

PRODUCT CATALOG



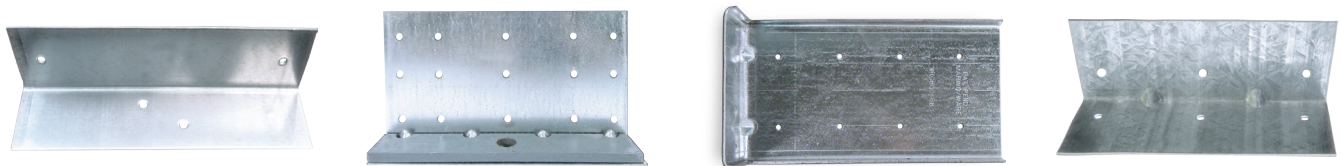
ClipSource



YOUR SUCCESS DEPENDS ON QUALITY BUILDING PRODUCTS AND SO DOES OURS.

ClipSource®, from Marino\WARE®, is a comprehensive line of connectors for cold-formed steel framing, featuring over 300 varieties of high-quality connectors to cover every requirement on the job. Each product in the line is thoughtfully designed to facilitate quicker, more cost-effective installation, while assuring proper attachment. In addition, ClipSource products strictly adhere to industry standards and are backed by testing to ensure reliability.

Marino\WARE is committed to providing a superior customer experience through a vast selection of readily available products, a knowledgeable sales team, comprehensive technical support and services, prompt delivery through our fleet of trucks, and an extensive distribution network.



CODE COMPLIANCE



ESR-3578

Products included in ESR-3578 are: UA, WSC*, RCC, HDW, BH (2^{1/8"}, 4^{1/4"}), WRC600 & 1200. (*except WSC 950/1500)

TECHNICAL SERVICES + SUPPORT |

Our commitment to quality products extends to best-in-class design support. The Marino\WARE® DesignGroup™ offers a full range of technical support and engineering services, including professionally engineered stamped shop drawings, design and installation assistance on all Marino\WARE manufactured products, and expert advice on structural, nonstructural, fire and acoustic assemblies.

If you have questions or need more information on any of the products listed in this catalog, contact our Technical Services department at technicalservices@marinoware.com, or at 866.545.1545. In most cases Technical Services representatives can provide an immediate response.

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Warranty & Limitations

All products presented herein are warranted to the buyer to be free from defects in material and workmanship. The foregoing warranty is non-assignable and in lieu of and excludes all other warranties not expressly set forth herein, whether express or implied by operation of law or otherwise, including but not limited to any implied warranties of merchantability or fitness for a particular purpose. All details and specifications presented herein are intended as a general guide for the use of MarinoWARE® framing systems. These products should not be used without evaluation by a qualified engineer or architect to determine their suitability for a specific use.

MarinoWARE assumes no responsibility for failure resulting from use of its details or specifications, or for failure resulting from improper application or installation of these products.

Governing Law

All issues arising in connection with your order and all transactions associated with it shall be interpreted according to the laws of the State of New Jersey, and all actions or other proceedings arising out of such issues shall be brought only in Superior Court, State of New Jersey, County of Essex, or United States District Court for the District of New Jersey. No action may be brought more than one year after accrual of the cause of action therefore.

WSC SLIDE CLIPS

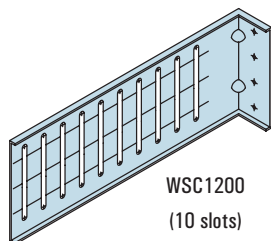
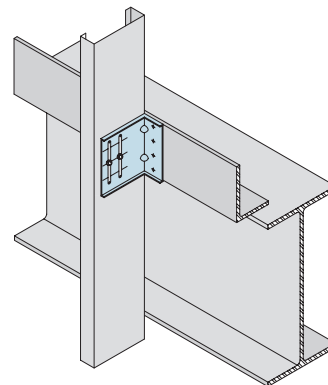
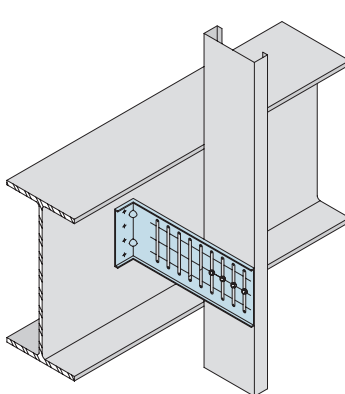
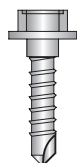
WSC Slide clips connect exterior curtain wall studs to the building structure and allow for vertical movement of the building independent of the studs. The WSC series allows for 3" total deflection, 1-1/2" up and 1-1/2" down. WSC series 14 ga. clips come with extended leg lengths and shouldered screws are provided in each box of clips.

MATERIAL: See Table

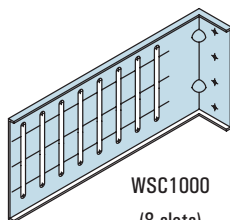
FINISH: Galvanized – G90

Part No.	Ga/Mil	Material	Finish	Size
WSC362	14ga (68)	50 KSI	G-90	4" x 1.5" x 3.5"
WSC600	14ga (68)	50 KSI	G-90	4" x 1.5" x 5.5"
WSC800	14ga (68)	50 KSI	G-90	4" x 1.5" x 7.5"
WSC1000	14ga (68)	50 KSI	G-90	4" x 1.5" x 9.5"
WSC1200	14ga (68)	50 KSI	G-90	4" x 1.5" x 11.5"

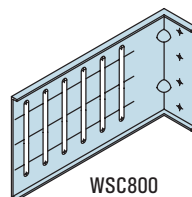
#14 Shouldered screws included.



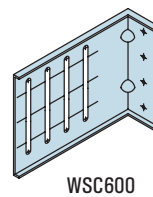
WSC1200
(10 slots)



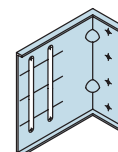
WSC1000
(8 slots)



WSC800
(6 slots)



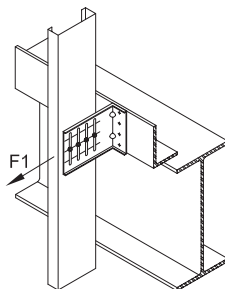
WSC600
(4 slots)



WSC362
(2 slots)

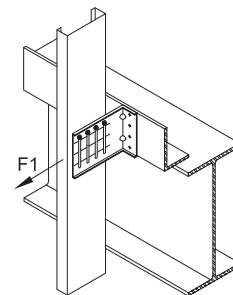
CONCENTRIC TENSION (lbs.)

# Screws	CFS Member			
	33 mil	43 mil	54 mil	68 mil
2	376	560	652	652
3	564	840	978	978
4	752	1120	1304	1304
5	940	1400	1559	1559



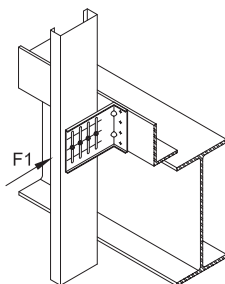
ECCENTRIC TENSION (lbs.)

# Screws	CFS Member			
	33 mil	43 mil	54 mil	68 mil
2	376	560	652	652
3	564	840	978	978
4	752	1120	1304	1304
5	940	1315	1315	1315



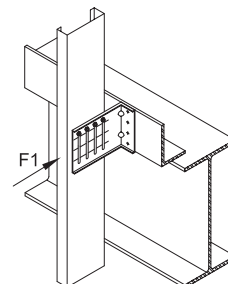
CONCENTRIC COMPRESSION (lbs.)

# Screws	CFS Member			
	33 mil	43 mil	54 mil	68 mil
2	376	560	652	652
3	564	840	966	966
4	752	966	966	966
5	940	966	966	966



ECCENTRIC COMPRESSION (lbs.)

