

May 2023

METAL FRAMING SYSTEMS



THE COMPLETE LINE OF STRUT, FITTINGS & ACCESSORIES

PIPE HANGERS AND SUPPORTS • CUSTOM FABRICATION • ENGINEERING



NATIONAL PIPE HANGER CORPORATION

Introduction

National Pipe Hanger Corporation is proud to present our Metal Framing Systems catalog containing a complete and versatile line of strut, fittings and accessories. These products have been selected to accommodate a wide range of applications in the mechanical, plumbing, HVAC, electrical and industrial fields. This selection results from more than fifty years of concentrated and direct exposure to the piping industry, from the design engineer's selection, to the piping contractor's installation. This is where needs are discovered and where products and services are genuinely tested. In this area, National Pipe Hanger Corporation's experiences are unequaled.

National Pipe Hanger Corporation takes pride in being an American manufacturing company in the United States. A constant awareness of the customers' requirements and efforts is the foundation in the development of National Pipe Hanger Corporation's manufacturing skills. All of National Pipe Hanger Corporation's products are carefully manufactured to meet the highest standards in the industry. Our 80,000 square foot manufacturing facility in NJ can accommodate any project nationwide. National Pipe Hanger Corporation is a full service fabricator with A.W.S. – D1.1 certified welders, a participating member of the Manufacturer's Standardization Society (MSS) and manufactures pipe hangers and supports in accordance with MSS Standard Practice SP-58. Many of National Pipe Hanger Corporation's products meet and exceed Factory Mutual Listings (FM), Underwriters Laboratory Listings (UL), and Federal Specifications (WW-H-171E).

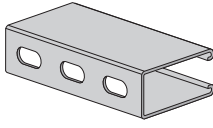
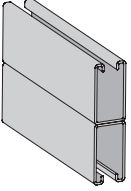
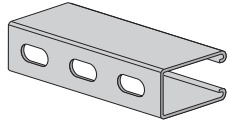
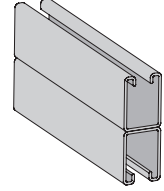
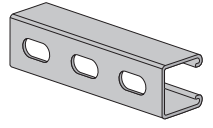
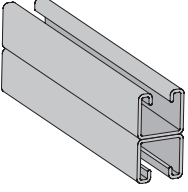
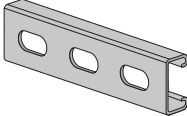
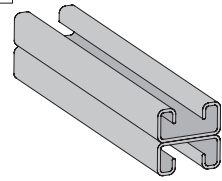
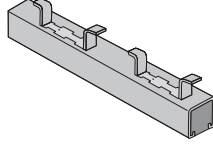
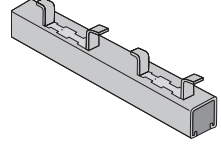
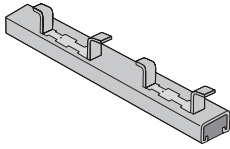
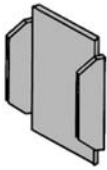
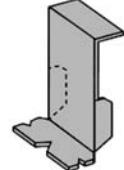
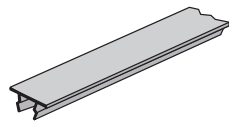
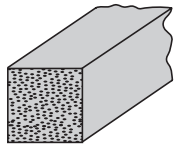
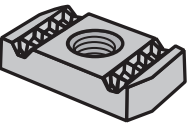
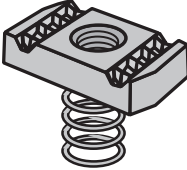
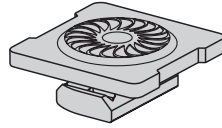
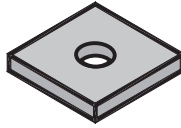
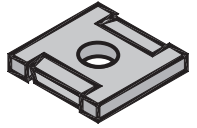
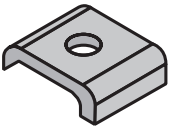
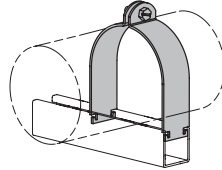
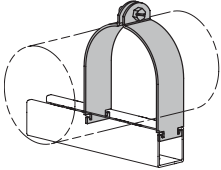
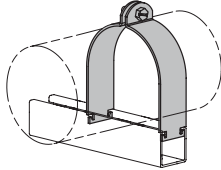
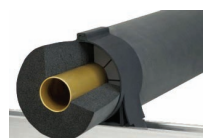
In addition to a wide range of strut, fittings and accessories, National Pipe Hanger Corporation offers pipe hangers and supports, and custom options backed by our skilled engineers. Contact National Pipe Hanger Corporation's New Jersey headquarters or Maryland branch for special pipe support requirements including: other pipe sizes and types, dimensional requirements, installation methods, finishes, etc. National Pipe Hanger Corporation's sales team will always provide you with impeccable service and will respond quickly to your product and service needs on both standard items and specialized fabrications. For a detailed look at National Pipe Hanger Corporation's full line of products, please refer to our Pipe Hangers and Supports catalog. For a detailed look at National Pipe Hanger Corporation's Pre-Insulated Pipe Supports, please refer to our Pre-Insulated Pipe Supports catalog. Visit our website at nationalpipehanger.com for additional information.

All units in this catalog are inch-pound unless otherwise noted. Additional information provided at the end of this catalog can aid the user in lateral bracing loads and SH-Strut Channel Specifications.

National Pipe Hanger Corporation reserves the right to make specification changes without notice. While every effort has been made to assure the accuracy of information contained in this catalog at the time of publication, National Pipe Hanger Corporation cannot accept responsibility for inaccuracies resulting from undetected errors or omissions.

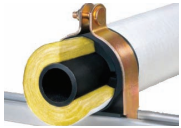
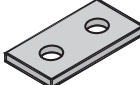
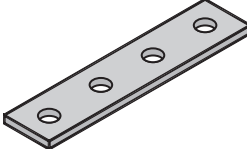
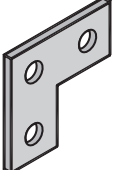
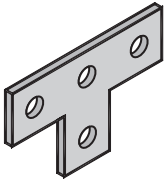
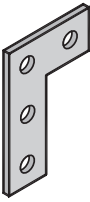
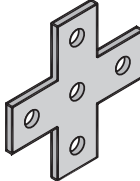
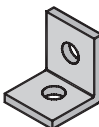
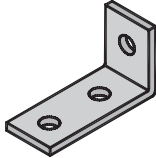
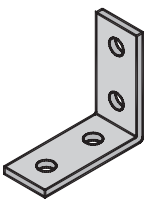
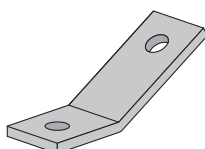
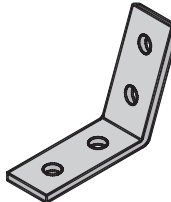
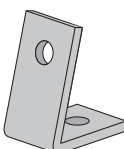
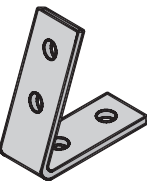
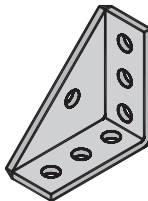
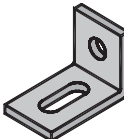
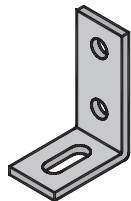
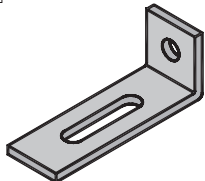
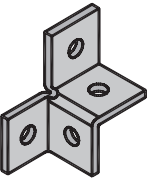
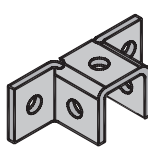
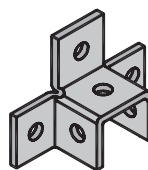
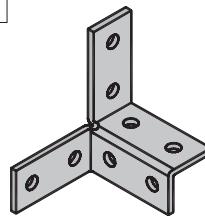
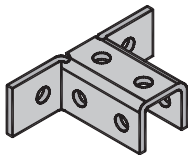
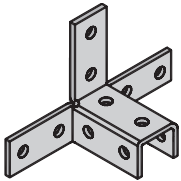
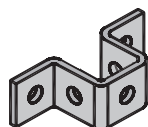
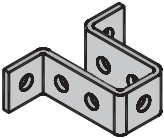
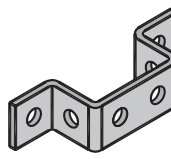
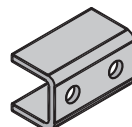
Pictorial Table of Contents



05  Strut 3¹/₄" x 1⁵/₈" SH112	06  Back-to-Back Strut 6¹/₂" x 1⁵/₈" SH112A	07  Strut 2⁷/₁₆" x 1⁵/₈" SH122	08  Back-to-Back Strut 4⁷/₈" x 1⁵/₈" SH122A	09  Strut 1⁵/₈" x 1⁵/₈" SH132
10  Back-to-Back Strut 3¹/₄" x 1⁵/₈" SH132A	11  Strut 1³/₁₆" x 1⁵/₈" SH164	12  Back-to-Back Strut 1⁵/₈" x 1⁵/₈" SH164A	13  Concrete Insert 1⁵/₈" x 1⁵/₈" SH132IN	14  Concrete Insert 1³/₈" x 1⁵/₈" SH142IN
15  Concrete Insert 1³/₁₆" x 1⁵/₈" SH164IN	16  Metal End Cap 1000 Series SEC	16  Metal End Cap 1001 Series SEC1	16  Plastic Closure Strip SC-900P	16  Styrofoam Filler
17  Strut Nut w/ out Spring SN	17  Strut Nut w/ Spring SN	17  Strut Nut / Washer Combo SNW	17  Strut Washer SW	18  Guided Square Washer SSW619-D
18  Saddle Washer SUW	18  V Chair Clip SV	19  Strut Pipe Clamp SPC	19  Strut Tube Clamp STC	20  O.D. Strut Pipe Clamp ODSPC
21  Cushion Wrap CUSH-WRAP	22  Snap N Strut Clamp SNAP	23  Hydra-Zorb Cushion Clamp HYDR-D	24  Klo-Shure 7-Series KLO-7	25  Klo-Shure 8-Series KLO-8

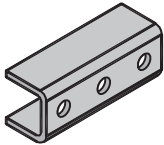
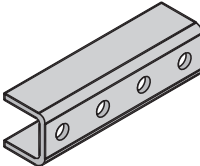
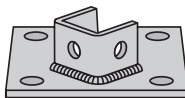
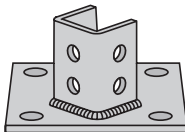
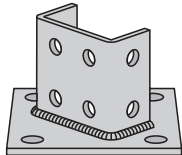
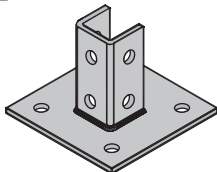
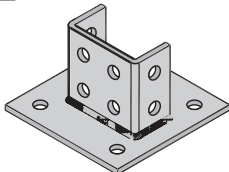
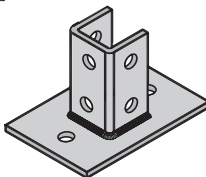
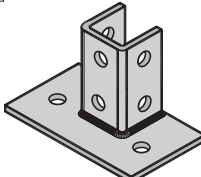
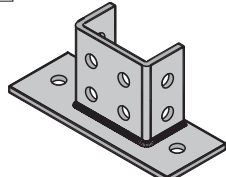
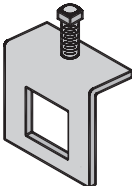
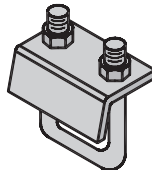
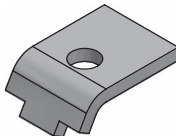
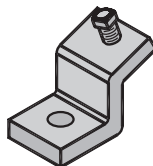
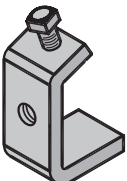
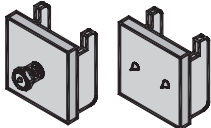
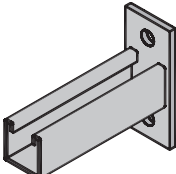
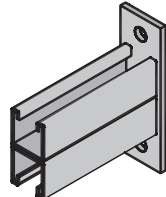
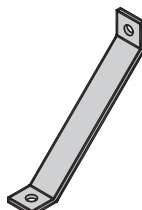
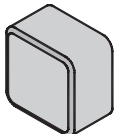
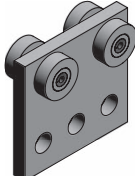
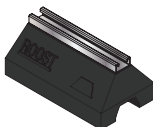
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26		27		28		28		28	
	Klo-Shure 9-Series KLO-9		Cush-A-Therm Clamp UX		Two Hole Splice Plate SP601-1		Four Hole Flat Splice Plate SP888		Three Hole Flat Angle Plate 90° SFP718
28		28		28		29		29	
	Four Hole Tee Plate STP714		Four Hole Flat Corner Plate 90° SFP718-1		Five Hole Flat Cross Plate SCP712		Two Hole Corner Angle SCA604		Three Hole 90° Corner Angle SCA745
29		29		29		29		30	
	Four Hole Corner Angle SCA607		Two Hole Open 45° Angle SOA633-45		Two Hole Open 22 1/2° Angle SOA633-2212		Four Hole Open 45° Angle SOA781-45		Two Hole Closed 45° Angle SCA624-45
30		30		30		30		30	
	Four Hole Closed 45° Angle SCA793-45		Seven Hole Universal Corner Angle SCA3373		90° Slotted Corner Angle SCA2545		Two Hole 90° Slotted Corner Angle SCA3049		90° Slotted Corner Angle SAA763
31		31		31		31		31	
	Four Hole Double Corner Wing Fitting SWF665		Five Hole Double Corner Wing Fitting SWF923		Six Hole Triple Corner Wing Fitting SWF668		Eight Hole Double Wing Fitting SWF667		Eight Hole Double Corner Wing Fitting SWF821
31		32		32		32		32	
	Twelve Hole Triple Wing Fitting SWF669		Five Hole U Support SUS613		Seven Hole U Support SUS679		Six Hole U Support SUS721		Two Hole Splice Channel SP631

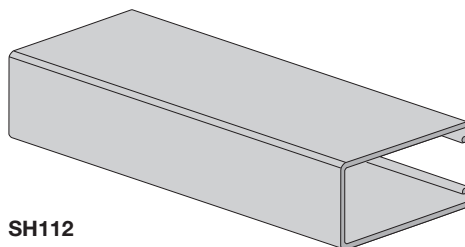
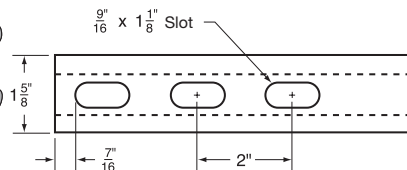
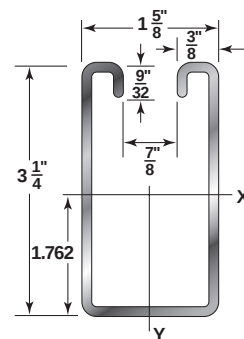
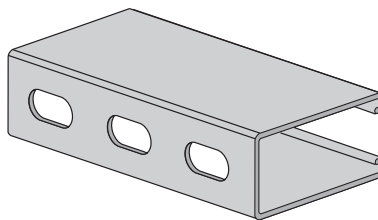
Pictorial Table of Contents



32		32		33		33		33	
	Three Hole Splice Channel SP629		Four Hole Splice Channel SP616		Single Post Base SPB3013		Single Post Base Double SPB3033		Double Post Base Double SPB3064
33		34		34		34		34	
	Squared Single Post Base Double SPB3033-SQ		Squared Double Post Base Double SPB3064-SQ		Single Post Base Double SPB3025		Flush Mount Single Post Base SPB280-FL		Flush Mount Double Post Base SPB3064-FL
35		35		35		36		36	
	Window Beam Clamp SBC855-1S		Beam Clamp SBC2651		Beam Clamp SBC686		Beam Clamp SBC685-1S		Light Duty Beam Clamp SBC907-S
36		36		37		37		38	
	Heavy Duty Beam Clamp SBC684-S		Column Clamps SCC2654		Single Channel Bracket SSB651		Double Channel Bracket SSB809		Strut Brace SSB926
38		38		38		39		39	
	PVC End Cap SEC6153		Two Wheel Trolley STR2521		Four Bearing Trolley STR2950-916		Rooftop Support Block Base Only SRBBE		Rooftop Support Block w/ 132 Strut SRBBE-132
39									
	Rooftop Support Block w/ 164 Strut SRBBE-164								

SH112**Strut 3¼ x 1½****12 Gauge**

SH112OS Oblong Slotted Strut is stocked in pre-galvanized in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.

**SH112****SECTION PROPERTIES**

For SH112OS, See Note 3

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH112	3.13	0.887	1.100	0.633	1.114	0.431	0.530	0.697

I = Moment of Inertia

S = Section Modulus

r = Radius of Gyration

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX . ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	10,610	0.01	10,610	10,610	10,610	3.1	6,170	19,600	19,060	18,210	17,240
18	7,070	0.02	7,070	7,070	7,070	4.7	5,950	18,320	17,240	15,630	13,920
24	5,300	0.03	5,300	5,300	5,300	6.3	5,650	16,720	15,070	12,770	10,560
30	4,240	0.05	4,240	4,240	4,240	7.8	5,270	14,920	12,770	10,030	7,640
36	3,540	0.07	3,540	3,540	3,540	9.4	4,840	13,060	10,560	7,640	5,650
42	3,030	0.09	3,030	3,030	3,030	11.0	4,360	11,230	8,560	5,910	4,450
48	2,650	0.12	2,650	2,650	2,650	12.5	3,860	9,530	6,850	4,790	3,660
60	2,120	0.18	2,120	2,120	1,920	15.7	3,100	6,680	4,790	3,450	2,710
72	1,770	0.26	1,770	1,770	1,340	18.8	2,570	4,980	3,660	2,710	2,170
84	1,520	0.36	1,520	1,470	980	21.9	2,200	3,950	2,960	2,240	1,820
96	1,330	0.47	1,330	1,130	750	25.0	1,930	3,270	2,500	1,920	1,580
108	1,180	0.60	1,180	890	590	28.2	1,730	2,800	2,170	1,690	1,390
120	1,060	0.74	960	720	480	31.3	1,560	2,450	1,920	1,510	**
144	880	1.06	670	500	330	37.6	1,320	1,980	1,580	**	**
168	760	1.44	490	370	250	43.8	1,150	1,670	1,340	**	**
180	710	1.65	430	320	210	47.0	**	1,550	**	**	**
192	660	1.88	380	280	190	50.1	**	1,450	**	**	**
216	590	2.38	300	220	150	56.3	**	**	**	**	**
240	530	2.94	240	180	120	62.6	**	**	**	**	**

Bearing Load may limit load

** Not Recommended - kL/r exceeds 200

Notes:

1. 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.

