
DB648	67/16" (167)	6" (152)	52.0" (1321)	32.55 (14.76)

*For pipe straps/clamps, rollers and roller supports that can be used with these DURA-BLOK supports, see page 302.*

**\* For Roof Loading, Consult Roofing Manufacturer or Engineer. As with most commercial roofs, the weakest point may be the insulation board beneath the rubber membrane.**

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.