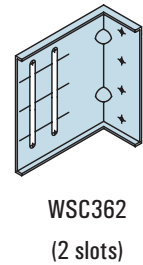
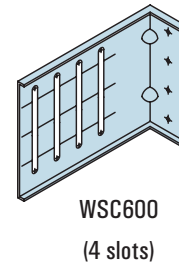
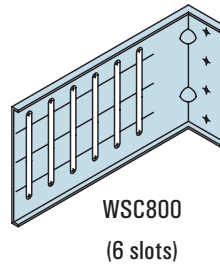
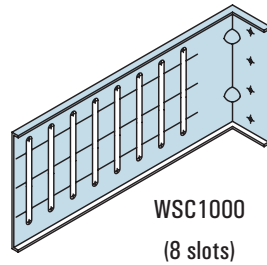
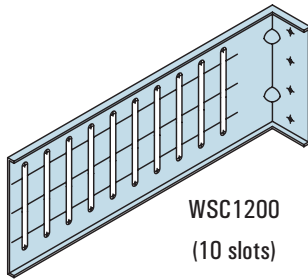
# Screws	CFS Member			
	33 mil	43 mil	54 mil	68 mil
2	376	560	652	652
3	564	788	788	788
4	752	788	788	788
5	788	788	788	788



Notes:

- Allowable loads have not been increased for wind or seismic.
- Attachment of WSC clip to main structure should be engineered by a design professional for steel or concrete base materials.
- Allowable loads are based on attachment to main structure through pilot holes with #10-24 cap screws with a head diameter of 0.29".
- Safety factor, Ω , determined in accordance with the provision of section F1.2 of the NASPEC with statistical data specified in AC208 and from test data.
- The serviceability limit of 1/8" deflection between the stud and supporting structure did not govern in testing.
- Eccentric tension and compression values represent clip capacity after structure deflects $\pm$ 1-1/2" up or down from center of the clip.

WSC SLIDE CLIPS



Allowable Anchorage Load Table			WSC362	WSC600, 800, 1000 & 1200
Anchor Type	Stud Thickness	# of Anchors to Structure	Allowable Load (lbs)	Allowable Load (lbs)
0.157" dia Hilti X-U P.A.F. to 3/16" steel	33 mil (33 ksi)	2	376	535
		3	376	564
		4	376	564
	43 mil (33 ksi)	2	535	535
		3	560	802
		4	560	840
	54 mil (50 ksi)	2	535	535
		3	652	802
		4	652	978
	68 mil (50 ksi)	2	535	535
		3	652	802
		4	652	978
#12 Hilti Kwik-Flex screws to 3/16" steel	33 mil (33 ksi)	2	376	564
		3	376	564
		4	376	564
	43 mil (33 ksi)	2	560	665
		3	560	840
		4	560	840
	54 mil (50 ksi)	2	652	665
		3	652	978
		4	652	978
	68 mil (50 ksi)	2	652	665
		3	652	978
		4	652	978
	97 mil (50 ksi)	2	652	665
		3	652	978
		4	652	978

Notes:

1. All anchors must be attached in a straight line down the center of the clip
2. All anchor data is from Hilti-Volume 1 - Direct Fastening Technical Guide - Edition 18
3. All anchors must be attached to the structure per manufacturer's instructions.
4. Anchor edge distance to the edge of the clip to be 1/2" min.
5. Values for WSC362 require 2 #14 shouldered screws, WSC600-1200 require minimum 3 #14 shouldered screws
6. Values are based on concentric loading (screws in the middle of the slots)

For more information, please contact MarinoWARE® Technical Services at 866.545.1545

This technical information reflects the most current information available and supersedes any and all previous publications effective May 22, 2023 | MW_ClipSourceCatalog | © WARE Industries, Inc. 2023

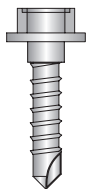
OUTRIGGER

Outrigger Slide Clip is used for horizontal surface applications. The outrigger comes in lengths of 18", can be field cut to shorter lengths if needed. Simple and fast to install which saves time and money. One clip fits all stud sizes, no right or left hand clips.

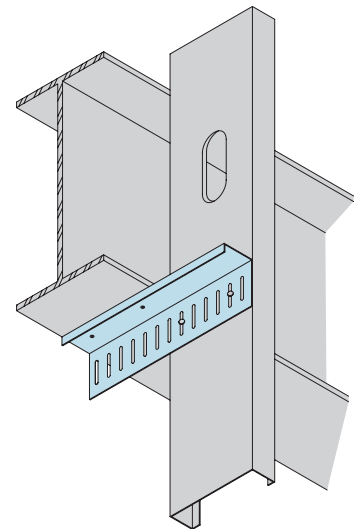
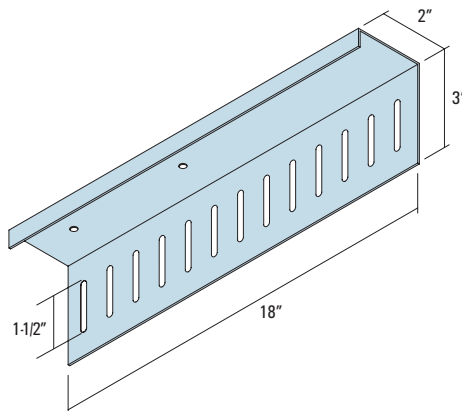
MATERIAL: 16 ga (54 mil) 50ksi.

FINISH: Galvanized – G90

DEFLECTION: 1-1/2" Total



50 - #14 Shouldered screws
provided per box



Model No.	Gauge (Mil) Yield	Box Quantity
Outrigger	16 (54) 50ksi	25

Connection to Structure Hilti X-U Powder Actuated Fastener in 3/16" Steel				Connection to Structure #12-14 Hilti Self Drilling Screws to 3/16" Steel			
Thickness (mil/ga)	No. of Screws	No. of Anchors	Allowable Load (lbs.)	Thickness (mils/ga)	No. of Screws	No. of Anchors	Allowable Load (lbs.)
20ga. (33 mil) 33ksi	2	2	278	20ga. (33 mil) 33ksi	2	2	278
		3	278			3	278
		4	278			4	278
20ga. (33 mil) 33ksi	4	2	484	20ga. (33 mil) 33ksi	4	2	557
		3	557			3	557
		4	557			4	557
18ga. (43 mil) 33ksi	2	2	413	18ga. (43 mil) 33ksi	2	2	413
		3	413			3	413
		4	413			4	413
18ga (43 mil) 33ksi	4	2	483	18ga (43 mil) 33ksi	4	2	590
		3	775			3	827
		4	827			4	827
16ga. (54 mil) 33ksi	2	2	483	16ga. (54 mil) 33ksi	2	2	580
		3	580			3	580
		4	580			4	580
16ga. (54 mil) 33ksi	4	2	483	16ga. (54 mil) 33ksi	4	2	590
		3	775			3	595
		4	910			4	1075
16ga. (54 mil) 50ksi	2	2	483	16ga. (54 mil) 50ksi	2	2	590
		3	740			3	742
		4	740			4	742
16ga. (54 mil) 50ksi	4	2	483	16ga. (54 mil) 50ksi	4	2	590
		3	775			3	985
		4	910			4	1075
14ga. (68 mil) 50ksi	2	2	483	14ga. (68 mil) 50ksi	2	2	590
		3	740			3	742
		4	740			4	742
14ga. (68 mil) 50ksi	4	2	783	14ga. (68 mil) 50ksi	4	2	590
		3	783			3	985
		4	910			4	1075

Notes:

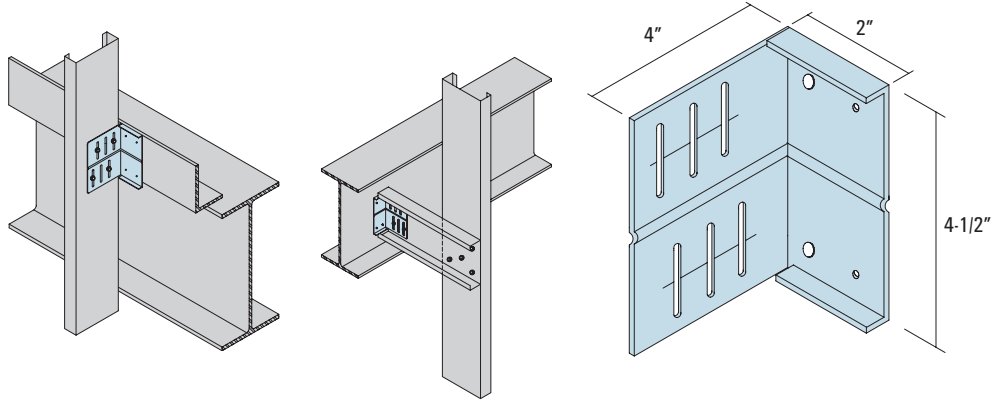
1. All anchors must be attached in a single file line down the center of the clip.
2. All anchor data is from the Hilti 2009 Product Technical Guide.
3. All anchors must be attached to structure per manufacturer's instructions.
4. Anchor Spacing for 2 and 3 anchors to be min. 2".
5. Anchor Spacing for 4 anchors to be 1" min.
6. Anchor edge distance to be 1/2" min.

WSC 950 & WSC 1500

WSC 950 and 1500 Slide Clips provide lateral support for steel studs and allow for vertical movement of the building structure. They allow for 1-3/4" edge of slab tolerance from the existing supporting structure. The WSC Clips accommodate up to 3/4" vertical movement at intermediate floors and 1-1/2" vertical movement at roof levels. They are used in a vertical surface application. Simple and fast to install which saves time and money. One clip fits all stud sizes, no right or left hand clips. Screws must be backed out 1/4 turn once installed.

MATERIAL: See Table

FINISH: Galvanized – G90



Model No.	Gauge (Mil) Yield	Box Quantity
WSC950	16 (54) 50ksi	25
WSC1500	12 (97) 40ksi	25

Screws not included for WSC1500 or WSC950

Connection to Structure Hilti X-U Powder Actuated Fastener in 3/16" Steel					Connection to Structure Hilti #12-14 Self Drilling Screws to 3/16" Steel				
Stud Thickness	# of Screws to Stud	# of Anchors to Structure	WSC 950 Allowable Load (lbs.)	WSC 1500 Allowable Load (lbs.)	Stud Thickness	Number of Screws	Number of Anchors	WSC 950 Allowable Load (lbs.)	WSC 1500 Allowable Load (lbs.)
20ga. (33 mil) 33ksi	4	2	220	220	20ga. (33 mil) 33ksi	4	2	500	555
		3	335	335			3	557	555
		4	445	445			4	557	555
20ga. (33 mil) 33ksi	6	2	220	220	20ga. (33 mil) 33ksi	6	2	500	770
		3	335	335			3	750	835
		4	445	445			4	835	835
18ga. (43 mil) 33ksi	4	2	220	220	18ga. (43 mil) 33ksi	4	2	500	770
		3	335	335			3	750	824
		4	445	445			4	827	824
18ga. (43 mil) 33ksi	6	2	220	220	18ga. (43 mil) 33ksi	6	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1240
16ga. (54 mil) 33ksi	4	2	220	220	16ga. (54 mil) 33ksi	4	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1480
16ga. (54 mil) 33ksi	6	2	220	220	16ga. (54 mil) 33ksi	6	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1480
16ga. (54 mil) 50ksi	4	2	220	220	16ga. (54 mil) 50ksi	4	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1480
16ga. (54 mil) 50ksi	6	2	220	220	16ga. (54 mil) 50ksi	6	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1495
14ga. (68 mil) 50ksi	4	2	220	220	14ga. (68 mil) 50ksi	4	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1480
14ga. (68 mil) 50ksi	6	2	220	220	14ga. (68 mil) 50ksi	6	2	500	770
		3	335	335			3	750	1150
		4	445	445			4	945	1495

Notes:

1. All anchors must be attached in a single file line down the center of the clip, do not use predrilled holes if attaching with PAF.
2. All anchor data is from the Hilti 2009 Product Technical Guide.
3. All anchors must be attached to structure per manufacturer's instructions.
4. All manufacturer's guidelines must be followed for anchor spacing and edge distance.

DEFLEX CLIP®

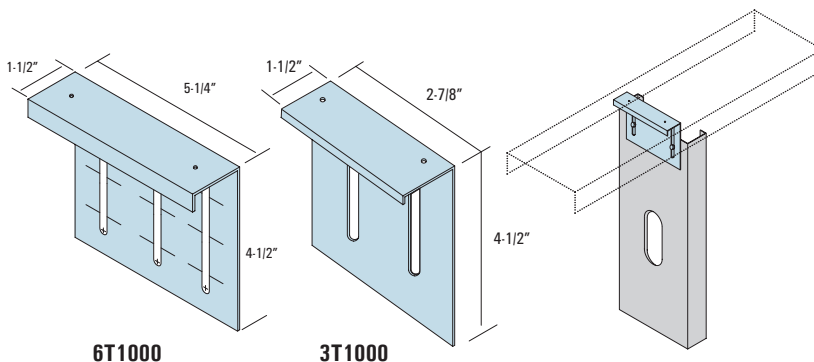
Deflex Clips® allow up to 1-1/2" vertical floor or roof deflection without the use of laborious slip tracks it can be installed with or without standard leg tracks. Simple and fast to install which saves time and money. Two sizes available for 3-5/8", 4", 6" and 8" studs.

MATERIAL: 16 ga (54 mil) 50ksi.

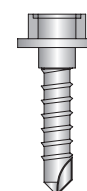
FINISH: Galvanized – G90

- 3T1000 accommodates 3-5/8" and 4" stud widths
- 6T1000 accommodates 6" and 8" stud widths

Model No.	Gauge (Mil) Yield	Box Quantity
3T1000	16 (54) 50 ksi	50
6T1000	16 (54) 50 ksi	50



Connection to Structure Hilti X-U Powder Actuated Fastener in 3/16" Steel					Connection to Structure #12-14 Hilti Self Drilling Screws to 3/16" Steel				
Stud Thickness	# of Screws to Stud	# of Anchors to Structure	Allowable Load (lbs.)	Deflex 3T1000	Deflex 6T1000	Stud Thickness	Number of Screws	Number of Anchors	Allowable Load (lbs.)
20ga. (33 mil)	2	2	224	276	20ga. (33 mil)	2	2	2	278
33ksi		3	228	276	33ksi		3	3	278
18ga. (43 mil)	2	2	224	413	18ga. (43 mil)	2	2	2	410
33ksi		3	228	413	33ksi		3	3	410
16ga. (54 mil)	2	2	224	413	16ga. (54 mil)	2	2	2	455
33ksi		3	228	440	33ksi		3	3	495
16ga. (54 mil)	2	2	224	413	16ga. (54 mil)	2	2	2	455
50ksi		3	228	440	50ksi		3	3	495
14ga. (68 mil)	2	2	224	413	14ga. (68 mil)	2	2	2	455
50ksi		3	228	440	50ksi		3	3	495



Shouldered screws included

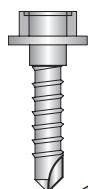
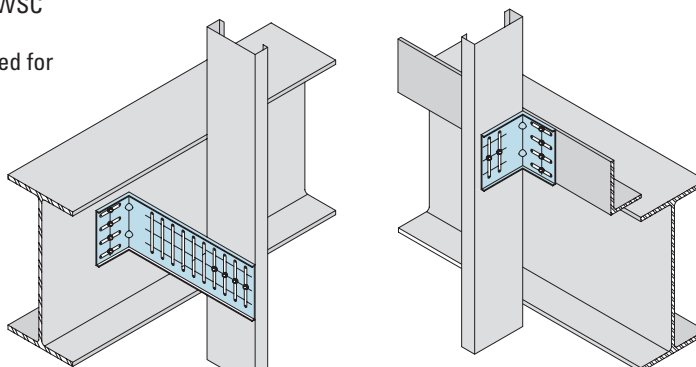
Notes:

1. All anchors must be attached in a single file line down the center of the clip.
2. All anchor data is from the Hilti 2009 Product Technical Guide.
3. All anchors must be attached to structure per manufacturer's instructions.
4. Anchor edge distance to be 1/2" min.