2. 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%.

3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

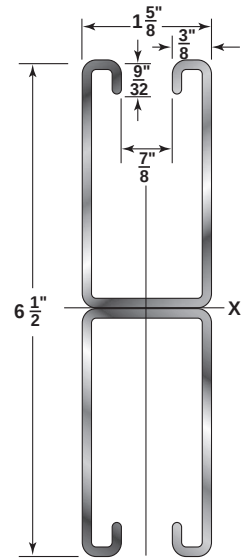
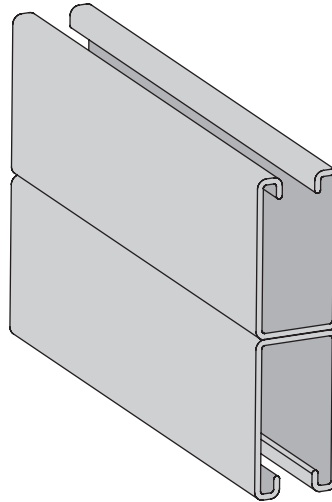
SH112A

Back-to-Back Strut 6½ x 1⅝

12 Gauge



SH112OSA Back-to-Back Oblong Slotted Strut is available in pre-galvanized in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.



SECTION PROPERTIES

For SH112OSA, See Note 3

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH112A	6.26	1.775	6.251	1.923	1.877	0.862	1.060	0.697

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

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	6,890*	0.00	6,890*	6,890*	6,890*	6.3	10,910	41,100	40,940	40,680	40,360
18	6,890*	0.01	6,890*	6,890*	6,890*	9.4	10,860	40,720	40,360	39,780	39,080
24	6,890*	0.02	6,890*	6,890*	6,890*	12.5	10,780	40,180	39,560	38,550	37,360
30	6,890*	0.02	6,890*	6,890*	6,890*	15.7	10,690	39,500	38,550	37,030	35,250
36	6,890*	0.04	6,890*	6,890*	6,890*	18.8	10,570	38,690	37,360	35,250	32,840
42	6,890*	0.05	6,890*	6,890*	6,890*	21.9	10,440	37,750	35,990	33,260	30,200
48	6,890*	0.06	6,890*	6,890*	6,890*	25.0	10,280	36,700	34,480	31,100	27,420
60	6,450	0.10	6,450	6,450	6,450	31.3	9,900	34,280	31,100	26,470	21,740
72	5,370	0.14	5,370	5,370	5,370	37.6	9,440	31,540	27,420	21,740	16,370
84	4,610	0.19	4,610	4,610	4,610	43.8	8,890	28,590	23,620	17,230	12,030
96	4,030	0.25	4,030	4,030	4,030	50.1	8,260	25,520	19,890	13,270	9,210
108	3,580	0.32	3,580	3,580	3,370	56.3	7,550	22,440	16,370	10,480	7,280
120	3,220	0.39	3,220	3,220	2,730	62.6	6,790	19,440	13,270	8,490	**
144	2,690	0.57	2,690	2,690	1,900	75.1	5,510	13,960	9,210	**	**
168	2,300	0.77	2,300	2,090	1,390	87.6	4,520	10,250	6,770	**	**
180	2,150	0.89	2,150	1,820	1,210	93.9	**	8,930	**	**	**
192	2,020	1.01	2,020	1,600	1,070	100.2	**	7,850	**	**	**
216	1,790	1.27	1,690	1,260	840	112.7	**	**	**	**	**
240	1,610	1.57	1,370	1,020	680	125.2	**	**	**	**	**

Bearing Load may limit load

** Not Recommended - kL/r exceeds 200

* Load limited by spot weld shear

Notes:

1. 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.

2. 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%.

3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

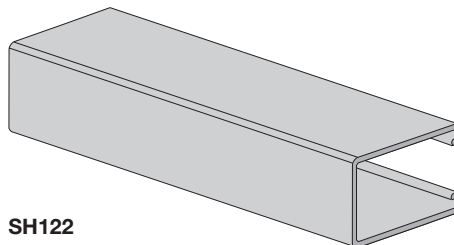
SH122

Strut 2 $\frac{7}{16}$ x 1 $\frac{5}{8}$

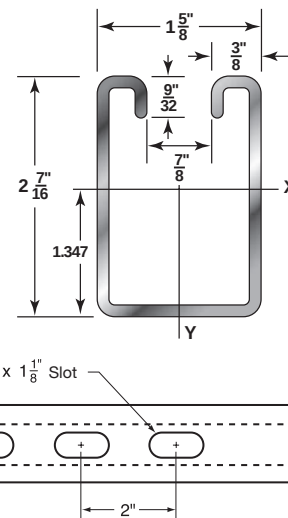
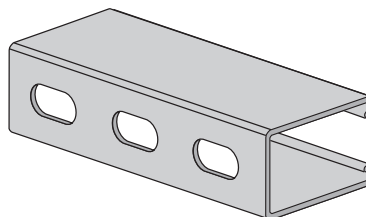
12 Gauge



SH122OS Oblong Slotted Strut is available in pre-galvanized in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.



SH122



SECTION PROPERTIES

For SH122OS, See Note 3

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH122	2.54	0.720	0.525	0.396	0.854	0.334	0.411	0.681

I = Moment of Inertia

S = Section Modulus

r = Radius of Gyration

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	6,640	0.01	6,640	6,640	6,640	2.5	5,050	15,940	15,530	14,880	14,140
18	4,430	0.02	4,430	4,430	4,430	3.8	4,870	14,970	14,140	12,920	11,640
24	3,320	0.04	3,320	3,320	3,320	5.1	4,630	13,750	12,500	10,790	9,160
30	2,660	0.06	2,660	2,660	2,660	6.4	4,350	12,390	10,790	8,770	7,020
36	2,210	0.09	2,210	2,210	2,210	7.6	4,030	11,000	9,160	7,020	5,360
42	1,900	0.12	1,900	1,900	1,870	8.9	3,700	9,650	7,680	5,590	4,320
48	1,660	0.15	1,660	1,660	1,430	10.2	3,350	8,400	6,390	4,620	3,630
60	1,330	0.24	1,330	1,330	920	12.7	2,770	6,240	4,620	3,450	2,770
72	1,110	0.35	1,110	960	640	15.2	2,360	4,790	3,630	2,770	2,260
84	950	0.47	940	700	470	17.8	2,070	3,890	3,010	2,330	1,910
96	830	0.62	720	540	360	20.3	1,850	3,290	2,580	2,020	1,650
108	740	0.78	570	420	280	22.9	1,670	2,860	2,260	1,770	1,440
120	660	0.97	460	340	230	25.4	1,520	2,530	2,020	1,580	**
144	550	1.39	320	240	160	30.5	1,290	2,070	1,650	**	**
168	470	1.89	230	180	120	35.6	1,110	1,750	1,380	**	**
180	440	2.17	200	150	100	38.1	**	1,620	**	**	**
192	420	2.47	180	130	90	40.6	**	1,510	**	**	**
216	370	3.13	140	110	70	45.7	**	**	**	**	**
240	330	3.86	110	90	60	50.8	**	**	**	**	**

Bearing Load may limit load

** Not Recommended - kL/r exceeds 200

Notes:

1. 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.

2. 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%.

3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

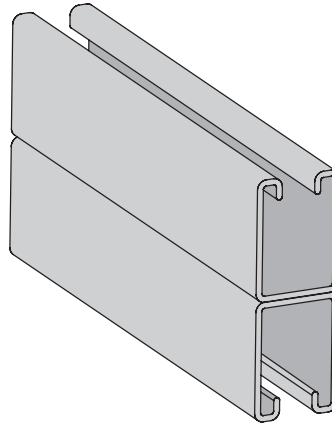
SH122A

Back-to-Back Strut 4 $\frac{7}{8}$ x 1 $\frac{5}{8}$

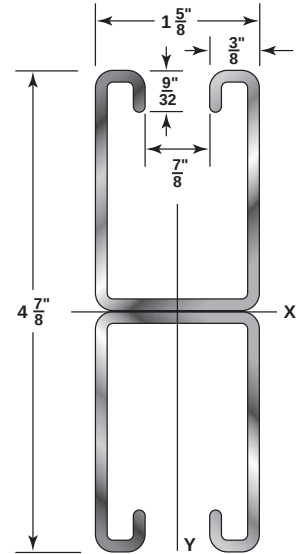
12 Gauge



SH122OSA Back-to-Back Oblong Slotted Strut is available in pre-galvanized in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.



For SH122OSA, See Note 3



SECTION PROPERTIES

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH122A	5.08	1.439	2.832	1.162	1.403	0.667	0.820	0.681

I = Moment of Inertia

S = Section Modulus

r = Radius of Gyration

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	5,220*	0.01	5,220*	5,220*	5,220*	5.1	8,800	33,310	33,180	32,950	32,680
18	5,220*	0.01	5,220*	5,220*	5,220*	7.6	8,750	32,980	32,680	32,190	31,600
24	5,220*	0.02	5,220*	5,220*	5,220*	10.2	8,680	32,530	32,000	31,150	30,140
30	5,220*	0.03	5,220*	5,220*	5,220*	12.7	8,590	31,950	31,150	29,860	28,360
36	5,220*	0.05	5,220*	5,220*	5,220*	15.2	8,480	31,270	30,140	28,360	26,330
42	5,220*	0.06	5,220*	5,220*	5,220*	17.8	8,350	30,470	28,980	26,680	24,120
48	4,870	0.08	4,870	4,870	4,870	20.3	8,200	29,580	27,710	24,870	21,790
60	3,900	0.13	3,900	3,900	3,900	25.4	7,860	27,540	24,870	21,010	17,090
72	3,250	0.19	3,250	3,250	3,250	30.5	7,440	25,240	21,790	17,090	12,670
84	2,780	0.26	2,780	2,780	2,530	35.6	6,960	22,770	18,650	13,390	9,310
96	2,440	0.34	2,440	2,440	1,930	40.6	6,420	20,220	15,570	10,270	7,130
108	2,160	0.43	2,160	2,160	1,530	45.7	5,820	17,670	12,670	8,110	5,630
120	1,950	0.52	1,950	1,860	1,240	50.8	5,230	15,200	10,270	6,570	**
144	1,620	0.76	1,620	1,290	860	61.0	4,230	10,800	7,130	**	**
168	1,390	1.03	1,260	950	630	71.1	3,470	7,930	5,240	**	**
180	1,300	1.18	1,100	830	550	76.2	**	6,910	**	**	**
192	1,220	1.34	970	730	480	81.3	**	6,070	**	**	**
216	1,080	1.70	760	570	380	91.4	**	**	**	**	**
240	970	2.10	620	460	310	101.6	**	**	**	**	**

Bearing Load may limit load

** Not Recommended - kL/r exceeds 200

* Load limited by spot weld shear

Notes:

1. 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.

2. 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%.

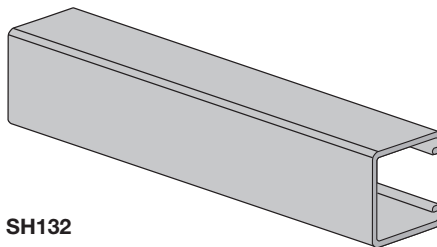
3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

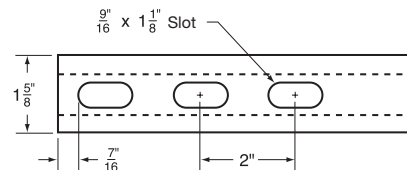
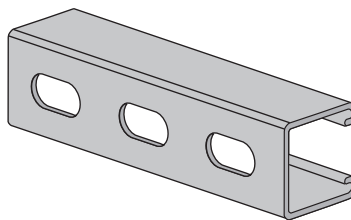
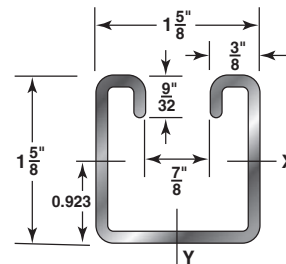
5. Refer to page 42 for additional information on allowable loads.

SH132**Strut 1 $\frac{5}{8}$ x 1 $\frac{5}{8}$** **12 Gauge**

SH132OS Oblong Slotted Strut is stocked in pre-galvanized and 304 Stainless Steel in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.



SH132

**SECTION PROPERTIES**

For SH132OS, See Note 3

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH132	1.94	0.552	0.188	0.208	0.584	0.236	0.290	0.654

I = Moment of Inertia

S = Section Modulus

r = Radius of Gyration

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 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	31.0	**	**	**	**	**
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

NR = Not Recommended

Notes:

1. 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.

2. 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%.

3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

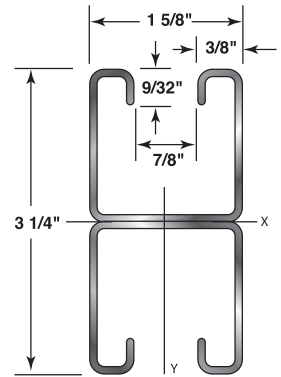
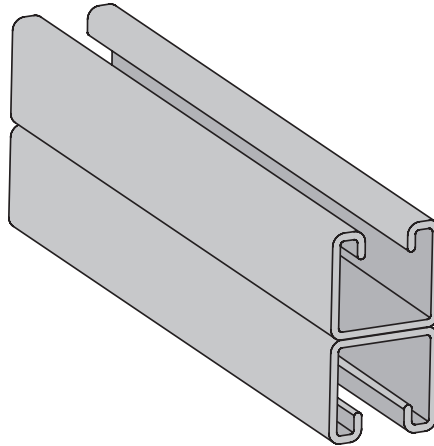
SH132A

Back-to-Back Strut 3 1/4 x 1 5/8

12 Gauge



SH132OSA Back-to-Back Oblong Slotted Strut is stocked in pre-galvanized in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.



For SH132OSA, See Note 3

SECTION PROPERTIES

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH132A	3.88	1.104	0.947	0.583	0.926	0.473	0.582	0.655

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

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	3,500*	0.01	3,500*	3,500*	3,500*	3.9	6,640	25,540	25,430	25,240	25,020
18	3,500*	0.02	3,500*	3,500*	3,500*	5.8	6,580	25,270	25,020	24,610	24,120
24	3,500*	0.03	3,500*	3,500*	3,500*	7.8	6,510	24,890	24,460	23,750	22,920
30	3,500*	0.05	3,500*	3,500*	3,500*	9.7	6,410	24,420	23,750	22,690	21,460
36	3,260	0.07	3,260	3,260	3,260	11.6	6,300	23,850	22,920	21,460	19,800
42	2,790	0.10	2,790	2,790	2,790	13.6	6,170	23,190	21,970	20,090	18,010
48	2,440	0.13	2,440	2,440	2,440	15.5	6,030	22,460	20,930	18,620	16,140
60	1,950	0.20	1,950	1,950	1,660	19.4	5,690	20,790	18,620	15,510	12,410
72	1,630	0.28	1,630	1,630	1,150	23.3	5,310	18,920	16,140	12,410	8,990
84	1,400	0.39	1,400	1,270	840	27.2	4,890	16,920	13,630	9,510	6,600
96	1,220	0.50	1,220	970	650	31.0	4,450	14,880	11,220	7,280	5,060
108	1,090	0.64	1,020	770	510	34.9	3,980	12,860	8,990	5,750	3,990
120	980	0.79	830	620	410	38.8	3,560	10,930	7,280	4,660	**
144	810	1.13	570	430	290	46.6	2,870	7,660	5,060	**	**
168	700	1.54	420	320	210	54.3	**	5,630	**	**	**
180	650	1.77	370	280	180	58.2	**	4,900	**	**	**
192	610	2.01	320	240	160	62.1	**	4,310	**	**	**
216	540	2.55	260	190	130	69.8	**	**	**	**	**
240	490	3.15	210	160	100	77.6	**	**	**	**	**

Bearing Load may limit load

** Not Recommended - kL/r exceeds 200

* Load limited by spot weld shear

Notes:

1. 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.

2. 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%.

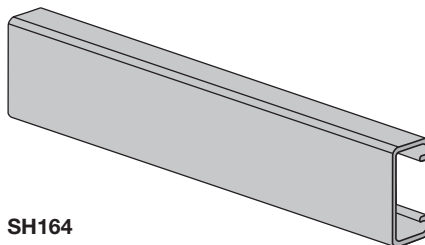
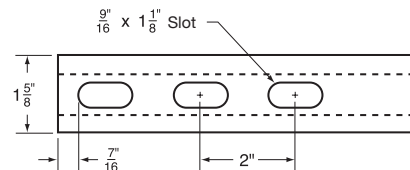
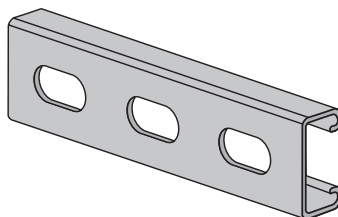
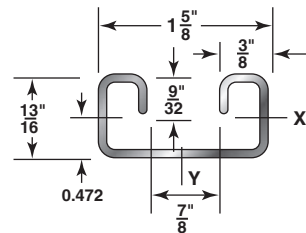
3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

SH164**Strut $1\frac{3}{16}$ x $1\frac{5}{8}$** **14 Gauge**

SH164OS Oblong Slotted Strut is stocked in pre-galvanized and 304 Stainless Steel in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.

**SH164****SECTION PROPERTIES**

For SH164OS, See Note 3

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH164	1.03	0.294	0.027	0.058	0.303	0.110	0.135	0.612

I = Moment of Inertia

S = Section Modulus

r = Radius of Gyration

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	970	0.03	970	970	970	1.0	2,010	6,500	6,340	6,090	5,820
18	640	0.06	640	640	520	1.5	1,890	6,120	5,820	5,410	5,010
24	480	0.11	480	440	300	2.1	1,740	5,690	5,270	4,700	3,980
30	390	0.17	380	280	190	2.6	1,590	5,240	4,700	3,800	2,930
36	320	0.25	260	200	130	3.1	1,420	4,790	3,980	2,930	2,050
42	280	0.33	190	140	100	3.6	1,250	4,200	3,270	2,170	1,510
48	240	0.44	150	110	70	4.1	1,090	3,620	2,600	1,660	1,150
60	190	0.68	90	70	50	5.2	830	2,520	1,660	1,060	**
72	160	0.98	70	50	30	6.2	650	1,750	1,150	**	**
84	140	1.34	50	40	20	7.2	**	1,280	**	**	**
96	120	1.75	40	30	20	8.2	**	**	**	**	**
108	110	2.21	30	20	10	9.3	**	**	**	**	**
120	100	2.73	20	20	NR	10.3	**	**	**	**	**
144	80	3.93	20	NR	NR	12.4	**	**	**	**	**
168	70	5.34	NR	NR	NR	14.4	**	**	**	**	**
180	60	6.13	NR	NR	NR	15.5	**	**	**	**	**
192	60	6.98	NR	NR	NR	16.5	**	**	**	**	**
216	50	8.83	NR	NR	NR	18.5	**	**	**	**	**
240	50	10.91	NR	NR	NR	20.6	**	**	**	**	**

Bearing Load may limit load

** Not Recommended - kL/r exceeds 200

NR = Not Recommended

Notes:

1. 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.

2. 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%.

3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

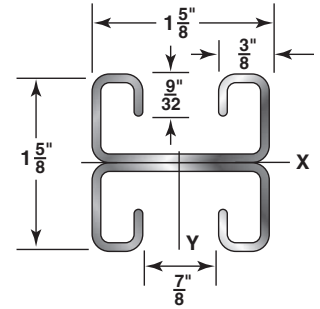
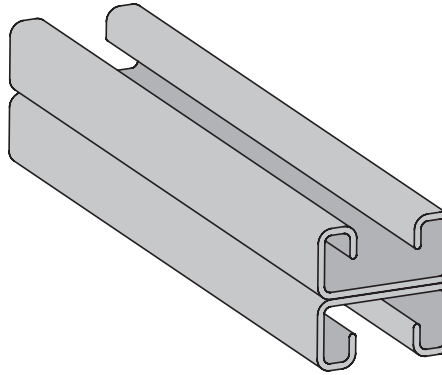
SH164A

Back-to-Back Strut 1 $\frac{5}{8}$ x 1 $\frac{5}{8}$

14 Gauge



SH164OSA Back-to-Back Oblong Slotted Strut is available in pre-galvanized in 10 ft. and 20 ft. lengths. Solid Strut and other materials, finishes and lengths are available upon request.



For SH164OSA, See Note 3

SECTION PROPERTIES

FIG. #	WT./FT., LBS.	AREA OF SECTION, SQ. IN.	X-X AXIS			Y-Y AXIS		
			I IN. ⁴	S IN. ³	r IN.	I IN. ⁴	S IN. ³	r IN.
SH164A	2.06	0.589	0.123	0.151	0.457	0.220	0.271	0.611

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

SPAN, OR UNBRACED HEIGHT, IN.	STATIC BEAM LOAD (X-X AXIS)						MAX. ALLOWABLE LOAD AT SLOT FACE, LBS.	COLUMN LOADING DATA			
	MAX. ALLOWABLE UNIFORM LOAD, LBS.	DEFLECTION AT UNIFORM LOAD, IN.	UNIFORM LOAD AT DEFLECTION					MAX. COLUMN LOAD APPLIED AT C.G.			
			SPAN/180 DEFLECTION, LBS.	SPAN/240 DEFLECTION, LBS.	SPAN/360 DEFLECTION, LBS.	WEIGHT OF STRUT, LBS.		k=.65 LBS.	k=.80 LBS.	k=1.0 LBS.	k=1.2 LBS.
12	1,090*	0.02	1,090*	1,090*	1,090*	2.1	3,420	13,500	13,380	13,180	12,940
18	1,090*	0.04	1,090*	1,090*	1,090*	3.1	3,340	13,210	12,940	12,510	12,010
24	1,090*	0.06	1,090*	1,090*	1,090*	4.1	3,230	12,810	12,350	11,630	10,810
30	1,010	0.10	1,010	1,010	860	5.2	3,100	12,310	11,630	10,590	9,450
36	850	0.14	850	850	600	6.2	2,950	11,730	10,810	9,450	8,010
42	720	0.19	720	660	440	7.2	2,790	11,080	9,920	8,250	6,590
48	630	0.25	630	500	340	8.2	2,620	10,370	8,970	7,060	5,260
60	510	0.39	430	320	220	10.3	2,280	8,850	7,060	4,850	3,370
72	420	0.57	300	220	150	12.4	1,940	7,300	5,260	3,370	2,340
84	360	0.77	220	160	110	14.4	1,630	5,800	3,860	2,470	**
96	320	1.01	170	130	80	16.5	1,390	4,480	2,960	**	**
108	280	1.27	130	100	70	18.5	1,190	3,540	2,340	**	**
120	250	1.57	110	80	50	20.6	**	2,870	**	**	**
144	210	2.27	70	60	40	24.7	**	**	**	**	**
168	180	3.08	50	40	30	28.8	**	**	**	**	**
180	170	3.54	50	40	NR	30.9	**	**	**	**	**
192	160	4.03	40	NR	NR	33.0	**	**	**	**	**
216	140	5.10	NR	NR	NR	37.1	**	**	**	**	**
240	130	6.29	NR	NR	NR	41.2	**	**	**	**	**

Bearing Load may limit load

* Load limited by spot weld shear

NR = Not Recommended

** Not Recommended - kL/r exceeds 200

Notes:

1. 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.

2. 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%.

3. The above chart shows beam capacities for strut without holes. For oblong slotted strut, multiply by 88%.

4. Refer to page 41 for reduction factors for unbraced lengths.

5. Refer to page 42 for additional information on allowable loads.

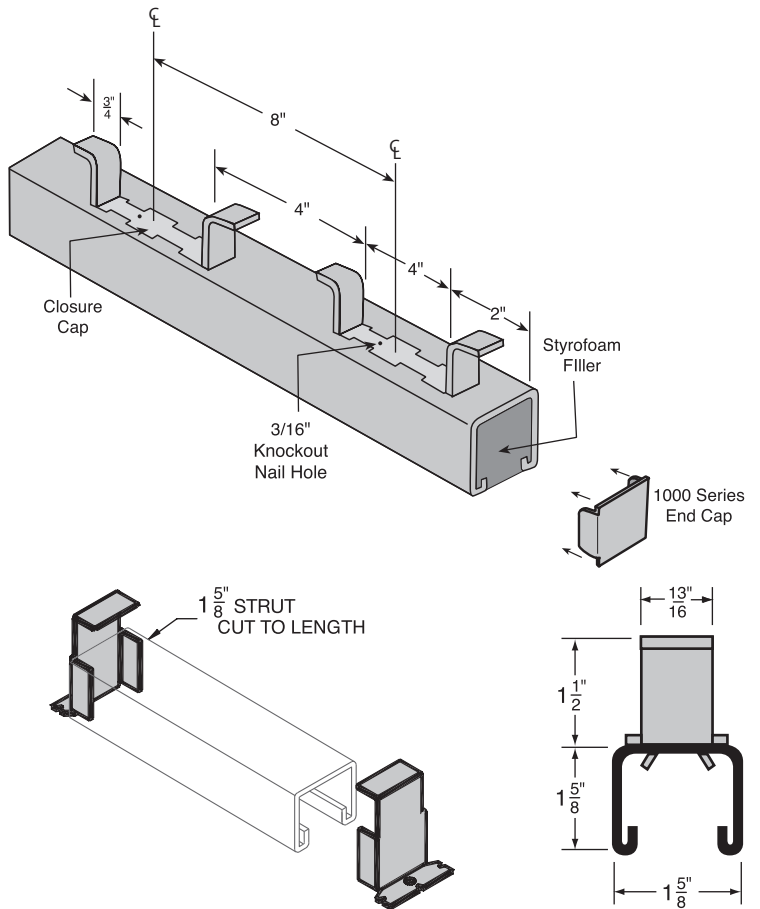
SH132IN

Concrete Insert 1 $\frac{5}{8}$ x 1 $\frac{5}{8}$ 12 Gauge



SH132IN Concrete Insert is available in pre-galvanized in 10 ft. and 20 ft. lengths. Other materials, finishes and dimensions are available upon request.

LENGTH, IN.	WEIGHT PER 100, LBS.	MAX ALLOWABLE LOAD, LBS.
12	194	NO MORE THAN 2,000 LBS. PER 12" SECTION
18	291	
24	388	
30	485	
36	582	
48	776	
60	970	
72	1,164	
84	1,358	
96	1,552	
108	1,746	
120	1,940	
240	3,880	



Notes:

- Loading data was calculated in a concrete mixture which was proportioned so that the compression strength of the concrete was 2,500 to 3,000 pounds per square inch and that the load is dependent on the surrounding concrete.
- Tests were performed with a safety factor of 3 and in accordance with the MFMA specifications.
- SH-Strut Concrete Inserts are supplied with either the 1000 or 1001 Series End Cap and either a Styrofoam Filler or Plastic Closure Strip inserted in the strut to prevent any concrete seepage. When ordering, indicate either foam filler or plastic closure strip.
- Inserts should be secured to forms at 16" intervals.

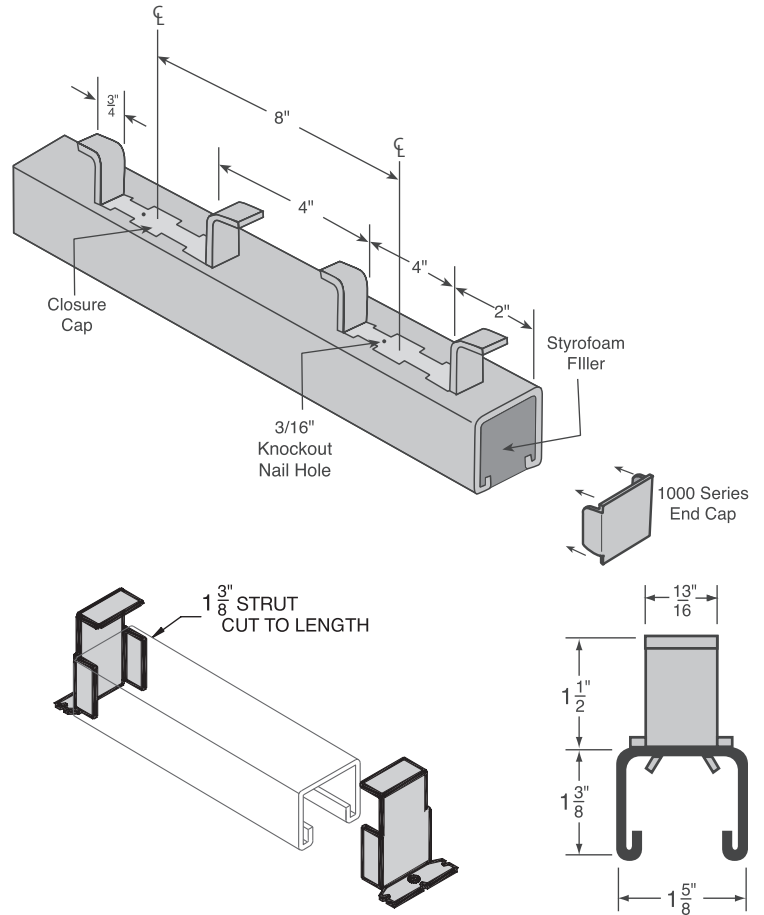
SH142IN

Concrete Insert 1 $\frac{3}{8}$ x 1 $\frac{5}{8}$ 12 Gauge



SH142IN Concrete Insert is stocked in pre-galvanized in 10 ft. and 20 ft. lengths. Other materials, finishes and dimensions are available upon request.

LENGTH, IN.	WEIGHT PER 100, LBS.	MAX ALLOWABLE LOAD, LBS.
3	87	500
4	103	800
6	134	1,000
8	206	1,200
12	188	NO MORE THAN 1,800 LBS. PER 12" SECTION
18	282	
24	376	
30	470	
36	564	
48	752	
60	940	
72	1,128	
84	1,316	
96	1,504	
108	1,692	
120	1,880	
240	3,760	

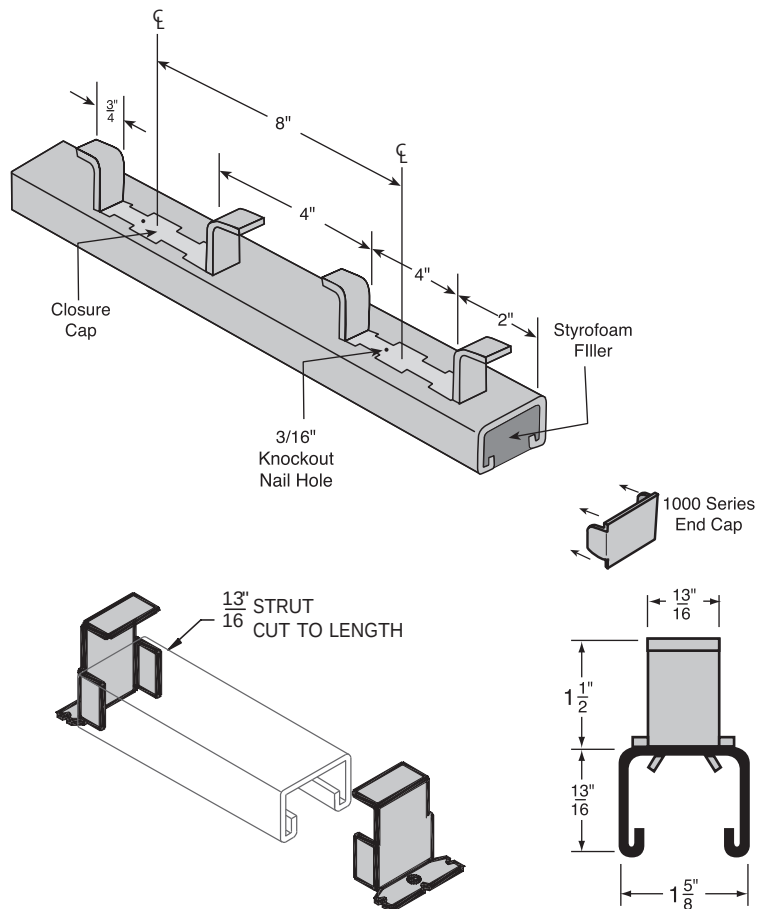
**Notes:**

- Loading data was calculated in a concrete mixture which was proportioned so that the compression strength of the concrete was 2,500 to 3,000 pounds per square inch and that the load is dependent on the surrounding concrete.
- Tests were performed with a safety factor of 3 and in accordance with the MFMA specifications.
- SH-Strut Concrete Inserts are supplied with either the 1000 or 1001 Series End Cap and either a Styrofoam Filler or Plastic Closure Strip inserted in the strut to prevent any concrete seepage. When ordering, indicate either foam filler or plastic closure strip.
- Inserts should be secured to forms at 16" intervals.

SH164IN**Concrete Insert $1\frac{3}{16}$ x $1\frac{5}{8}$** **14 Gauge**

SH164IN Concrete Insert is available in pre-galvanized in 10 ft. and 20 ft. lengths. Other materials, finishes and dimensions are available upon request.

LENGTH, IN.	WEIGHT PER 100, LBS.	MAX ALLOWABLE LOAD, LBS.
3	30	450
4	40	600
6	60	850
8	80	1,100
12	121	NO MORE THAN 1700 LBS. PER 12" SECTION
18	181	
24	242	
30	302	
36	363	
48	484	
60	605	
72	726	
84	847	
96	968	
108	1,089	
120	1,210	
240	2,420	

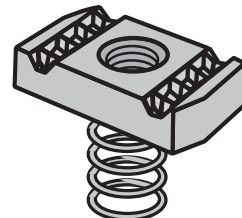
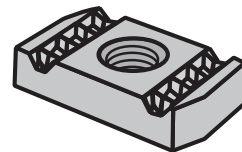
**Notes:**

- Loading data was calculated in a concrete mixture which was proportioned so that the compression strength of the concrete was 2,500 to 3,000 pounds per square inch and that the load is dependent on the surrounding concrete.
- Tests were performed with a safety factor of 3 and in accordance with the MFMA specifications.
- SH-Strut Concrete Inserts are supplied with either the 1000 or 1001 Series End Cap and either a Styrofoam Filler or Plastic Closure Strip inserted in the strut to prevent any concrete seepage. When ordering, indicate either foam filler or plastic closure strip.
- Inserts should be secured to forms at 16" intervals.

SN**Strut Nut**

SERVICE: For attaching fittings or rod to strut.
MATERIAL: Carbon Steel or 316 Stainless Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and size with or without spring.

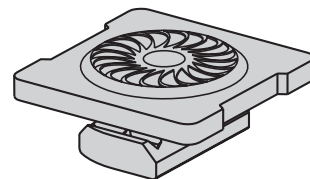
ROD SIZE	THREAD	THICKNESS	WITHOUT SPRING		WITH SPRING		TORQUE FT, LBS.
			STD. PKG.	WEIGHT EACH, LBS.	STD. PKG.	WEIGHT EACH, LBS.	
1/4	20	1/4	100	0.05	100	0.06	6
3/8	16	3/8	100	0.07	100	0.08	19
1/2	13	1/2	100	0.07	100	0.08	50
5/8	11	7/16	100	0.13	50	0.14	100
3/4	10	7/16	100	0.12	50	0.13	125
7/8	9	7/16	100	0.11	50	0.11	166

**SNW****Strut Nut / Washer Combo**

SERVICE: For attaching fittings or rod to strut.
MATERIAL: Carbon Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and rod size. To lock combo nut washer in place, a hex nut is required. (Order Hex Nut separately.)