DWSC SEISMIC CLIP

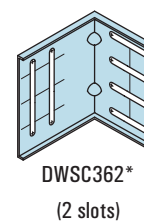
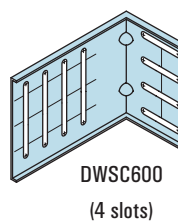
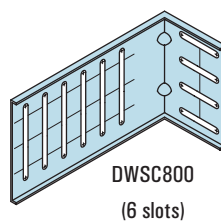
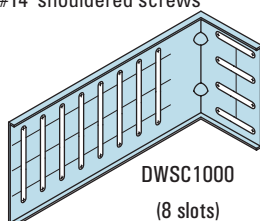
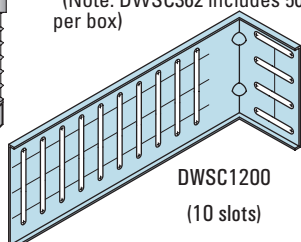
The DWSC series of clips allow for vertical and lateral movement of the building structure independent of the studs. The DWSC has a total of 3" vertical deflection and total of 2" lateral movement and uses shouldered screws which are included for ease of installation. 25 pieces per box.

Part No.	Ga/Mil	Material	Finish	Size
DWSC362	14ga (68)	50 KSI	G-90	4" x 2.5" x 3.5"
DWSC600	14ga (68)	50 KSI	G-90	4" x 2.5" x 5.5"
DWSC800	14ga (68)	50 KSI	G-90	4" x 2.5" x 7.5"
DWSC1000	14ga (68)	50 KSI	G-90	4" x 2.5" x 9.5"
DWSC1200	14ga (68)	50 KSI	G-90	4" x 2.5" x 11.5"



100 –#14 Shouldered screws included per box.

*(Note: DWSC362 includes 50 - #14 shouldered screws per box)



UTILITY CLIP (UA) - 16 GAUGE

Utility Clips are used in a variety of framing applications including floors, walls and roofs. UA clips are pre-cut with pre-drilled holes for easy installation.

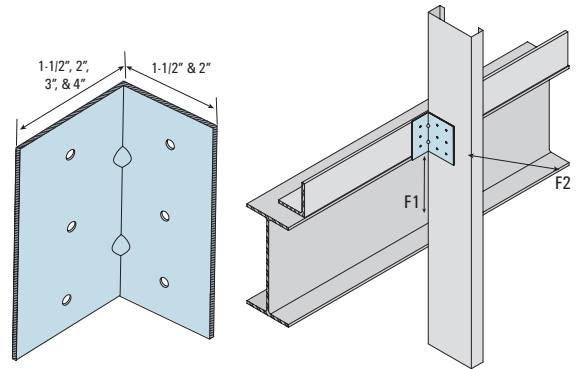
- Leg lengths available from 3-1/4" through 15-3/4". (See table for exact sizes)
- Leg widths available in 1-1/2", 2", 3" and 4".
- Available in 16, 14 and 12 gauge.
- Pre-punched for faster and more accurate fastener attachment.
- 3"x3" Clips available (do not have embossments) See page 12

MATERIAL: See Table for sizes – 50ksi

FINISH: Galvanized – G90

INSTALLATION:

- Utility Clips are attached to the cold formed steel (CFS) framing members using #10 - 16 self-drilling screws; using pre-punched holes.



Utility Clips *Hole pattern measurements are available on page 15.

UA Clips - 16 Gauge					Allowable Load (lbs)											
Model No.	Thickness (mil/ga)	Size (in.)	Box Qty	Screws	20ga (33 mil) 33 ksi		18ga (43 mil) 33 ksi		16ga (54 mil) 33 ksi		16ga (54 mil) 50 ksi		14ga (68 mil) 50 ksi		12ga (97 mil) 50 ksi	
					F1	F2	F1	F2	F1	F2	F1	F2	F1	F2	F1	F2
UA-113-16	54 (16 ga)	1-1/2 x 1-1/2 x 3-1/4	100	3-#10	686	380	907	462	907	546	1313	546	1589	644	1589	644
UA-223-16	54 (16 ga)	2 x 2 x 3-1/4	100	3-#10	686	380	907	462	907	546	1313	546	1589	644	1589	644
UA-133-16	54 (16 ga)	1-1/2 x 3 x 3-1/4	100	3-#10	562	380	562	462	562	546	722	546	722	644	722	644
UA-143-16	54 (16 ga)	1-1/2 x 4 x 3-1/4	100	3-#10	495	380	489	462	489	546	489	546	489	644	489	644
UA-115-16	54 (16 ga)	1-1/2 x 1-1/2 x 5-1/4	100	3-#10	686	435	907	645	907	882	1313	882	1589	1040	1589	1040
UA-225-16	54 (16 ga)	2 x 2 x 5-1/4	100	3-#10	686	435	907	645	907	882	1313	882	1589	1040	1589	1040
UA-135-16	54 (16 ga)	1-1/2 x 3 x 5-1/4	50	3-#10	562	435	562	645	562	882	722	882	722	1040	722	1040
UA-145-16	54 (16 ga)	1-1/2 x 4 x 5-1/4	50	3-#10	495	435	489	645	489	882	489	882	489	1040	489	1040
UA-118-16	54 (16 ga)	1-1/2 x 1-1/2 x 7-3/4	50	5-#10	1143	725	1512	1075	1512	1302	2188	1302	2649	1535	2649	1535
UA-228-16	54 (16 ga)	2 x 2 x 7-3/4	50	5-#10	1143	725	1512	1075	1512	1302	2188	1302	2649	1535	2649	1535
UA-138-16	54 (16 ga)	1-1/2 x 3 x 7-3/4	25	5-#10	1143	725	1512	1075	1512	1302	2188	1302	2562	1535	2562	1535
UA-148-16	54 (16 ga)	1-1/2 x 4 x 7-3/4	25	5-#10	1143	725	1468	1075	1468	1302	1468	1302	1468	1535	1468	1535
UA-119-16	54 (16 ga)	1-1/2 x 1-1/2 x 9	50	5-#10	1143	725	1512	1075	1512	1512	2188	1512	2649	1782	2649	1782
UA-229-16	54 (16 ga)	2 x 2 x 9	50	5-#10	1143	725	1512	1075	1512	1512	2188	1512	2649	1782	2649	1782
UA-139-16	54 (16 ga)	1-1/2 x 3 x 9	25	5-#10	1143	725	1512	1075	1512	1512	2188	1512	2562	1782	2562	1782
UA-149-16	54 (16 ga)	1-1/2 x 4 x 9	25	5-#10	1143	725	1512	1075	1512	1512	2188	1512	2377	1782	2377	1782
UA-1110-16	54 (16 ga)	1-1/2 x 1-1/2 x 9-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	1638	2649	1795	2649	1795
UA-2210-16	54 (16 ga)	2 x 2 x 9-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	1638	2649	1795	2649	1795
UA-1310-16	54 (16 ga)	1-1/2 x 3 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	1638	2562	1795	2562	1795
UA-1410-16	54 (16 ga)	1-1/2 x 4 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	1638	2377	1795	2377	1795
UA-1112-16	54 (16 ga)	1-1/2 x 1-1/2 x 11-3/4	50	7-#10	1600	1015	2116	1505	2116	1974	3063	1974	3709	2327	3709	2327
UA-2212-16	54 (16 ga)	2 x 2 x 11-3/4	50	7-#10	1600	1015	2116	1505	2116	1974	3063	1974	3709	2327	3709	2327
UA-1312-16	54 (16 ga)	1-1/2 x 3 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	1974	3063	1974	3586	2327	3586	2327
UA-1412-16	54 (16 ga)	1-1/2 x 4 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	1974	3063	1974	3328	2327	3328	2327
UA-1114-16	54 (16 ga)	1-1/2 x 1-1/2 x 13-3/4	50	9-#10	2057	1305	2721	1935	2721	2310	3938	2310	4768	2723	4768	2723
UA-2214-16	54 (16 ga)	2 x 2 x 13-3/4	50	9-#10	2057	1305	2721	1935	2721	2310	3938	2310	4768	2723	4768	2723
UA-1314-16	54 (16 ga)	1-1/2 x 3 x 13-3/4	25	9-#10	2057	1305	2721	1935	2721	2310	3938	2310	4611	2723	4611	3231
UA-1414-16	54 (16 ga)	1-1/2 x 4 x 13-3/4	25	9-#10	2057	1305	2721	1935	2721	2310	3938	2310	4279	2723	4279	3231
UA-1116-16	54 (16 ga)	1-1/2 x 1-1/2 x 15-3/4	50	9-#10	2057	1305	2721	1935	2721	2646	3938	2646	4768	3119	4768	3119
UA-2216-16	54 (16 ga)	2 x 2 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2646	3938	2646	4768	3119	4768	3119
UA-1316-16	54 (16 ga)	1-1/2 x 3 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2646	3938	2646	4611	3119	4611	3119
UA-1416-16	54 (16 ga)	1-1/2 x 4 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2646	3938	2646	4279	3119	4279	3119