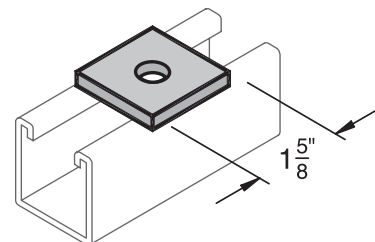
ROD SIZE	NUT THICKNESS	STD. PKG.	WEIGHT EACH, LBS.	TORQUE FT, LBS.	PULL-OUT LOAD IN STRUT, LBS.		SLIP LOAD IN STRUT, LBS.	
					12ga	14ga	12ga	14ga
3/8	3/8	100	0.14	19	946	860	688	516
1/2	3/8	100	0.13	50	1,290	1,204	1,290	860

Note: Fits all strut sizes. Loads have a safety factor of 3.5.

**SW****(F201)****Strut Washer**

SERVICE: For attaching fittings or rod to strut.
MATERIAL: Carbon Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and rod size.

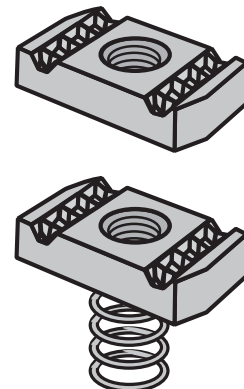
ROD SIZE	HOLE SIZE	STD. PKG.	WEIGHT EACH, LBS.
3/8	7/16	100	0.17
1/2	9/16	100	0.17
5/8	11/16	100	0.16
3/4	13/16	100	0.16
7/8	15/16	100	0.16



SN**Strut Nut**

SERVICE: For attaching fittings or rod to strut.
MATERIAL: Carbon Steel or 316 Stainless Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and size with or without spring.

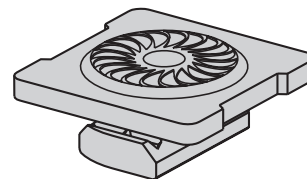
ROD SIZE	THREAD	THICKNESS	WITHOUT SPRING		WITH SPRING		TORQUE FT, LBS.
			STD. PKG.	WEIGHT EACH, LBS.	STD. PKG.	WEIGHT EACH, LBS.	
1/4	20	1/4	100	0.05	100	0.06	6
3/8	16	3/8	100	0.07	100	0.08	19
1/2	13	1/2	100	0.07	100	0.08	50
5/8	11	7/16	100	0.13	50	0.14	100
3/4	10	7/16	100	0.12	50	0.13	125
7/8	9	7/16	100	0.11	50	0.11	166

**SNW****Strut Nut / Washer Combo**

SERVICE: For attaching fittings or rod to strut.
MATERIAL: Carbon Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and rod size. To lock combo nut washer in place, a hex nut is required. (Order Hex Nut separately.)

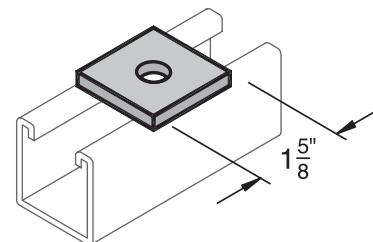
ROD SIZE	NUT THICKNESS	STD. PKG.	WEIGHT EACH, LBS.	TORQUE FT, LBS.	PULL-OUT LOAD IN STRUT, LBS.		SLIP LOAD IN STRUT, LBS.	
					12ga	14ga	12ga	14ga
3/8	3/8	100	0.14	19	946	860	688	516
1/2	3/8	100	0.13	50	1,290	1,204	1,290	860

Note: Fits all strut sizes. Loads have a safety factor of 3.5.

**SW****(F201)****Strut Washer**

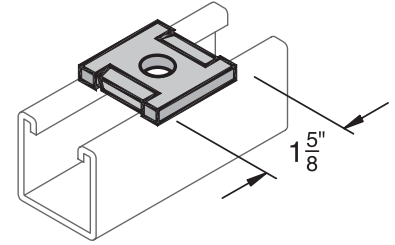
SERVICE: For attaching fittings or rod to strut.
MATERIAL: Carbon Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and rod size.

ROD SIZE	HOLE SIZE	STD. PKG.	WEIGHT EACH, LBS.
3/8	7/16	100	0.17
1/2	9/16	100	0.17
5/8	11/16	100	0.16
3/4	13/16	100	0.16
7/8	5/8	100	0.16

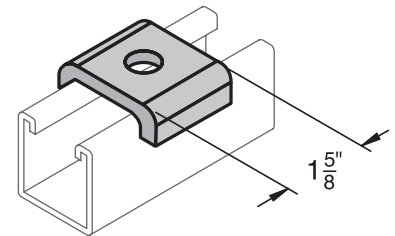


SSW619-D**(F201-IN)****Guided Square Washer****SERVICE:** For attaching fittings or rod to strut.**MATERIAL:** Carbon Steel**FINISH:** Electro-Galvanized**ORDERING:** Specify figure number and rod size.

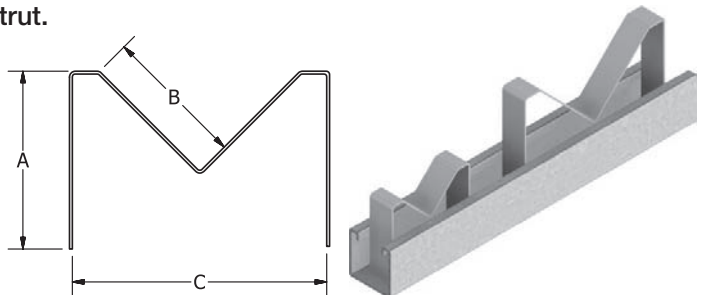
ROD SIZE	HOLE SIZE	STD. PKG.	WEIGHT EACH, LBS.
3/8	7/16	100	0.17
1/2	9/16	100	0.17

**SUW****(SW201)****Saddle Washer****SERVICE:** For attaching fittings or rod to strut.**MATERIAL:** Carbon Steel**FINISH:** Electro-Galvanized**ORDERING:** Specify figure number and rod size.

ROD SIZE	HOLE SIZE	STD. PKG.	WEIGHT EACH, LBS.
3/8	7/16	100	0.14
1/2	9/16	100	0.13

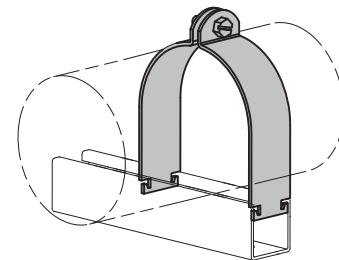
**SV****V Chair Clip****SERVICE:** For support of FIG. #235 V-Channel on 1 5/8" strut.**MATERIAL:** 16 gauge Sheet Metal**FINISH:** Pre-Galvanized**ORDERING:** Specify figure number and size.

SIZE	WIDTH	A	B	C	WEIGHT EACH, LBS.
1	7/8	2 3/4	1 1/2	2 15/16	0.13
2	7/8	3 13/16	3	5 3/8	0.21



SPC**Strut Pipe Clamp**

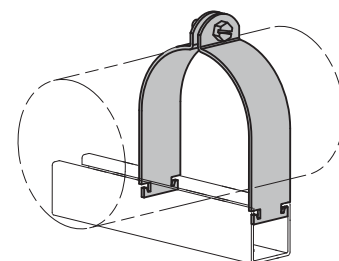
SERVICE: For attaching pipe to strut.
MATERIAL: Carbon Steel or 304 Stainless Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number, pipe size and material.
Sold in pairs. (Other materials and finishes available upon request.)



PIPE SIZE	O.D. SIZE	MATERIAL THICKNESS	HARDWARE SIZE	STD. PKG.	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
1/4	0.540	16ga	1/4 x 3/4	100	0.09	400
3/8	0.675	16ga	1/4 x 3/4	100	0.11	400
1/2	0.840	16ga	1/4 x 3/4	100	0.11	400
3/4	1.050	14ga	1/4 x 3/4	100	0.14	600
1	1.315	14ga	1/4 x 3/4	100	0.16	600
1 1/4	1.660	14ga	1/4 x 3/4	100	0.19	600
1 1/2	1.900	12ga	5/16 x 1	50	0.30	800
2	2.375	12ga	5/16 x 1	50	0.34	800
2 1/2	2.875	12ga	5/16 x 1	50	0.40	800
3	3.500	12ga	5/16 x 1	50	0.47	800
3 1/2	4.000	11ga	3/8 x 1 1/4	25	0.62	1,000
4	4.500	11ga	3/8 x 1 1/4	25	0.67	1,000
5	5.563	11ga	3/8 x 1 1/4	25	0.80	1,000
6	6.625	11ga	3/8 x 1 1/4	25	1.02	1,000
8	8.625	11ga	3/8 x 1 1/4	25	1.30	1,000
10	10.750	11ga	3/8 x 1 1/4	25	1.43	1,000
12	12.750	11ga	3/8 x 1 1/4	25	1.74	1,000

STC**Strut Tube Clamp**

SERVICE: For attaching copper tube to strut.
MATERIAL: Carbon Steel
FINISH: Copper Plated
ORDERING: Specify figure number and tube size. Sold in pairs.



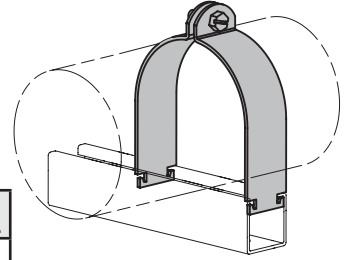
TUBE SIZE	O.D. SIZE	MATERIAL THICKNESS	HARDWARE SIZE	STD. PKG.	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
1/4	3/8	16ga	1/4 x 3/4	100	0.08	300
3/8	1/2	16ga	1/4 x 3/4	100	0.08	400
1/2	5/8	16ga	1/4 x 3/4	100	0.09	400
3/4	7/8	16ga	1/4 x 3/4	100	0.11	400
1	1 1/8	14ga	1/4 x 3/4	100	0.15	600
1 1/4	1 3/8	14ga	1/4 x 3/4	100	0.17	600
1 1/2	1 5/8	14ga	1/4 x 3/4	50	0.20	600
2	2 1/8	12ga	5/16 x 1	50	0.30	800
2 1/2	2 5/8	12ga	5/16 x 1	50	0.36	800
3	3 1/8	12ga	5/16 x 1	50	0.39	800
3 1/2	3 5/8	11ga	3/8 x 1 1/4	25	0.57	1,000
4	4 1/8	11ga	3/8 x 1 1/4	25	0.64	1,000
5	5 1/8	11ga	3/8 x 1 1/4	25	0.76	1,000
6	6 1/8	11ga	3/8 x 1 1/4	25	0.92	1,000
8	8 1/8	11ga	3/8 x 1 1/4	25	1.20	1,000

ODSPC

O.D. Strut Pipe Clamp



SERVICE: For attaching pipe to strut.
MATERIAL: Carbon Steel
FINISH: Electro-Galvanized
ORDERING: Specify figure number and O.D. size. Sold in pairs. (Other materials available upon request.)



O.D. SIZE	MATERIAL THICKNESS	HARDWARE SIZE	STD. PKG.	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.	O.D. SIZE	MATERIAL THICKNESS	HARDWARE SIZE	STD. PKG.	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
1/4	16ga	1/4 x 3/4	100	0.08	120	4 1/4	11ga	3/8 x 1 1/4	25	0.64	1,000
3/8	16ga	1/4 x 3/4	100	0.08	300	4 3/8	11ga	3/8 x 1 1/4	25	0.66	1,000
1/2	16ga	1/4 x 3/4	100	0.09	400	4 1/2	11ga	3/8 x 1 1/4	25	0.67	1,000
5/8	16ga	1/4 x 3/4	100	0.10	400	4 5/8	11ga	3/8 x 1 1/4	25	0.70	1,000
3/4	16ga	1/4 x 3/4	100	0.11	400	4 3/4	11ga	3/8 x 1 1/4	25	0.72	1,000
7/8	16ga	1/4 x 3/4	100	0.12	400	4 7/8	11ga	3/8 x 1 1/4	25	0.73	1,000
1	14ga	1/4 x 3/4	100	0.15	600	5	11ga	3/8 x 1 1/4	25	0.74	1,000
1 1/8	14ga	1/4 x 3/4	100	0.15	600	5 1/8	11ga	3/8 x 1 1/4	25	0.76	1,000
1 1/4	14ga	1/4 x 3/4	100	0.16	600	5 1/4	11ga	3/8 x 1 1/4	25	0.77	1,000
1 3/8	14ga	1/4 x 3/4	100	0.17	600	5 3/8	11ga	3/8 x 1 1/4	25	0.78	1,000
1 1/2	14ga	1/4 x 3/4	100	0.18	600	5 1/2	11ga	3/8 x 1 1/4	25	0.79	1,000
1 5/8	14ga	1/4 x 3/4	100	0.19	600	5 5/8	11ga	3/8 x 1 1/4	25	0.88	1,000
1 3/4	12ga	5/16 x 1	50	0.27	800	5 3/4	11ga	3/8 x 1 1/4	25	0.90	1,000
1 7/8	12ga	5/16 x 1	50	0.28	800	5 7/8	11ga	3/8 x 1 1/4	25	0.92	1,000
2	12ga	5/16 x 1	50	0.31	800	6	11ga	3/8 x 1 1/4	25	0.94	1,000
2 1/8	12ga	5/16 x 1	50	0.32	800	6 1/8	11ga	3/8 x 1 1/4	25	0.96	1,000
2 1/4	12ga	5/16 x 1	50	0.33	800	6 1/4	11ga	3/8 x 1 1/4	25	0.98	1,000
2 3/8	12ga	5/16 x 1	50	0.34	800	6 3/8	11ga	3/8 x 1 1/4	25	0.99	1,000
2 1/2	12ga	5/16 x 1	50	0.35	800	6 1/2	11ga	3/8 x 1 1/4	25	1.00	1,000
2 5/8	12ga	5/16 x 1	50	0.37	800	6 5/8	11ga	3/8 x 1 1/4	25	1.02	1,000
2 3/4	12ga	5/16 x 1	50	0.38	800	6 3/4	11ga	3/8 x 1 1/4	25	1.04	1,000
2 7/8	12ga	5/16 x 1	50	0.40	800	6 7/8	11ga	3/8 x 1 1/4	25	1.06	1,000
3	12ga	5/16 x 1	50	0.41	800	7	11ga	3/8 x 1 1/4	25	1.08	1,000
3 1/8	12ga	5/16 x 1	50	0.43	800	7 1/8	11ga	3/8 x 1 1/4	25	1.10	1,000
3 1/4	12ga	5/16 x 1	50	0.45	800	7 1/4	11ga	3/8 x 1 1/4	25	1.12	1,000
3 3/8	12ga	5/16 x 1	50	0.46	800	7 3/8	11ga	3/8 x 1 1/4	25	1.14	1,000
3 1/2	12ga	5/16 x 1	50	0.47	800	7 1/2	11ga	3/8 x 1 1/4	25	1.16	1,000
3 5/8	11ga	3/8 x 1 1/4	25	0.56	1000	7 5/8	11ga	3/8 x 1 1/4	25	1.17	1,000
3 3/4	11ga	3/8 x 1 1/4	25	0.58	1000	7 3/4	11ga	3/8 x 1 1/4	25	1.19	1,000
3 7/8	11ga	3/8 x 1 1/4	25	0.60	1000	7 7/8	11ga	3/8 x 1 1/4	25	1.21	1,000
4	11ga	3/8 x 1 1/4	25	0.62	1000	8	11ga	3/8 x 1 1/4	25	1.23	1,000
4 1/8	11ga	3/8 x 1 1/4	25	0.62	1000						

**CUSH-WRAP****Cushion Wrap**

- SERVICE:** Provides protection from galvanic action between dissimilar metals, isolates pipe and absorbs sound and vibrations between pipe and mounting system.
- MATERIAL:** EPDM Elastomer
- MAX TEMP:** 300°F
- ORDERING:** Specify figure number. Cushion Wrap is supplied in 25' rolls.

COPPER TUBING TYPE L AND TYPE K		
NOMINAL PIPE SIZE	LENGTH OF CUSH WRAP	PLATED O.D. CLAMP SIZE
1/4	1 1/8	3/8
3/8	1 5/8	1/2
1/2	2	5/8
3/4	2 3/4	7/8
1	3 3/8	1 1/8
1 1/4	4 3/8	1 3/8
1 1/2	5 1/8	1 5/8
2	7 1/8	2 1/8
2 1/2	8 1/4	2 5/8
3	10 1/4	3 1/8
3 1/2	11 3/8	3 5/8
4	13 3/8	4 1/8
5	16 1/2	5 1/8
6	19 5/8	6 1/8
8	25 7/8	8 1/8



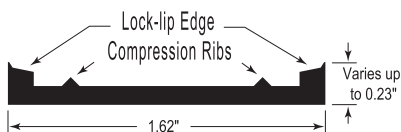
1. Cut appropriate length strip using the cutting schedule shown on left.

2. Place the pipe on the Cushion Wrap.

3. Insert the clamps in the strut.

4. Tighten the clamps.

STANDARD PIPE RIGID CONDUIT		
NOMINAL PIPE SIZE	LENGTH OF CUSH WRAP	PLATED O.D. CLAMP SIZE
1/4	1 3/4	3/4
3/8	2 1/8	7/8
1/2	2 3/4	1
3/4	3 3/8	1 1/4
1	4 1/4	1 1/2
1 1/4	5 1/4	1 7/8
1 1/2	6	2 1/8
2	7 1/2	2 5/8
2 1/2	9 1/8	3 1/8
3	11	3 5/8
3 1/2	12 5/8	4 1/4
4	14 1/4	4 3/4
5	17 1/2	5 7/8
6	20 7/8	6 7/8
8	27 1/8	8 7/8



SNAP**Snap N Strut® Clamp****SERVICE:**

For use on uninsulated tube and pipe runs. The nature of the nylon material utilized, combined with the uniquely engineered design, absorbs vibration and acts as a cushion between the piping and its supporting structure. The clamp eliminates the concern of galvanic corrosion due to its non-metallic design so there is no need to isolate copper tubing. The hangers will withstand most commonly encountered chemicals and refrigerants, including Freon and ammonia.

The Snap N Strut hanger can either be snapped into strut or threaded onto a $\frac{3}{8}$ " threaded rod without the use of extra hardware or tools. The pipe is simply snapped into the hanger and locked in place using the snug-fit, size-adjusting lock arm. When used in strut, the upper and lower engagement plates are designed to grip the strut and restrain lateral movement along its length. **MADE IN THE USA**



FIG#
79-93 to 101-115



FIG#
12-16 to 66-76

MATERIAL: High-performance, UV stabilized 6/6 nylon resin

TEMP RANGE: -70°F to 250° F

APPROVALS: UL 2239 (All figure number's except 12-16 & 17-20)

ORDERING: Specify figure number and size range.

PLUMBING SELECTION CHART					
FIG# (mm range)	STEEL-PLASTIC Sch. 40 & 80	COPPER TYPES K, L, M, DMV	REFRIGERATION COPPER	STD. PKG.	MAX. REC. LOAD, LBS.
12-16	$\frac{1}{4}$ 0.540	$\frac{3}{8}$ - $\frac{1}{2}$ 0.500 - 0.625	$\frac{1}{2}$ - $\frac{5}{8}$ 0.500 - 0.625	100	170
17-20	$\frac{3}{8}$ 0.675	$\frac{5}{8}$ 0.750	$\frac{3}{4}$ 0.750	100	195
21-24	$\frac{1}{2}$ 0.840	$\frac{3}{4}$ 0.875	$\frac{7}{8}$ 0.875	100	215
25-29	$\frac{3}{4}$ 1.050	1 1.125	$1\frac{1}{8}$ 1.125	100	315
30-34	1 1.315	—	—	100	320
35-38	—	$1\frac{1}{4}$ 1.375	$1\frac{3}{8}$ 1.375	100	342
40-44	$1\frac{1}{4}$ 1.660	$1\frac{1}{2}$ 1.625	$1\frac{5}{8}$ 1.625	100	365
48-54	$1\frac{1}{2}$ 1.900	2 2.125	$2\frac{1}{8}$ 2.125	50	380
56-63	2 2.375	—	—	50	410
66-76	$2\frac{1}{2}$ 2.875	$2\frac{1}{2}$ 2.625	$2\frac{5}{8}$ 2.625	50	500
79-93	3 3.500	3 - $3\frac{1}{2}$ 3.125 - 3.625	3 - $3\frac{1}{2}$ 3.125 - 3.625	20	600
101-115	$3\frac{1}{2}$ - 4 4.000 - 4.500	4 4.125	4 4.125	10	950

Note: Fractional numbers reflect nominal pipe diameter. Decimal numbers reflect actual O.D. in inches.

Installation:

1. Snap hanger in strut and twist $\frac{1}{4}$ turn.
2. Snap the pipe into the hanger.
3. Snap the lock closed.

**HYDR-D****Hydra-Zorb® Cushion Clamp**

SERVICE: For use on uninsulated tube and pipe runs subject to damage from shock, movement and vibration, eliminating metal to metal contact. Clamps should be spaced no more than 60 diameters apart or a maximum of 5 feet.
MADE IN THE USA

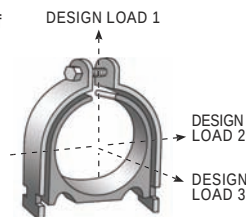
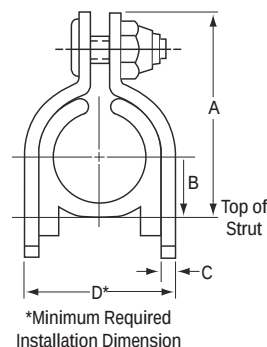
MATERIAL: Carbon Steel clamp with a thermoplastic elastomer cushion

FINISH: Yellow Trivalent (non-hex) plating

TEMP RANGE: -65°F to +275°F

APPROVALS: MSS SP-58 Type 61; UL 2043 (25/50) for use in plenums and air handling systems

ORDERING: Specify figure number and tube or pipe size. (Other sizes and materials are available upon request.)

**CUSHION CLAMPS FOR TUBE**

PART #	OD TUBE SIZE	TUBE SIZE	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D	MAX. REC. LOAD, LBS.			STD. PKG.	WEIGHT EACH, LBS.
							DESIGN LOAD 1	DESIGN LOAD 2	DESIGN LOAD 3		
100025	1/4	1/8	1.11	0.22	0.075	0.62	400	50	50	25	0.13
100037	3/8	1/4	1.24	0.28	0.075	0.75	400	50	50	25	0.14
100050	1/2	3/8	1.36	0.34	0.075	0.87	400	50	50	25	0.15
100062	5/8	1/2	1.50	0.41	0.075	1.00	400	50	50	25	0.16
100075	3/4	5/8	1.78	0.53	0.075	1.33	600	75	75	25	0.19
100087	7/8	3/4	1.91	0.58	0.075	1.45	600	75	75	25	0.21
100100	1	7/8	2.03	0.66	0.075	1.66	600	75	75	25	0.29
100112	1 1/8	1	2.16	0.72	0.075	1.79	600	75	75	20	0.31
100125	1 1/4	1 1/8	2.30	0.78	0.105	1.92	600	75	75	20	0.33
100137	1 3/8	1 1/4	2.75	0.91	0.119	2.22	600	75	75	20	0.42
100150	1 1/2	1 3/8	2.75	0.91	0.119	2.22	600	75	75	20	0.38
100162	1 5/8	1 1/2	3.03	1.03	0.119	2.47	600	75	75	20	0.48
100175	1 3/4	1 5/8	3.03	1.03	0.119	2.47	800	125	125	20	0.46
100187	1 7/8	1 3/4	3.28	1.16	0.119	2.47	800	125	125	20	0.52
100200	2	1 7/8	3.28	1.16	0.119	2.72	800	125	125	10	0.50
100212	2 1/8	2	3.53	1.28	0.119	2.97	800	125	125	10	0.57
100225	2 1/4	2 1/8	3.78	1.41	0.119	3.22	800	125	125	10	0.62
100237	2 3/8	2 1/4	3.78	1.41	0.119	3.22	800	125	125	10	0.66
100251	2 1/2	2 3/8	4.03	1.53	0.119	3.47	800	125	125	5	0.60
100262	2 5/8	2 1/2	4.03	1.53	0.119	3.47	800	125	125	5	0.58
100300	3	2 7/8	4.52	1.78	0.119	3.97	800	125	125	5	0.69
100312	3 1/8	3	4.52	1.78	0.119	3.97	800	125	125	5	0.68
100362	3 5/8	3 1/2	5.03	2.03	0.119	4.47	1,000	200	150	5	0.76
100412	4 1/8	4	5.66	2.34	0.119	5.09	1,000	200	150	5	0.88

CUSHION CLAMPS FOR PIPE

PART #	PIPE SIZE	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D	MAX. REC. LOAD, LBS.			STD. PKG.	WEIGHT EACH, LBS.
						DESIGN LOAD 1	DESIGN LOAD 2	DESIGN LOAD 3		
200050	1/2	1.91	0.59	0.075	1.45	600	75	75	25	0.21
200075	3/4	2.16	0.72	0.075	1.79	600	75	75	20	0.31
200100	1	2.75	0.91	0.119	2.22	600	75	75	20	0.43
200125	1 1/4	3.03	1.03	0.119	2.47	800	125	125	20	0.48
200150	1 1/2	3.28	1.16	0.119	2.47	800	125	125	20	0.52
200200	2	3.78	1.41	0.119	3.22	800	125	125	10	0.61
200250	2 1/2	4.27	1.66	0.119	3.72	800	125	125	5	0.62
200300	3	4.91	1.97	0.119	4.36	1,000	200	150	5	0.72
200350	3 1/2	5.53	2.28	0.119	4.97	1,000	200	150	5	0.88
200400	4	6.03	2.53	0.119	5.47	1,000	200	150	5	0.95

KLO-7**Klo-Shure® 7-Series Insulation Coupling
w/ Strut Clamp**

SERVICE: For use on tube and pipe runs subject to damage from shock and vibration, and provides superior vapor barrier protection at suspension points. Sized for use with elastomeric insulation and acceptable for horizontal, vertical & inverted installations. Clamp spacing should be no more than 60 diameters. Install clamps as close as possible to each side of a bend to prevent movement.
MADE IN THE USA

MATERIAL: Carbon Steel clamp with a high strength Thermoplastic Olefin (TPO) insert

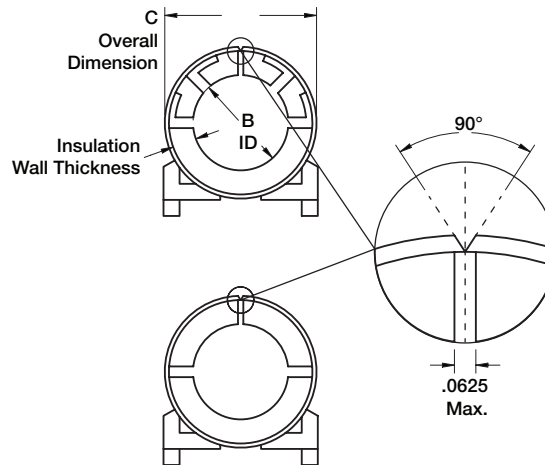
FINISH: Yellow Trivalent (non-hex) plating

TEMP RANGE: -60°F to 225°F

APPROVALS: MSS SP-58 Type 61; UL 2043 (25/50) for use in plenums and air handling systems

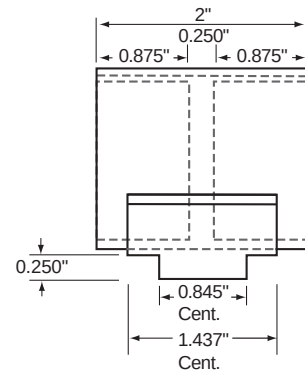
ORDERING: Specify figure number.

INSULATION THICKNESS A	FIG#	KLO-SHURE ID - TUBE OD B	OVERALL DIMENSION C	STD. PKG.
3/8	723025	1/4	1.12	40
	723037*	3/8	1.25	25
	723050*	1/2	1.37	20
	723062*	5/8	1.50	20
	723075*	3/4	1.62	20
	723087*	7/8	1.75	20
	723100	1	1.87	20
	723112*	1 1/8	2.00	20
	723137*	1 3/8	2.25	20
	723162*	1 5/8	2.50	10
1/2	723212	2 1/8	3.00	10
	724025	1/4	1.37	25
	724037*	3/8	1.50	25
	724050*	1/2	1.62	20
	724062*	5/8	1.75	20
	724075	3/4	1.87	20
	724087*	7/8	2.00	20
	724100	1	2.12	20
	724112*	1 1/8	2.25	20
	724137*	1 3/8	2.50	20
	724162	1 5/8	2.75	10
	724212	2 1/8	3.25	10
	724262	2 5/8	3.75	10
	724312	3 3/8	4.25	10
3/4	724362	3 5/8	4.75	10
	724412	4 1/8	5.25	10
	726025	1/4	1.87	20
	726037*	3/8	2.00	20
	726050*	1/2	2.12	10
	726062*	5/8	2.25	10
	726075	3/4	2.37	10
	726087*	7/8	2.50	10
	726112*	1 1/8	2.75	10
	726137	1 3/8	3.00	10
	726162	1 5/8	3.25	10
	726212	2 1/8	3.75	10
	726262	2 5/8	4.25	10
	726312	3 3/8	4.75	10
	726362	3 5/8	5.25	10
	726412	4 1/8	5.75	10



* Design as indicated

INSULATION THICKNESS A	FIG#	KLO-SHURE ID - TUBE OD B	OVERALL DIMENSION C	STD. PKG.
1	728031	5/16	2.43	10
	728037	3/8	2.50	10
	728050	1/2	2.62	10
	728062	5/8	2.75	10
	728075	3/4	2.87	10
	728087	7/8	3.00	10
	728112	1 1/8	3.25	10
	728137	1 3/8	3.50	10
	728162	1 5/8	3.75	10
	728212*	2 1/8	4.25	10
	728262*	2 5/8	4.75	10
	728312*	3 3/8	5.25	10
	728362	3 5/8	5.75	10
	728412	4 1/8	6.25	5
1 1/2	729031	5/16	3.43	10
	729037	3/8	3.50	10
	729050	1/2	3.62	10
	729062	5/8	3.75	10
	729087	7/8	4.00	10
	729112	1 1/8	4.25	10
	729137	1 3/8	4.50	10
	729162	1 5/8	4.75	10
	729212	2 1/8	5.25	10
	729262	2 5/8	5.75	10
	729312	3 3/8	6.25	5



KLO-8**Klo-Shure® 8-Series Insulation Coupling**

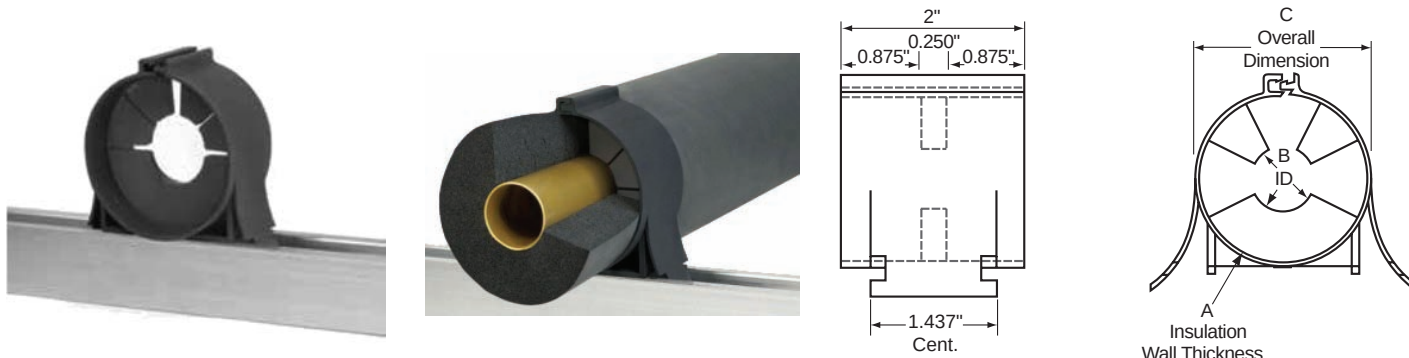
SERVICE: A single piece product used on insulated tube runs and provides superior vapor barrier protection at suspension points. Sized for use with elastomeric insulation and acceptable for horizontal installations. Coupling spacing should be no more than 60 diameters. Install clamps as close as possible to each side of a bend to prevent movement. **MADE IN THE USA**

MATERIAL: High strength Thermoplastic Olefin (TPO)

TEMP RANGE: -60°F to 225°F

APPROVALS: UL Classified 2043 (25/50) for use in plenums and air handling systems

ORDERING: Specify figure number.



INSULATION THICKNESS A	FIG#	KLO-SHURE ID - TUBE OD B	OVERALL DIMENSION C	STD. PKG.
1/2	824050	1/2	1.62	25
	824062	5/8	1.75	25
	824087	7/8	2.00	25
	824112	1 1/8	2.25	25
	824137	1 3/8	2.50	25
	824162	1 5/8	2.75	25
	824212	2 1/8	3.25	25
3/4	826062	5/8	2.25	25
	826087	7/8	2.50	25
	826112	1 1/8	2.75	25
	826137	1 3/8	3.00	25
1	828087	7/8	3.00	25
	828112	1 1/8	3.25	25
	828137	1 3/8	3.50	25
	828162	1 5/8	3.75	25
	828212	2 1/8	4.25	25
	828262	2 5/8	4.75	25

KLO-9**Klo-Shure® 9-Series Insulation Coupling
w/ Strut Clamp**

SERVICE: For use on tube and pipe runs subject to damage from shock and vibration, and provides superior vapor barrier protection at suspension points. Sized for use with fiberglass insulation and acceptable for horizontal, vertical and inverted installations. Clamp spacing should be no more than 60 diameters. Install clamps as close as possible to each side of a bend to prevent movement.
MADE IN THE USA

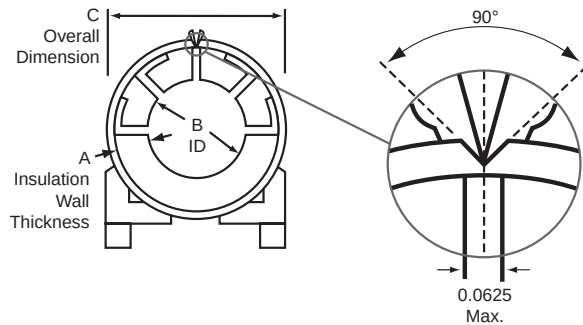
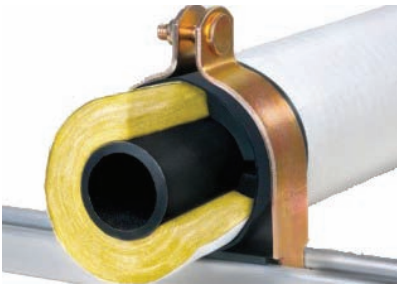
MATERIAL: Carbon Steel clamp with a high strength Thermoplastic Olefin (TPO) insert

FINISH: Yellow Trivalent (non-hex) plating

TEMP RANGE: -60°F to 225°F

APPROVALS: MSS SP-58 Type 61; UL Classified 2043 (25/50) for use in plenums and air handling systems

ORDERING: Specify figure number.



INSULATION THICKNESS A	FIG#	PIPE SIZE	KLO-SHURE ID - PIPE OD B	OVERALL DIMENSION C	STD. PKG.
1/2	924084	1/2	0.840	2.027	20
	924105	3/4	1.050	2.287	20
	924131	1	1.315	2.502	10
	924166	1 1/4	1.660	2.847	10
	924190	1 1/2	1.900	3.287	10
1	928084	1/2	0.840	3.010	10
	928105	3/4	1.050	3.010	10
	928131	1	1.315	3.640	10
	928166	1 1/4	1.660	3.640	10
	928190	1 1/2	1.900	3.952	10
	928237	2	2.375	4.650	10
	928287	2 1/2	2.875	5.140	10
1 1/2	929084	1/2	0.840	4.140	10
	929105	3/4	1.050	4.140	10
	929131	1	1.315	4.650	10
	929166	1 1/4	1.660	5.140	10
	929190	1 1/2	1.900	5.140	10

INSULATION THICKNESS A	FIG#	KLO-SHURE ID - TUBE OD B	OVERALL DIMENSION C	STD. PKG.
1/2	924062	5/8	1.787	20
	924087	7/8	2.027	20
	924112	1 1/8	2.287	20
	924137	1 3/8	2.502	10
	924162	1 5/8	2.847	10
	924212	2 1/8	3.287	10
1	928062	5/8	3.010	10
	928087	7/8	3.010	10
	928112	1 1/8	3.010	10
	928137	1 3/8	3.640	10
	928162	1 5/8	3.640	10
	928212	2 1/8	4.140	10
	928262	2 5/8	4.650	10
	928312	3 1/8	5.140	10
1 1/2	929087	7/8	4.140	10
	929112	1 1/8	4.140	10
	929137	1 3/8	4.650	10
	929162	1 5/8	5.140	10
	929212	2 1/8	5.138	10

UX**Cush-A-Therm™ Clamp****SERVICE:**

For use on tube and pipe runs that require continuous insulation. Provides a crush resistant, airtight seal that maintains thermal barrier protection.