Notes:

1. Allowable loads have not been increased for wind or seismic.
2. Allowable strength shown is the lowest value from the four failure modes: screw tilting/bearing, screw shear, screw pull-over and the serviceability limit state of 1/8" deflection of CFS members.
3. It is the responsibility of design professional to design the connection of UA connectors to the supporting structure. In the test program, this connection was made with cap screws with a head diameter of 0.29". The allowable loads should be conservative for any fastener with a head diameter equal to or greater than 0.29".
4. F1=Shear, F2=Tension

For more information, please contact MarinoWARE® Technical Services at 866.545.1545

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UTILITY CLIP (UA) - 14 GAUGE

Utility Clips are used in a variety of framing applications including floors, walls and roofs. UA clips are pre-cut with pre-drilled holes for easy installation.

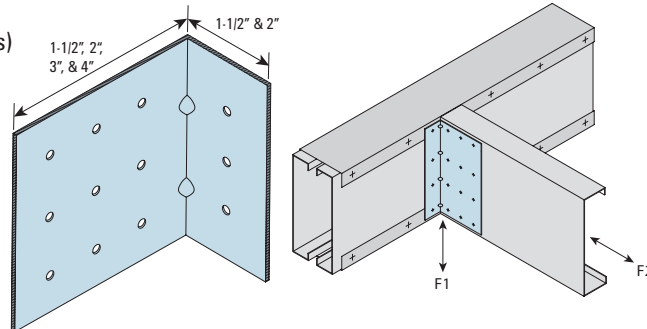
- Leg lengths available from 3-1/4" through 15-3/4". (See table for exact sizes)
- Leg widths available in 1-1/2", 2", 3" and 4".
- Available in 16, 14 and 12 gauge.
- Pre-punched for faster and more accurate fastener attachment.
- 3"x 3" Clips available (do not have embossments) See page 12

MATERIAL: See Table for sizes – 50ksi

FINISH: Galvanized – G90

INSTALLATION:

- Utility Clips are attached to the cold formed steel (CFS) framing members using #10 - 16 self-drilling screws; using pre-punched holes.



Utility Clips *Hole pattern measurements are available on page 15.

UA Clips - 14 Gauge					Allowable Load (lbs)											
Model No.	Thickness (mil/ga)	Size (in.)	Box Qty	Screws	20ga (33 mil) 33 ksi		18ga (43 mil) 33 ksi		16ga (54 mil) 33 ksi		16ga (54 mil) 50 ksi		14ga (68 mil) 50 ksi		12ga (97 mil) 50 ksi	
					F1	F2	F1	F2	F1	F2	F1	F2	F1	F2	F1	F2
UA-113-14	68 (14 ga)	1-1/2 x 1-1/2 x 3-1/4	100	3-#10	686	435	907	645	907	861	1313	861	1589	920	1589	920
UA-223-14	68 (14 ga)	2 x 2 x 3-1/4	100	3-#10	686	435	907	645	907	861	1313	861	1589	920	1589	920
UA-133-14	68 (14 ga)	1-1/2 x 3 x 3-1/4	100	3-#10	562	435	562	645	562	861	722	861	722	920	722	920
UA-143-14	68 (14 ga)	1-1/2 x 4 x 3-1/4	100	3-#10	495	435	489	645	489	861	489	861	489	920	489	920
UA-115-14	68 (14 ga)	1-1/2 x 1-1/2 x 5-1/4	100	3-#10	686	435	907	645	907	909	1313	1290	1589	1290	1589	1290
UA-225-14	68 (14 ga)	2 x 2 x 5-1/4	100	3-#10	686	435	907	645	907	909	1313	1290	1589	1290	1589	1290
UA-135-14	68 (14 ga)	1-1/2 x 3 x 5-1/4	50	3-#10	562	435	562	645	562	909	722	1290	722	1290	722	1290
UA-145-14	68 (14 ga)	1-1/2 x 4 x 5-1/4	50	3-#10	495	435	489	645	489	909	489	1290	489	1290	489	1290
UA-118-14	68 (14 ga)	1-1/2 x 1-1/2 x 7-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2054	2649	2150	2649	2150
UA-228-14	68 (14 ga)	2 x 2 x 7-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2054	2649	2150	2649	2150
UA-138-14	68 (14 ga)	1-1/2 x 3 x 7-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2054	2562	2150	2562	2150
UA-148-14	68 (14 ga)	1-1/2 x 4 x 7-3/4	25	5-#10	1143	725	1468	1075	1468	1515	1468	2054	1468	2150	1468	2150
UA-119-14	68 (14 ga)	1-1/2 x 1-1/2 x 9	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-229-14	68 (14 ga)	2 x 2 x 9	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-139-14	68 (14 ga)	1-1/2 x 3 x 9	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2562	2150	2562	2150
UA-149-14	68 (14 ga)	1-1/2 x 4 x 9	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2377	2150	2377	2150
UA-1110-14	68 (14 ga)	1-1/2 x 1-1/2 x 9-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-2210-14	68 (14 ga)	2 x 2 x 9-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-1310-14	68 (14 ga)	1-1/2 x 3 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2562	2150	2562	2150
UA-1410-14	68 (14 ga)	1-1/2 x 4 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2377	2150	2377	2150
UA-1112-14	68 (14 ga)	1-1/2 x 1-1/2 x 11-3/4	50	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3709	3010	3709	3010
UA-2212-14	68 (14 ga)	2 x 2 x 11-3/4	50	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3709	3010	3709	3010
UA-1312-14	68 (14 ga)	1-1/2 x 3 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3586	3010	3586	3010
UA-1412-14	68 (14 ga)	1-1/2 x 4 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3328	3010	3328	3010
UA-1114-14	68 (14 ga)	1-1/2 x 11/2 x 13-3/4	50	9-#10	2057	1305	2721	1935	2721	2727	3938	3644	4768	3870	4768	3870
UA-2214-14	68 (14 ga)	2 x 2 x 13-3/4	50	9-#10	2057	1305	2721	1935	2721	2727	3938	3644	4768	3870	4768	3870
UA-1314-14	68 (14 ga)	1-1/2 x 3 x 13-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3644	4611	3870	4611	3870
UA-1414-14	68 (14 ga)	1-1/2 x 4 x 13-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3644	4279	3870	4279	3870
UA-1116-14	68 (14 ga)	1-1/2 x 1-1/2 x 15-3/4	50	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4768	3870	4768	3870
UA-2216-14	68 (14 ga)	2 x 2 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4768	3870	4768	3870
UA-1316-14	68 (14 ga)	1-1/2 x 3 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4611	3870	4611	3870
UA-1416-14	68 (14 ga)	1-1/2 x 4 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4279	3870	4279	3870