The rigid foam construction has an insulating tape inner lining which supports the tube and absorbs vibration of operating pipelines.

The outer cover consists of a special rubber coating which seals the cushion after installation in order to prevent condensation.

The foam's strong closed-cell structure is ideal for liquid cooling lines to prevent condensation, save energy and maintain the vapor barrier.

MATERIAL:

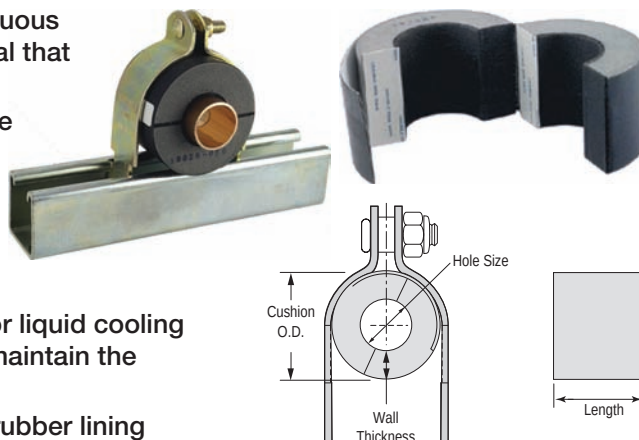
Carbon Steel clamp with a polyurethane foam & rubber lining insert

FINISH:

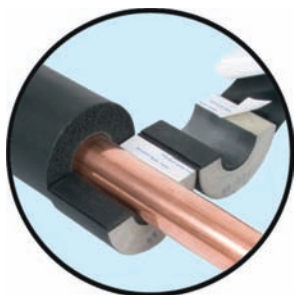
Gold Electro Galvanized

TEMP RANGE: -70°F to 250° F**APPROVALS:** ASTM E84 (UL 723, NFPA 255)**ORDERING:**

Specify figure number by cross referencing pipe/tube size & wall thickness



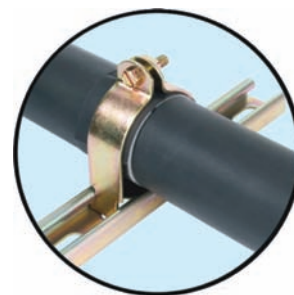
DIMENSIONS					NOMINAL 1/2" WALL THICKNESS		NOMINAL 3/4" WALL THICKNESS		NOMINAL 1" WALL THICKNESS1		NOMINAL 1 1/2" WALL THICKNESS		NOMINAL 2" WALL THICKNESS	
HOLE SIZE	COPPER I.D.	PIPE O.D.	IPS	LENGTH	FIG#	CUSHION O.D.	FIG#	CUSHION O.D.	FIG#	CUSHION O.D.	FIG#	CUSHION O.D.	FIG#	CUSHION O.D.
3/8	1/4	3/8	-	2.953	UX3812	1.375	UX3834	1.875	UX3810	2.375	UX3815	3.375	-	-
1/2	3/8	1/2	1/4	2.953	UX1212	1.500	UX1234	2.000	UX1210	2.500	UX1215	3.500	-	-
5/8	1/2	5/8	3/8	2.953	UX5812	1.625	UX5834	2.125	UX5810	2.625	UX5815	3.625	UX5820	4.625
3/4	5/8	3/4	-	2.953	UX3412	1.750	UX3434	2.250	UX3410	2.750	UX3415	3.750	UX3420	4.750
7/8	3/4	7/8	1/2	2.953	UX7812	1.875	UX7834	2.375	UX7810	2.875	UX7815	3.875	UX7820	4.875
1 1/8	1	1 1/8	3/4	2.953	UX11812	2.125	UX11834	2.625	UX11810	3.125	UX11815	4.125	UX11820	5.125
1 3/8	1 1/4	1 3/8	1	2.953	UX13812	2.375	UX13834	2.875	UX13810	3.375	UX13815	4.375	UX13820	5.375
1 5/8	1 1/2	1 5/8	1 1/4	2.953	UX15812	2.625	UX15834	3.125	UX15810	3.625	UX15815	4.625	UX15820	5.625
1 7/8	-	1 7/8	-	2.953	UX17812	2.875	UX17834	3.375	UX17810	3.875	UX17815	4.875	UX17820	5.875
2 1/8	2	2 1/8	-	2.953	UX21812	3.125	UX21834	3.625	UX21810	4.125	UX21815	5.125	UX21820	6.125
2 3/8	2 1/4	2 3/8	2	2.953	UX23812	3.375	UX23834	3.875	UX23810	4.375	UX23815	5.375	UX23820	6.375
2 5/8	2 1/2	2 5/8	-	3.937	UX25812	3.625	UX25834	4.125	UX25810	4.625	UX25815	5.625	UX25820	6.625
2 7/8	-	2 7/8	2 1/2	3.937	UX27812	3.875	UX27834	4.375	UX27810	4.875	UX27815	5.875	UX27820	6.875
3 1/8	3	3 1/8	-	3.937	UX31812	4.125	UX31834	4.625	UX31810	5.125	UX31815	6.125	UX31820	7.125
3 1/2	-	3 1/2	3	3.937	UX31212	4.500	UX31234	5.000	UX31210	5.500	UX31215	6.500	UX31220	7.500
3 5/8	3 1/2	3 5/8	-	3.937	UX35812	4.625	UX35834	5.125	UX35810	5.625	UX35815	6.625	UX35820	7.625
4 1/8	4	4 1/8	3 1/2	3.937	UX41812	5.125	UX41834	5.625	UX41810	6.125	UX41815	7.125	UX41820	8.125



1. Slide insulation over pipe.
Self adhesive surfaces provide seal.



2. Put in place and glue to insulation.



3. Wrap and seal with ProTape.

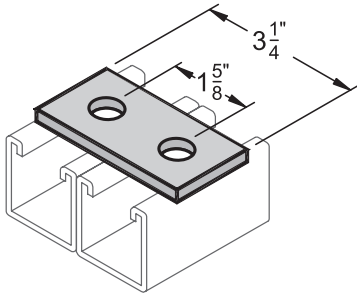


Flat Plates

SP601-1 (F204)

Two Hole Splice Plate

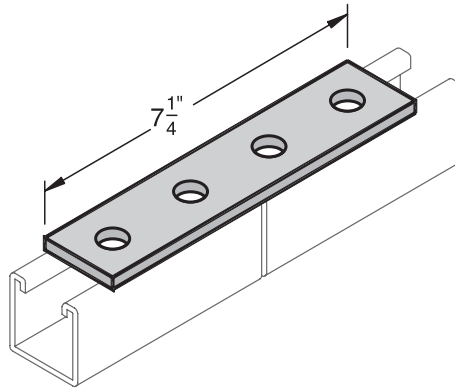
Electro-Galvanized Wt.
0.34 Lbs.
50/Box



SP888 (F205)

Four Hole Flat Splice Plate

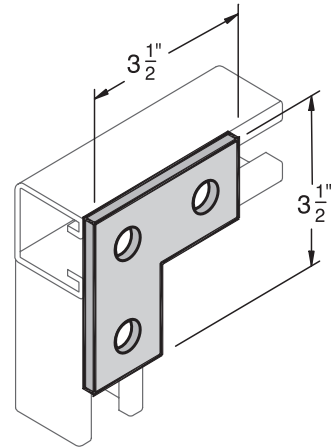
Electro-Galvanized
Wt. 0.78 Lbs.
25/Box



SFP718 (F210)

Three Hole Flat Angle Plate 90°

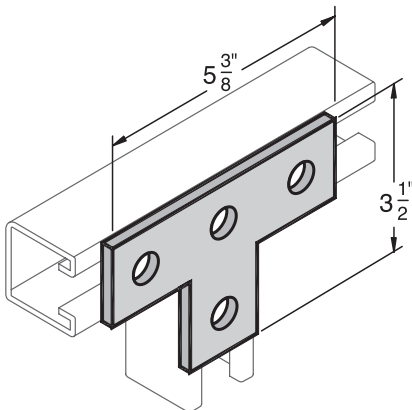
Electro-Galvanized
Wt. 0.62 Lbs.
50/Box



STP714 (F213)

Four Hole Tee Plate

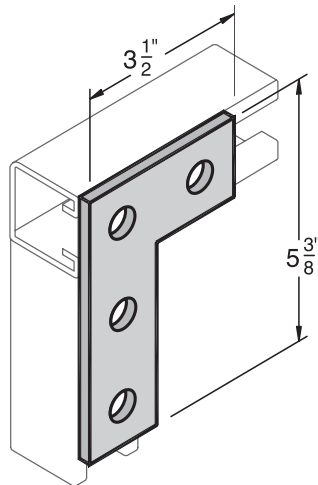
Electro-Galvanized
Wt. 0.80 Lbs.
25/Box



SFP718-1 (F214)

Four Hole Flat Corner Plate 90°

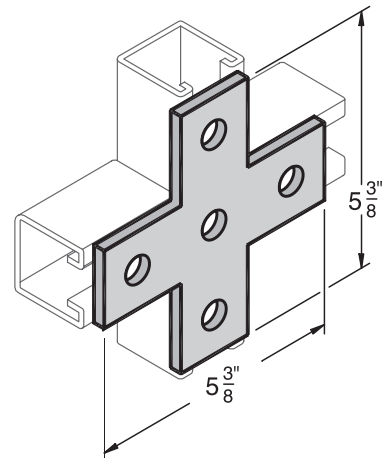
Electro-Galvanized
Wt. 0.75 Lbs.
20/Box



SCP712 (F216)

Five Hole Flat Cross Plate

Electro-Galvanized
Wt. 0.95 Lbs.
25/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 5/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 13/16"
Other Materials and Products Available Upon Request

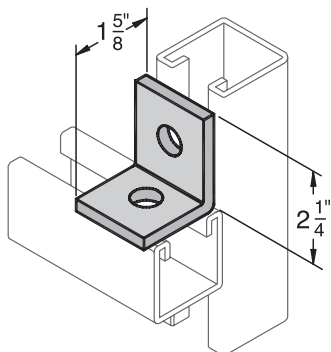
Angle Brackets



SCA604 (A301)

Two Hole Corner Angle

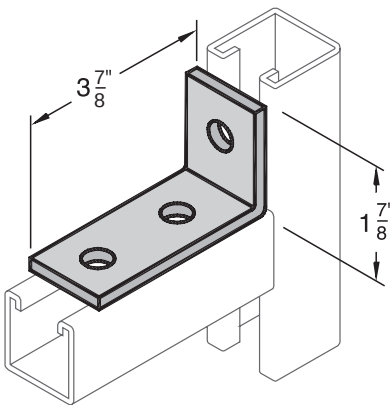
Electro-Galvanized
Wt. 0.38 Lbs.
50/Box



SCA745 (A306)

Three Hole 90° Corner Angle

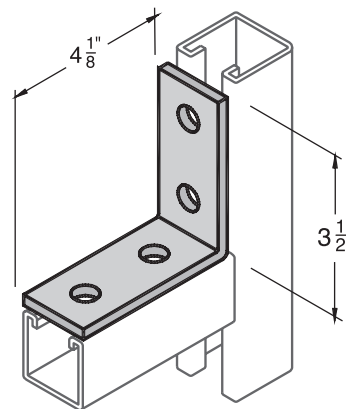
Electro-Galvanized
Wt. 0.57 Lbs.
25/Box



SCA607 (A311)

Four Hole Corner Angle

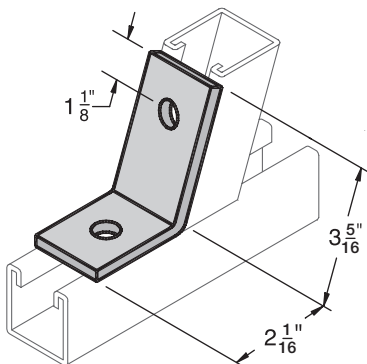
Electro-Galvanized
Wt. 0.78 Lbs.
25/Box



SOA633-45 (A316)

Two Hole Open 45° Angle

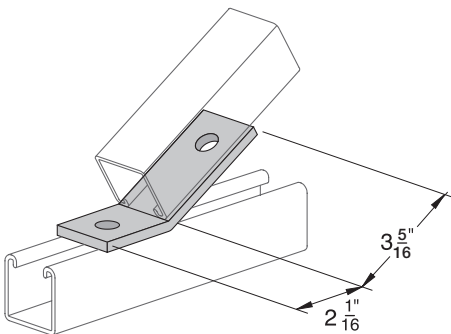
Electro-Galvanized
Wt. 0.58 Lbs.
25/Box



SOA633-2212 (A320-2)

Two Hole Open 22½° Angle

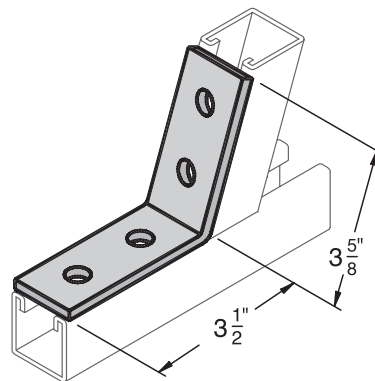
Electro-Galvanized
Wt. 0.58 Lbs.
25/Box



SOA781-45 (A3194-6)

Four Hole Open 45° Angle

Electro-Galvanized
Wt. 0.75 Lbs.
25/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 5/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 1 3/16"
Other Materials and Products Available Upon Request

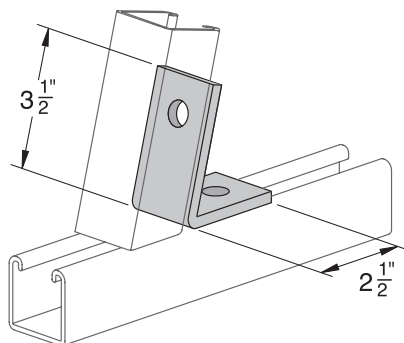


Angle Brackets

SCA624-45 (A317)

Two Hole Closed 45° Angle

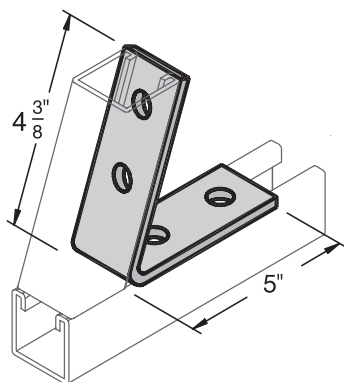
Electro-Galvanized
Wt. 0.58 Lbs.
25/Box



SCA793-45 (A3174-2)

Four Hole Closed 45° Angle

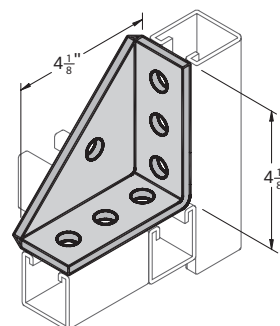
Electro-Galvanized
Wt. 0.98 Lbs.
10/Box



SCA3373 (A335)

Seven Hole Universal Corner Angle

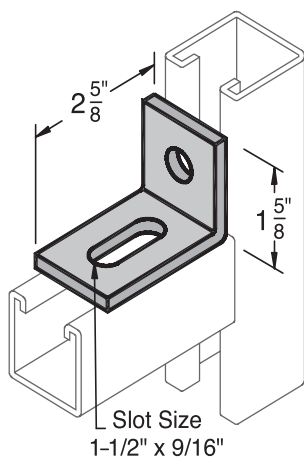
Electro-Galvanized
Wt. 1.52 Lbs.
10/Box



SCA2545 (A337)

90° Slotted Corner Angle

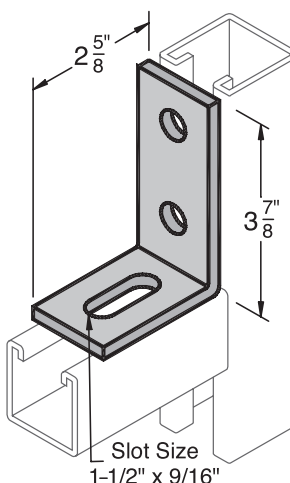
Electro-Galvanized
Wt. 0.38 Lbs.
50/Box



SCA3049 (A3360)

Two Hole 90° Slotted Corner Angle

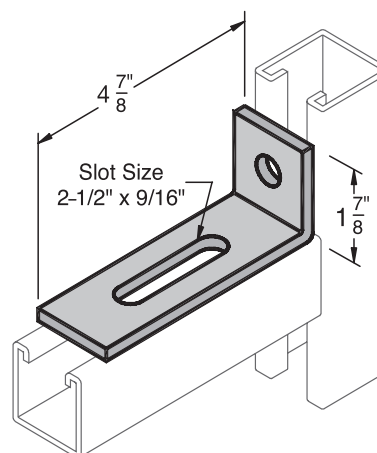
Electro-Galvanized
Wt. 0.63 Lbs.
25/Box



SAA763 (A336)

90° Slotted Corner Angle

Electro-Galvanized
Wt. 0.59 Lbs.
25/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 5/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 13/16"
Other Materials and Products Available Upon Request

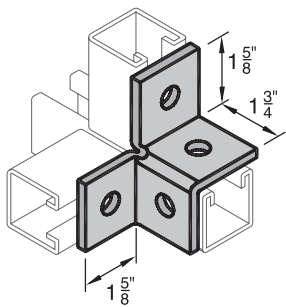
Wing Fittings



SWF665 (A326)

Four Hole Double Corner Wing Fitting

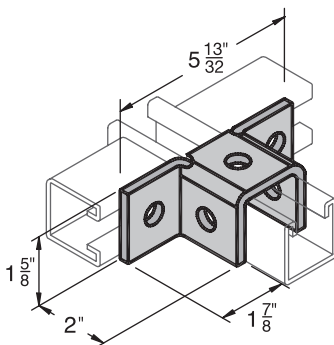
Electro-Galvanized
Wt. 0.76 Lbs.
25/Box



SWF923 (A327)

Five Hole Double Corner Wing Fitting

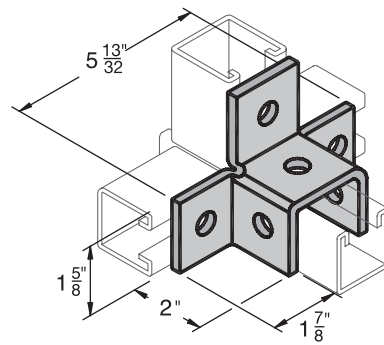
Electro-Galvanized
Wt. 0.93 Lbs.
10/Box



SWF668 (A328)

Six Hole Triple Corner Wing Fitting

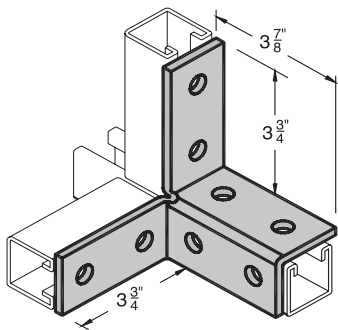
Electro-Galvanized
Wt. 1.07 Lbs.
10/Box



SWF667 (A326-1)

Eight Hole Double Wing Fitting

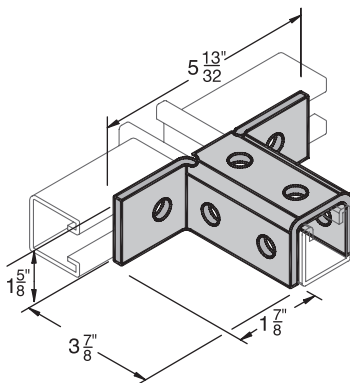
Electro-Galvanized
Wt. 1.56 Lbs.
10/Box



SWF821 (A327-2)

Eight Hole Double Corner Wing Fitting

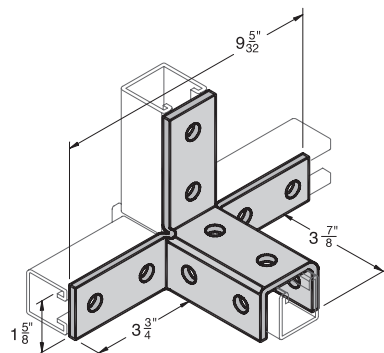
Electro-Galvanized
Wt. 1.77 Lbs.
10/Box



SWF669 (A328-1)

Twelve Hole Triple Wing Fitting

Electro-Galvanized
Wt. 2.49 Lbs.
10/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 5/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 13/16"
Other Materials and Products Available Upon Request

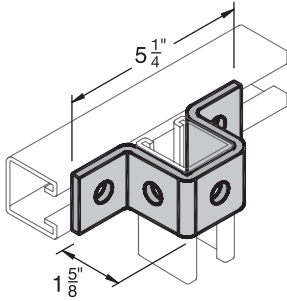
U Fittings



SUS613 (B601-3)

Five Hole U Support

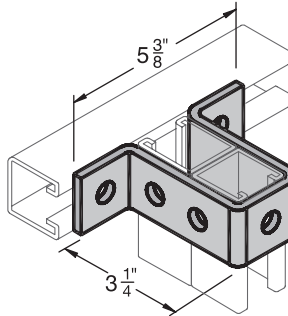
Electro-Galvanized
Wt. 0.85 Lbs.
15/Box



SUS679 (B601-6)

Seven Hole U Support

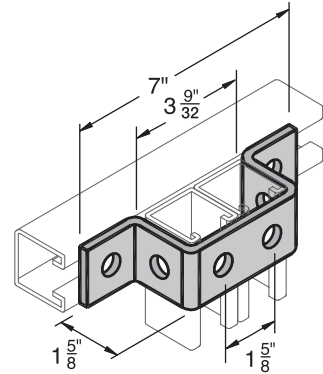
Electro-Galvanized
Wt. 1.21 Lbs.
10/Box



SUS721 (B610)

Six Hole U Support

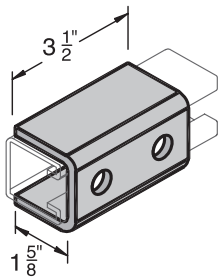
Electro-Galvanized
Wt. 1.03 Lbs.
10/Box



SP631 (B609)

Two Hole Splice Channel

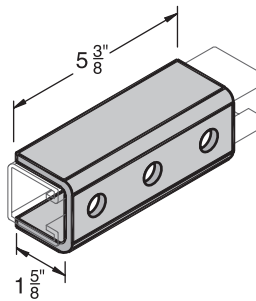
Electro-Galvanized
Wt. 1.28 Lbs.
10/Box



SP629 (B604)

Three Hole Splice Channel

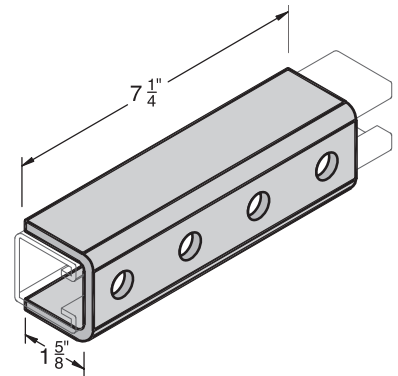
Electro-Galvanized
Wt. 1.97 Lbs.
10/Box



SP616 (B605)

Four Hole Splice Channel

Electro-Galvanized
Wt. 2.34 Lbs.
10/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 5/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 1 3/16"
Other Materials and Products Available Upon Request

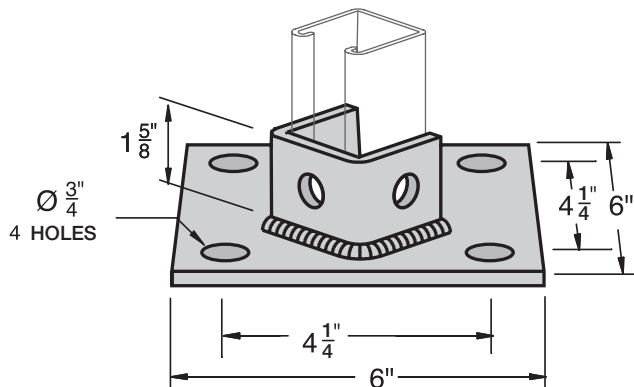
Post Bases



SPB3013 (B619)

Single Post Base

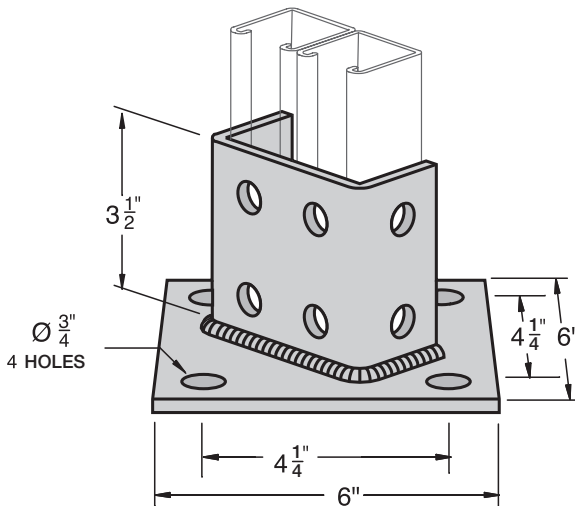
Electro-Galvanized
Wt. 3.05 Lbs.
10/Box



SPB3064 (B620A)

Double Post Base Double

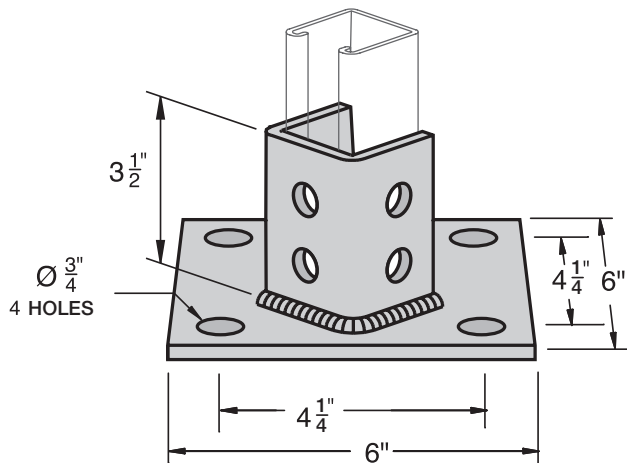
Electro-Galvanized
Wt. 3.75 Lbs.
5/Box



SPB3033 (B620)

Single Post Base Double

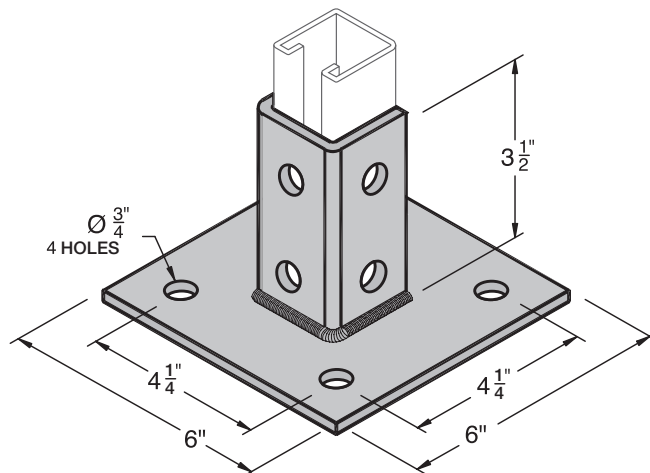
Electro-Galvanized
Wt. 3.76 Lbs.
5/Box



SPB3033-SQ (B620-SQ)

Squared Single Post Base Double

Electro-Galvanized
Wt. 3.25 Lbs.
10/Box

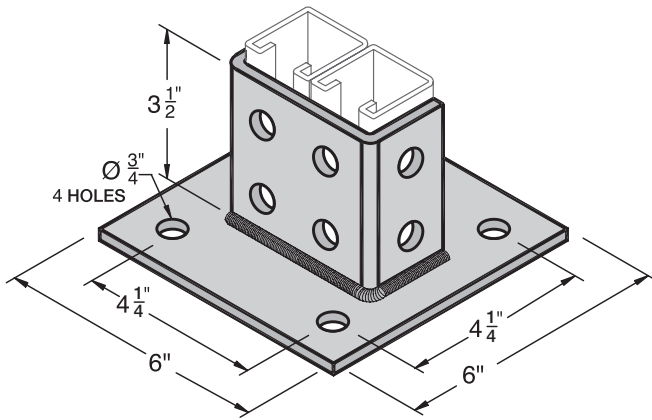


Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 3/4" • Hole Spacing: 1 7/8" • Hole Center From Edge: 1 3/16"
Other Materials and Products Available Upon Request

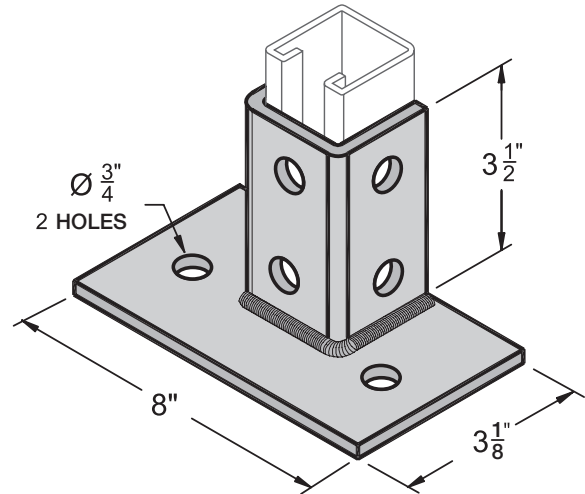
Post Bases

**SPB3064-SQ (B620A-SQ)****Squared Double Post Base Double**

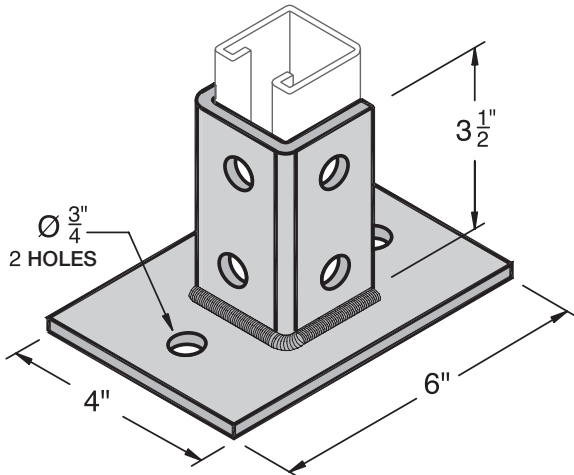
Electro-Galvanized
Wt. 3.75 Lbs.
10/Box

**SPB280-FL (B620-FL)****Flush Mount Single Post Base**

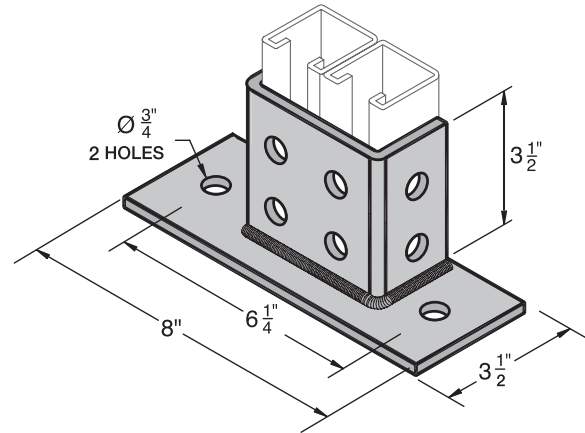
Electro-Galvanized
Wt. 3.12 Lbs.
10/Box

**SPB3025 (B620-1)****Single Post Base Double**

Electro-Galvanized
Wt. 2.92 Lbs.
10/Box

**SPB3064-FL (B620A-FL)****Flush Mount Double Post Base**

Electro-Galvanized
Wt. 3.20 Lbs.
5/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 3/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 13/16"
Other Materials and Products Available Upon Request

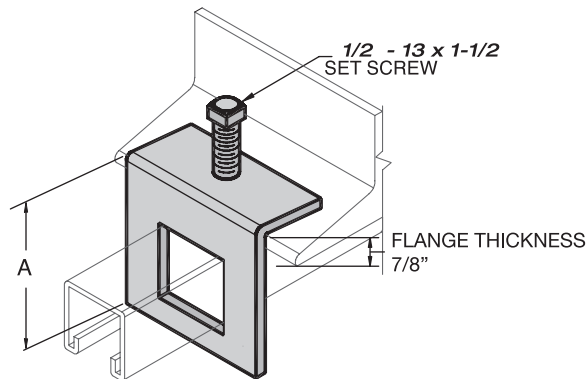
Beam Clamps



SBC855-1S (C401)

Window Beam Clamp

Electro-Galvanized
25/Box



USE WITH	A	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
SH132	3 1/2	1.09	500

SBC2651 (C402)

Beam Clamp

Electro-Galvanized
25/Box

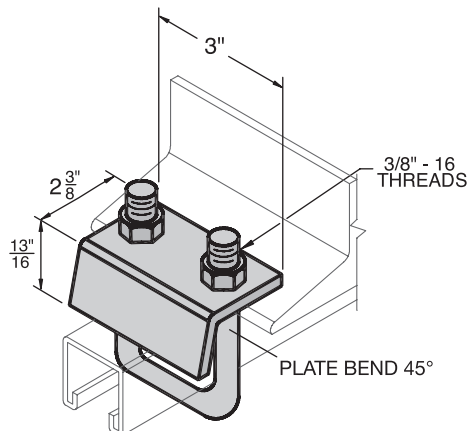


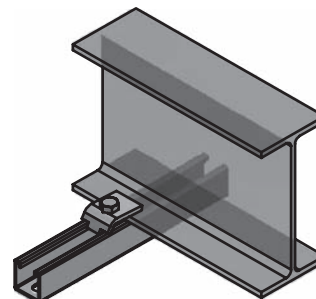
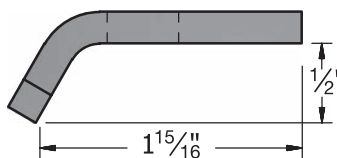
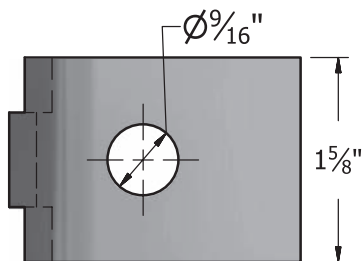
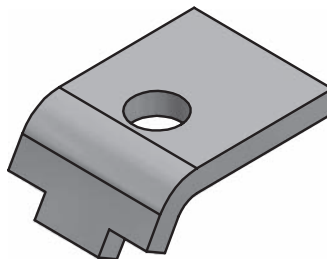
FIG. #	USE WITH	U-BOLT LENGTH	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
SBC2651-T1 (C402-132)	SH132	3 3/8	0.82	1200
SBC2651-T2 (C402-122)	SH132A	5	0.92	1200

Note: Maximum recommended load only when used in pairs.

SBC686 (C403)

Beam Clamp

Electro-Galvanized
Wt. 0.30
50/Box



Note: Requires 1/2" - 13 x 1 3/4" Hex Bolt and 1/2" Strut Nut.
(Hex Bolt and Strut Nut are sold separately.)