Notes:

1. Allowable loads have not been increased for wind or seismic.
2. Allowable strength shown is the lowest value from the four failure modes: screw tilting/bearing, screw shear, screw pull-over and the serviceability limit state of 1/8" deflection of CFS members.
3. It is the responsibility of design professional to design the connection of UA connectors to the supporting structure. In the test program, this connection was made with cap screws with a head diameter of 0.29". The allowable loads should be conservative for any fastener with a head diameter equal to or greater than 0.29".
4. F1=Shear, F2=Tension

UTILITY CLIP (UA) - 12 GAUGE

Utility Clips are used in a variety of framing applications including floors, walls and roofs. UA clips are pre-cut with pre-drilled holes for easy installation.

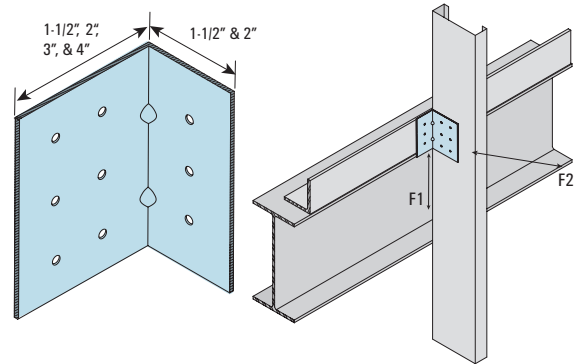
- Leg lengths available from 3-1/4" through 15-3/4". (See table for exact sizes)
- Leg widths available in 1-1/2", 2", 3" and 4".
- Available in 16, 14 and 12 gauge.
- Pre-punched for faster and more accurate fastener attachment.
- 3"x 3" Clips available (do not have embossments) See page 12

MATERIAL: See Table for sizes – 50ksi

FINISH: Galvanized – G90

INSTALLATION:

- Utility Clips are attached to the cold formed steel (CFS) framing members using #10 - 16 self-drilling screws; using pre-punched holes.



Utility Clips *Hole pattern measurements are available on page 15.

UA Clips - 12 Gauge					Allowable Load (lbs)											
Model No.	Thickness (mil/ga)	Size (in.)	Box Qty	Screws	20ga (33 mil)		18ga (43 mil)		16ga (54 mil)		16ga (54 mil)		14ga (68 mil)		12ga (97 mil)	
					33 ksi		33 ksi		33 ksi		50 ksi		50 ksi		50 ksi	
					F1	F2	F1	F2	F1	F2	F1	F2	F1	F2	F1	F2
UA-113-12	97 (12 ga)	1-1/2 x 1-1/2 x 3-1/4	100	3-#10	686	435	907	645	907	909	1313	1290	1589	1290	1589	1290
UA-223-12	97 (12 ga)	2 x 2 x 3-1/4	100	3-#10	686	435	907	645	907	909	1313	1290	1589	1290	1589	1290
UA-133-12	97 (12 ga)	1-1/2 x 3 x 3-1/4	100	3-#10	686	435	907	645	907	909	1313	1290	1537	1290	1537	1290
UA-143-12	97 (12 ga)	1-1/2 x 4 x 3-1/4	50	3-#10	686	435	907	645	907	909	1313	1290	1426	1290	1426	1290
UA-115-12	97 (12 ga)	1-1/2 x 1-1/2 x 5-1/4	100	3-#10	686	435	907	645	907	909	1313	1290	1589	1290	1589	1290
UA-225-12	97 (12 ga)	2 x 2 x 5-1/4	50	3-#10	686	435	907	645	907	909	1313	1290	1589	1290	1589	1290
UA-135-12	97 (12 ga)	1-1/2 x 3 x 5-1/4	50	3-#10	686	435	907	645	907	909	1313	1290	1537	1290	1537	1290
UA-145-12	97 (12 ga)	1 1/2 x 4 x 5 1/4	50	3-#10	686	435	907	645	907	909	1313	1290	1426	1290	1426	1290
UA-118-12	97 (12 ga)	1-1/2 x 1-1/2 x 7-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-228-12	97 (12 ga)	2 x 2 x 7-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-138-12	97 (12 ga)	1-1/2 x 3 x 7-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2562	2150	2562	2150
UA-148-12	97 (12 ga)	1-1/2 x 4 x 7-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2377	2150	2377	2150
UA-119-12	97 (12 ga)	1-1/2 x 1-1/2 x 9	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-229-12	97 (12 ga)	2 x 2 x 9	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-139-12	97 (12 ga)	1-1/2 x 3 x 9	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2562	2150	2562	2150
UA-149-12	97 (12 ga)	1-1/2 x 4 x 9	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2377	2150	2377	2150
UA-1110-12	97 (12 ga)	1-1/2 x 1-1/2 x 9-3/4	50	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-2210-12	97 (12 ga)	2 x 2 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2649	2150	2649	2150
UA-1310-12	97 (12 ga)	1-1/2 x 3 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2562	2150	2562	2150
UA-1410-12	97 (12 ga)	1-1/2 x 4 x 9-3/4	25	5-#10	1143	725	1512	1075	1512	1515	2188	2150	2377	2150	2377	2150
UA-1112-12	97 (12 ga)	1-1/2 x 1-1/2 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3709	3010	3709	3010
UA-2212-12	97 (12 ga)	2 x 2 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3709	3010	3709	3010
UA-1312-12	97 (12 ga)	1-1/2 x 3 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3586	3010	3586	3010
UA-1412-12	97 (12 ga)	1-1/2 x 4 x 11-3/4	25	7-#10	1600	1015	2116	1505	2116	2121	3063	3010	3328	3010	3328	3010
UA-1114-12	97 (12 ga)	1-1/2 x 1-1/2 x 13-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4768	3870	4768	3870
UA-2214-12	97 (12 ga)	2 x 2 x 13-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4768	3870	4768	3870
UA-1314-12	97 (12 ga)	1-1/2 x 3 x 13-3/4	15	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4611	3870	4611	3870
UA-1414-12	97 (12 ga)	1-1/2 x 4 x 13-3/4	15	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4279	3870	4279	3870
UA-1116-12	97 (12 ga)	1-1/2 x 1-1/2 x 15-3/4	25	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4768	3870	4768	3870
UA-2216-12	97 (12 ga)	2 x 2 x 15-3/4	15	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4768	3870	4768	3870
UA-1316-12	97 (12 ga)	1-1/2 x 3 x 15-3/4	15	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4611	3870	4611	3870
UA-1416-12	97 (12 ga)	1-1/2 x 4 x 15-3/4	15	9-#10	2057	1305	2721	1935	2721	2727	3938	3870	4279	3870	4279	3870

Notes:

1. Allowable loads have not been increased for wind or seismic.
2. Allowable strength shown is the lowest value from the four failure modes: screw tilting/bearing, screw shear, screw pull-over and the serviceability limit state of 1/8" deflection of CFS members.
3. It is the responsibility of design professional to design the connection of UA connectors to the supporting structure. In the test program, this connection was made with cap screws with a head diameter of 0.29". The allowable loads should be conservative for any fastener with a head diameter equal to or greater than 0.29".
4. F1=Shear, F2=Tension

For more information, please contact MarinoWARE® Technical Services at 866.545.1545

This technical information reflects the most current information available and supersedes any and all previous publications effective May 22, 2023 | MW_ClipSourceCatalog | © WARE Industries, Inc. 2023

LA CLIP (LARGE UTILITY CLIP)

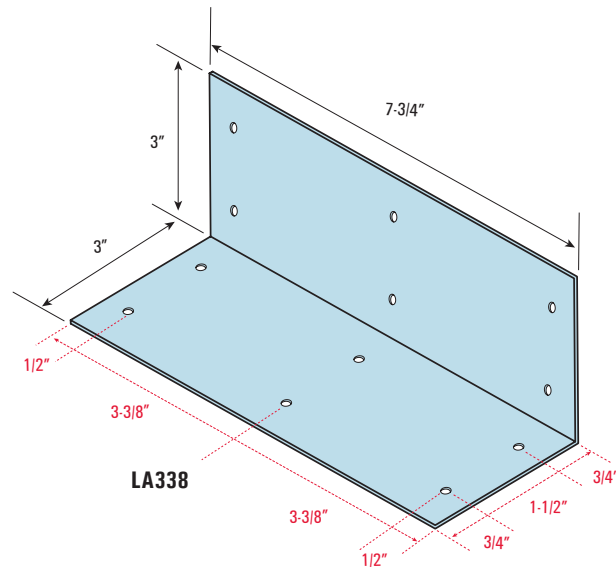
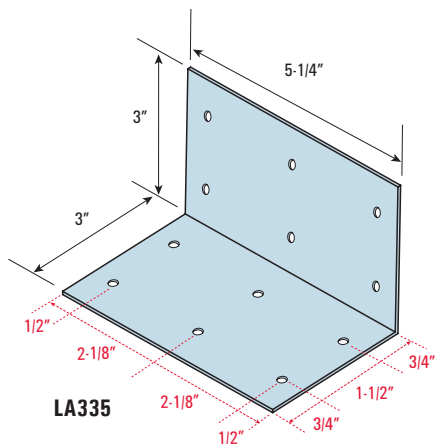
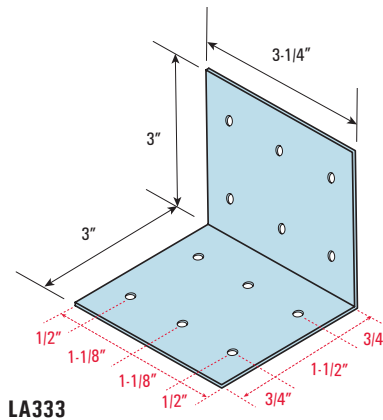
The LA series of clip angles is a series of rigid clips used in a variety of framing applications. Pre-drilled for ease of installation.

MATERIAL: See table for sizes – 50ksi

FINISH: Galvanized – G90

3" x 3" LA Clips

Model No.	Size (in.)	Box Qty
LA333-16	3 x 3 x 3-1/4	100
LA333-14	3 x 3 x 3-1/4	100
LA333-12	3 x 3 x 3-1/4	50
LA335-16	3 x 3 x 5-1/4	50
LA335-14	3 x 3 x 5-1/4	50
LA335-12	3 x 3 x 5-1/4	50
LA338-16	3 x 3 x 7-3/4	25
LA338-14	3 x 3 x 7-3/4	25
LA338-12	3 x 3 x 7-3/4	25



LA Clips				Allowable Load (lbs)											
Model No.	Thickness (mil/ga)	Size (in.)	Screws	20ga (33 mil) 33 ksi		18ga (43 mil) 33 ksi		16ga (54 mil) 33 ksi		16ga (54 mil) 50 ksi		14ga (68 mil) 50 ksi		12ga (97 mil) 50 ksi	
				Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension
LA-333-16	54 (16 GA)	3" x 3" x 3-1/4"	6 - #10	562	380	562	462	562	546	722	546	722	644	722	644
LA-333-14	68 (14 GA)	3" x 3" x 3-1/4"	6 - #10	562	602	562	689	562	861	722	861	722	920	722	920
LA-333-12	97 (12 GA)	3" x 3" x 3-1/4"	6 - #10	562	870	562	1160	562	1515	722	1515	722	1495	722	1495
LA-335-16	54 (16 GA)	3" x 3" x 5-1/4"	6 - #10	562	614	562	746	562	882	722	882	722	1040	722	1040
LA-335-14	68 (14 GA)	3" x 3" x 5-1/4"	6 - #10	562	870	562	1113	562	1391	722	1391	722	1486	722	1486
LA-335-12	97 (12 GA)	3" x 3" x 5-1/4"	6 - #10	562	870	562	1290	562	1818	722	2447	722	2415	722	2415
LA-338-16	54 (16 GA)	3" x 3" x 7-3/4"	6 - #10	1372	870	1814	1077	1814	1077	2625	1077	3074	1077	3074	1077
LA-338-14	68 (14 GA)	3" x 3" x 7-3/4"	6 - #10	1372	870	1814	1290	1814	1818	2625	2054	3074	2193	3074	2193
LA-338-12	97 (12 GA)	3" x 3" x 7-3/4"	6 - #10	1372	870	1814	1290	1814	1818	2625	2580	3074	2580	3074	2580

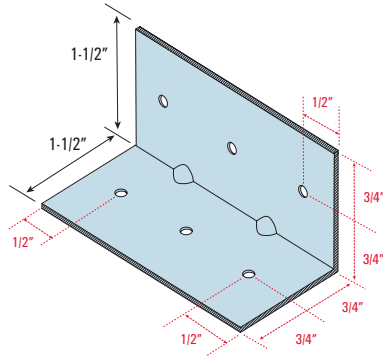
Notes:

- Allowable loads have not been increased for wind or seismic.
- Allowable strength shown is the lowest value from the four failure modes: screw tilting/bearing, screw shear, screw pull-over and the serviceability limit state of 1/8" deflection of CFS members.
- It is the responsibility of design professional to design the connection of UA connectors to the supporting structure. In the test program, this connection was made with cap screws with a head diameter of 0.29". The allowable loads should be conservative for any fastener with a head diameter equal to or greater than 0.29".