Maximum Recommended Load: 600 lbs with 12ga strut
500 lbs with 14ga strut

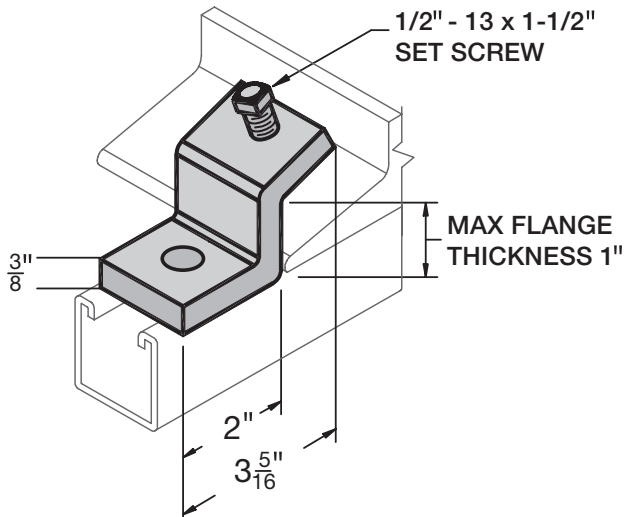
Beam Clamps



SBC685-1S (C406)

Beam Clamp

Electro-Galvanized
Wt. 0.67 Lbs.
25/Box

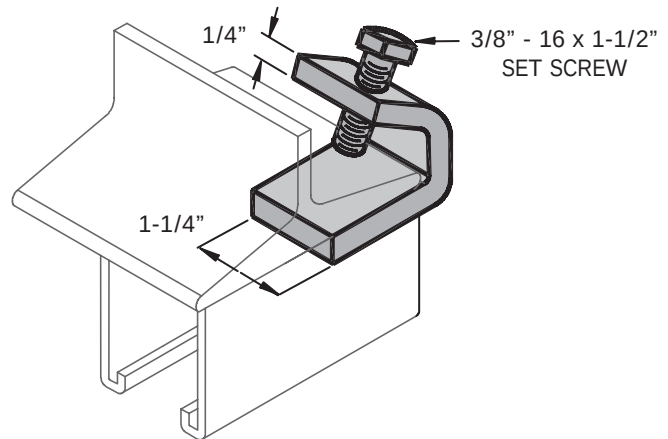


Maximum Recommended Load: 600 lbs per pair

SBC907-S (C408)

Light Duty Beam Clamp

Electro-Galvanized
Wt. 0.26 Lbs.
50/Box

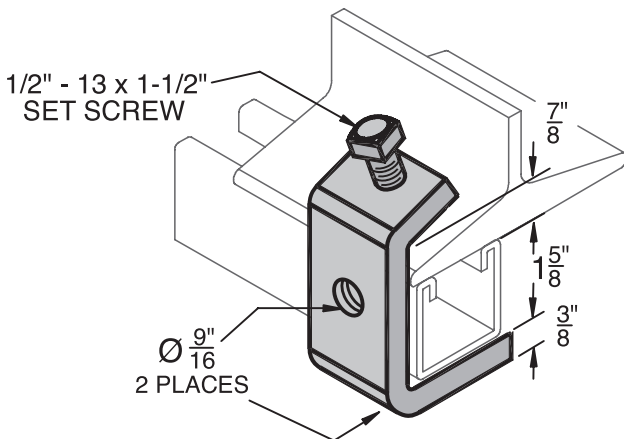


Maximum Recommended Load: 450 lbs per pair

SBC684-S (C407)

Heavy Duty Beam Clamp

Electro-Galvanized
Wt. 0.90 Lbs.
25/Box

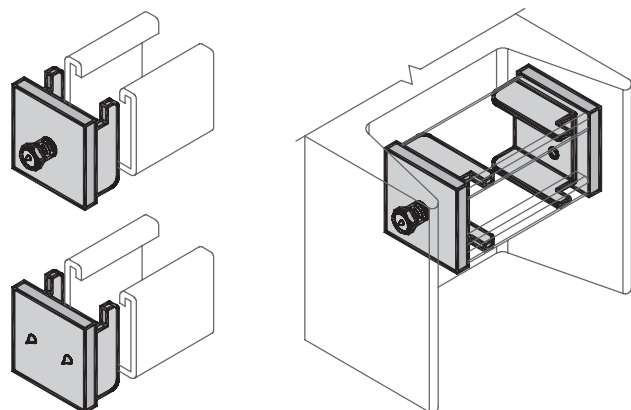


Maximum Recommended Load: 500 lbs

SCC2654 (C412)

Column Clamps

Electro-Galvanized
Wt. 0.53 Lbs. (pair)
25/Box



Note: Sold in pairs. Use with SH132.

Slip Rating: 800 lbs per pair

Brackets



SSB651 (T610)

Single Channel Bracket

Electro-Galvanized

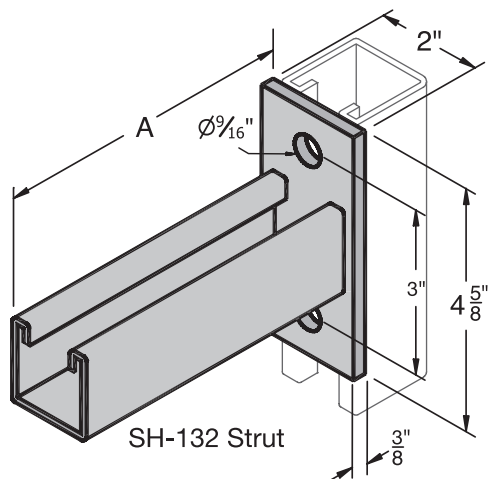


FIG. #	A	STD. PKG.	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
SSB651-6 (T610-6)	6	5	1.85	1,200
SSB651-12 (T610-12)	12	10	2.93	600
SSB651-18 (T610-18)	18	10	4.01	400
SSB651-24 (T610-24)	24	5	5.09	300

Mounted to 12 ga. Strut

SSB809 (T611)

Double Channel Bracket

Electro-Galvanized

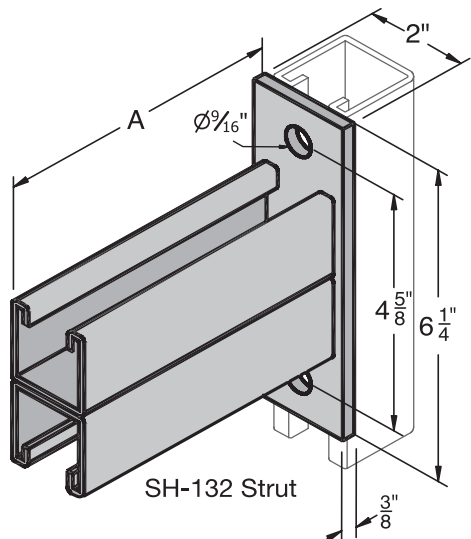


FIG. #	A	STD. PKG.	WEIGHT EACH, LBS.	MAX. REC. LOAD, LBS.
SSB809-12 (T611-12)	12	5	4.90	1,650
SSB809-18 (T611-18)	18	5	6.70	1,100
SSB809-24 (T611-24)	24	5	8.60	830
SSB809-30 (T611-30)	30	5	10.50	650
SSB809-36 (T611-36)	36	5	12.40	550

Mounted to 12 ga. Strut

Specialty Fittings

**SSB926 (B603)****Strut Brace**

Electro-Galvanized

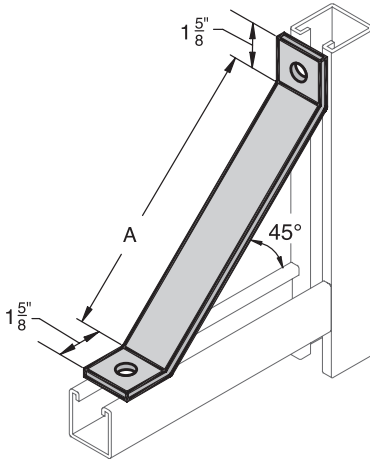


FIG. #	A	STD. PKG.	WEIGHT EACH, LBS.
SSB926-12 (B603-2)	12	25	1.68
SSB926-1658 (B603-1)	16 ⁵ / ₈	25	2.30

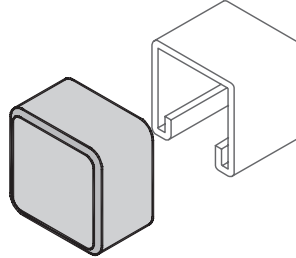
SEC6153**PVC End Cap**

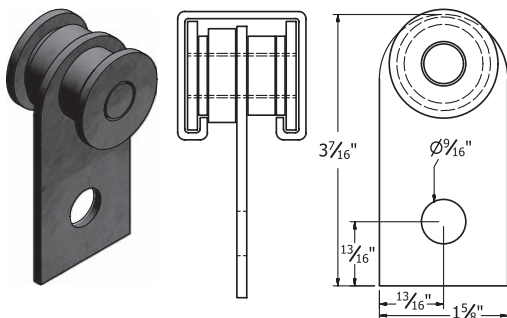
FIG. #	STD. PKG.	USE WITH CHANNEL	WEIGHT EACH, LBS.
SEC6153-1W	25	SH112	0.07
SEC6153-2W	50	SH132	0.04
SEC6153-5W	50	SH164	0.03

STR2521**Two Wheel Trolley**

Electro-Galvanized

Wt. 0.60 Lbs.

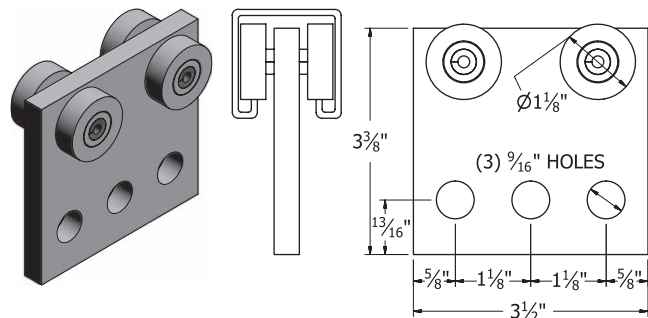
20/Box

**STR2950-916 (P2950)****Four Bearing Trolley**

Electro-Galvanized

Wt. 1.2 Lbs.

10/Box



Material Width: 1 5/8" • Thickness: 1/4" • Hole Diameter: 5/16" • Hole Spacing: 1 7/8" • Hole Center From Edge: 13/16"
Other Materials and Products Available Upon Request

Rooftop Supports



SERVICE: For installation on most types of roofing material or other flat surfaces. Can be used as a curb (sleeper) replacement. Rooftop supports are designed for various applications such as: HVAC supports, solar racking, duct supports, air conditioning supports, cable tray systems, pipe supports and conduit supports.

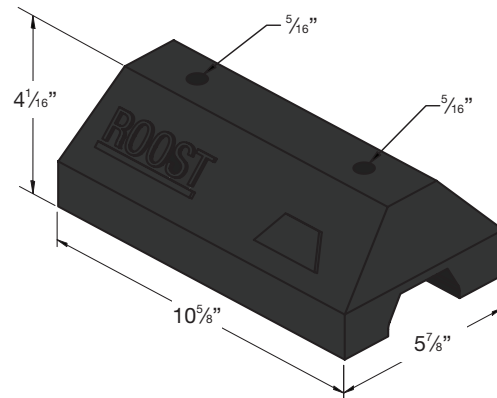
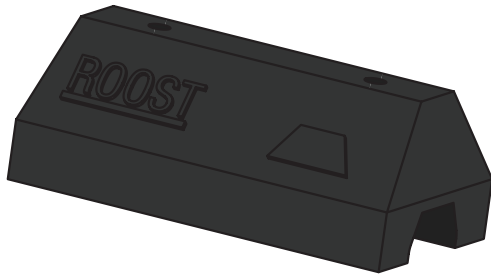
MATERIAL: 100% Recycled rubber base. With or without pre-galvanized strut.

APPROVALS: MSS SP-58 Type 62

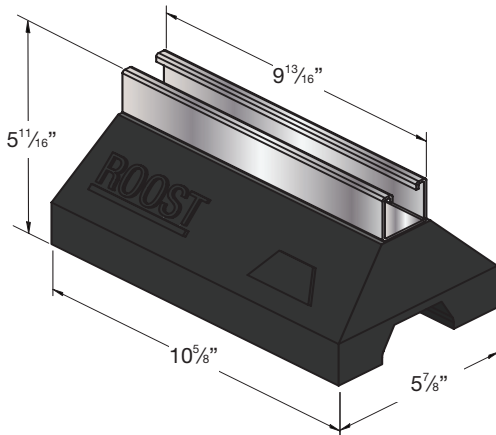
ORDERING: Specify figure number and strut (if applicable).

DESCRIPTION	HEIGHT	WIDTH	BASE LENGTH	THROUGH HOLE	WEIGHT EACH, LBS	UNIFORM CAPACITY, LBS
Rooftop Support Block, Base Only	4 $\frac{1}{16}$ "	5 $\frac{7}{8}$ "	10 $\frac{5}{8}$ "	$\frac{5}{16}$ "	5	500

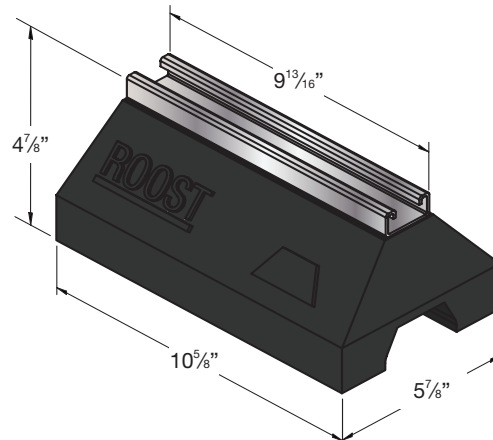
NOTE: This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof capacity.



Rooftop Support Block
Base Only



Rooftop Support Block
With SH132 Strut



Rooftop Support Block
With SH164 Strut

Lateral Bracing Load Reduction Chart

SPAN, IN.	SINGLE CHANNEL				WELDED CHANNEL			
	SH112	SH122	SH132	SH164	SH112A	SH122A	SH132A	SH164A
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
18	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
30	0.92	0.94	0.97	1.00	1.00	1.00	1.00	1.00
36	0.85	0.88	0.93	0.97	1.00	1.00	1.00	1.00
42	0.78	0.82	0.90	0.95	1.00	1.00	1.00	1.00
48	0.70	0.77	0.87	0.93	0.97	0.98	1.00	0.99
60	0.55	0.67	0.82	0.90	0.90	0.93	0.96	0.96
72	0.44	0.58	0.77	0.87	0.83	0.87	0.92	0.92
84	0.37	0.50	0.74	0.85	0.76	0.81	0.89	0.88
96	0.33	0.45	0.70	0.83	0.68	0.75	0.85	0.84
108	0.30	0.42	0.67	0.80	0.61	0.70	0.81	0.81
120	0.27	0.39	0.64	0.78	0.53	0.64	0.77	0.77
144	0.24	0.35	0.59	0.74	0.42	0.53	0.70	0.70
168	0.22	0.32	0.54	0.70	0.35	0.44	0.62	0.62
180	0.21	0.31	0.52	0.68	0.32	0.41	0.59	0.59
192	0.20	0.30	0.50	0.66	0.30	0.38	0.55	0.55
216	0.19	0.28	0.46	0.62	0.26	0.34	0.49	0.49
240	0.18	0.26	0.43	0.58	0.23	0.30	0.44	0.44

SH-Strut Channel Specifications

GENERAL: SH-Strut channel is 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.

WELDING: SH-Strut channel combinations of two or more elements are spot welded together. The spot welds are spaced two or three inches on centers throughout the length of the multiple channel sections. Various combinations are available upon request.

LENGTH INFORMATION: SH-Strut channel is available in 10' and 20' lengths with a tolerance of $\pm 1/8"$. Customized cut lengths are available upon request.

LOADING DATA:

- When calculating load at center of span, multiply load from table by 0.5 and deflection by 0.8.
- The allowable loads in the tables are based on an allowable stress of 25000 psi in accordance with the Metal Framing Manufacturers Association's Metal Framing Standards Publication MFMA-4, 2004. For commonly used pre-galvanized carbon steel ASTM A653, the loads in the tables have a safety factor of 1.8. The allowable stress in accordance with Manufacturers Standardization Society's Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation MSS SP-58, 2009 is 12900 psi. The safety factor in accordance with MSS SP-58 is 3.5. When strut is to be used in accordance with MSS SP-58 or ASME B31.1, the loads in the table shall be multiplied by $1.8/3.5 = 0.52$. This correction is in addition to any corrections for the presence of slotted holes or concentrated loads.

MATERIALS & FINISHES: SH-Strut channel is produced from prime structural steel covered by the following specifications:

- Pre-Galvanized Steel G-90.....ASTM A653
- Stainless Steel, Type 304 & Type 316.....ASTM A240
- Powder Coated Supr-Green.....ASTM B117

Other materials, finishes and specifications available upon request.

Terms of Sale

AGREEMENTS: All agreements are subject to strikes, accidents or other causes beyond our control. Prices and terms are not subject to verbal changes or other agreements unless approved in writing by the seller.

TAXES: The buyer is liable for any federal or state taxes imposed on the seller unless the buyer provides the seller with a tax exemption certificate acceptable to the taxing authority.

WARRANTY: We guarantee our manufactured products for one year from date of shipment to the extent that we will replace those having manufacturing defects when used for the purpose which we recommended. If goods are defective, the amount of damage is the price of the defective goods only and no allowance will be made for labor or expense of repairing defective goods or damage resulting from the same. We warrant the products we sell of other manufacturers to the extent of the warranties of their respective maker.

RETURNS: Permission to return standard stocked merchandise must be obtained in writing. Credit may be issued subject to the following:

1. Return freight charges must be prepaid.
2. All material must be in **first-class condition and in box quantities** upon arrival at our plant; if not, repackaging and reconditioning costs will be deducted from the credit.
3. **If** material is in approved condition, credit will be allowed on the basis of the price charged less a minimum restocking charge of 30% and less any out-bound freight allowed or paid by us.
4. Special, non-stocked and custom-made merchandise is **NOT RETURNABLE**.
5. Materials are **NOT RETURNABLE** after 30 days beyond date of invoice.

CLAIMS: No claims for shortages allowed unless made in writing within ten (10) days of receipt of goods. All material sent out will be carefully counted and packed. Claims for goods damaged or lost in transit should be made to the carrier as our responsibility ceases on delivery to the carrier.

TERMS AND DESIGN: National Pipe Hanger Corporation reserves the right to make specification changes without notice. While every effort has been made to assure the accuracy of information contained in this catalog at the time of publication, we cannot accept responsibility for inaccuracies resulting from undetected errors or omissions.

WARNING: National Pipe Hanger's products are designed and manufactured in accordance with industry codes and standards and are intended for service and installation as illustrated or described herein. National shall not be responsible for any losses or damages sustained by the buyer or any other person as a result of misapplication. Products used for unintended purposes could fail, resulting in property loss, injury or death.

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