UTILITY CLIP (UA & LA)

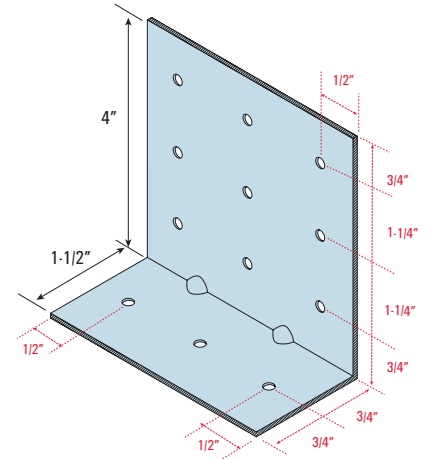
1-1/2" x 1-1/2" Angle

Length	No. of Holes
3-1/4"	6
5-1/4"	6
7-3/4"	10
9"	10
9-3/4"	10
11-3/4"	14
13-3/4"	18
15-3/4"	18



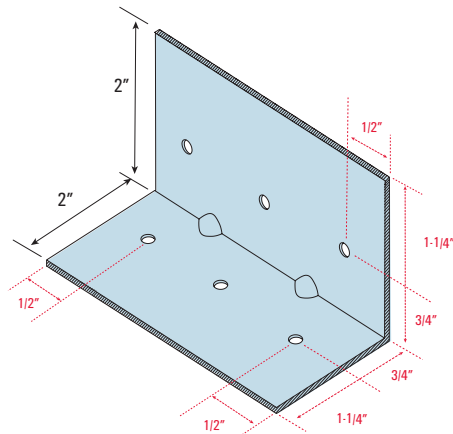
1-1/2" x 4" Angle

Length	No. of Holes
3-1/4"	12
5-1/4"	12
7-3/4"	20
9"	20
9-3/4"	20
11-3/4"	28
13-3/4"	36
15-3/4"	36



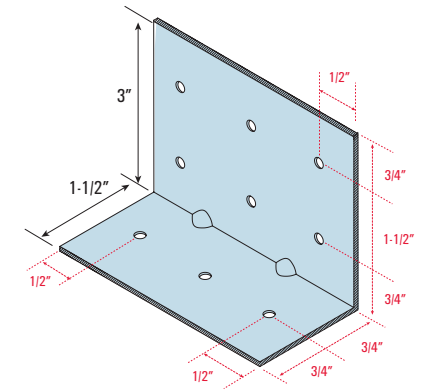
2" x 2" Angle

Length	No. of Holes
3-1/4"	6
5-1/4"	6
7-3/4"	10
9"	10
9-3/4"	10
11-3/4"	14
13-3/4"	18
15-3/4"	18



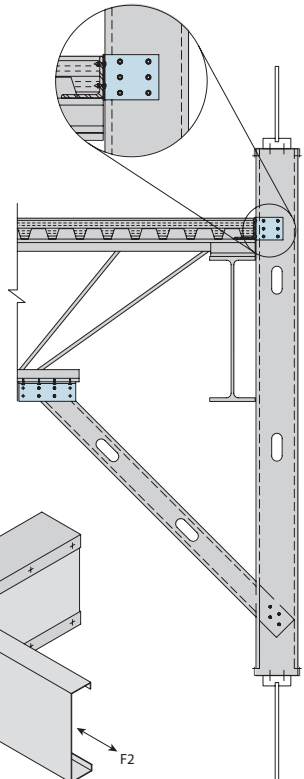
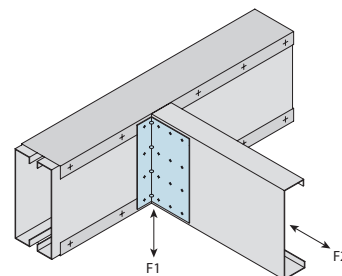
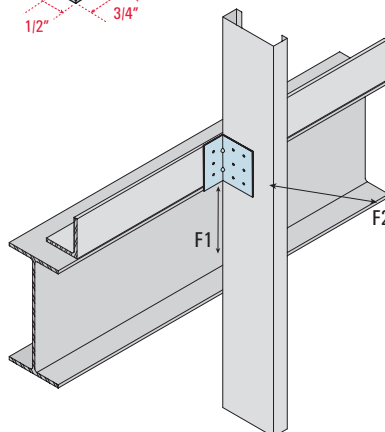
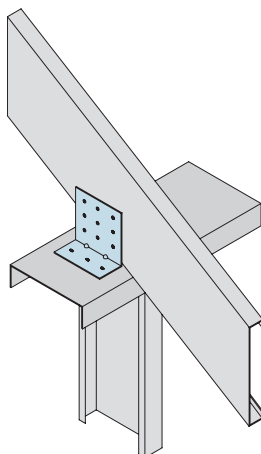
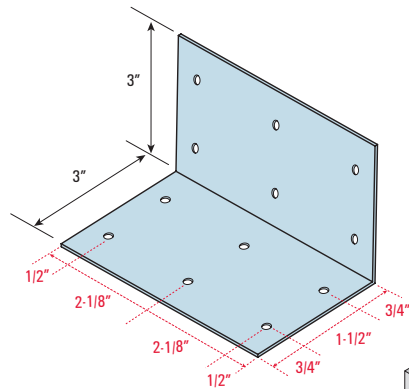
1-1/2" x 3" Angle

Length	No. of Holes
3-1/4"	9
5-1/4"	9
7-3/4"	15
9"	15
9-3/4"	15
11-3/4"	21
13-3/4"	27
15-3/4"	27



3" x 3" Angle

Length	No. of Holes
3-1/4"	12
5-1/4"	12
7-3/4"	12



RIGID CLIP CONNECTOR (RCC)

Rigid Clip Connectors (RCC) are used to rigidly attach the bottom of a parapet stud to the structure, or where high tension or rotational restraint is required.

MATERIAL: 12ga (97 mil), 50 ksi

FINISH: Galvanized G90

INSTALLATION:

- Attach long leg of Rigid Clip Connector to web of stud with #10–16 screws through pre-punched holes.
- Attach short leg of Rigid Clip Connector to structure with a 1/2" anchor bolt per Project Engineer's design.

Allowable Strength of RCC in Moment (M1)

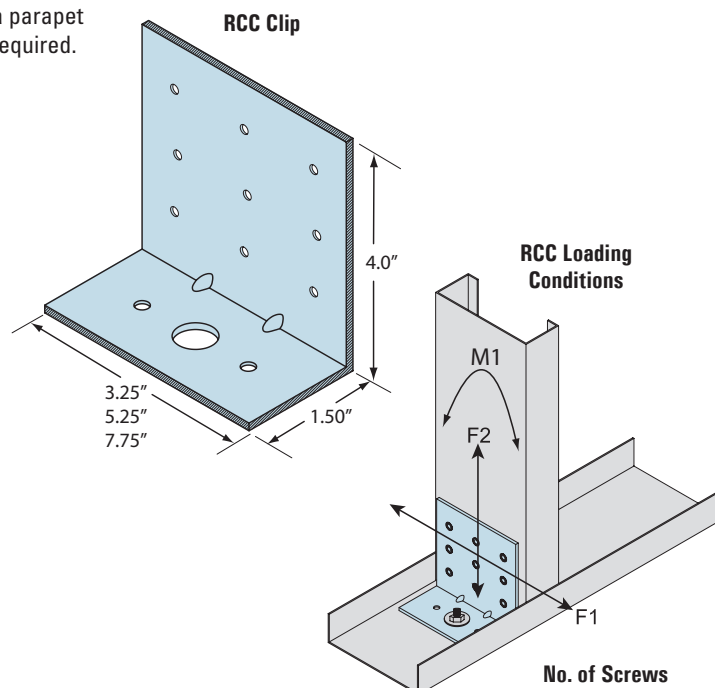
CFS Member		Allowable Strength (in-kips) Flexibility (Rad/in-lb x 10 ⁶)					
Thickness (mils/ga)	Fy (ksi)	RCC358		RCC600		RCC800	
		No. of Screws		No. of Screws		No. of Screws	
33 (20)	33	3	6	3	6	5	10
		0.82	1.51	1.79	2.29	2.78	3.00
43 (18)	33	29.3	17.4	7.28	5.9	8.21	2.92
		0.82	1.51	1.79	2.29	2.78	3.00
54 (16)	50	29.3	17.4	7.28	5.9	8.21	2.92
		1.43	1.51	3.23	3.23	3.46	5.91
68 (14)	50	29.3	17.4	7.28	5.9	8.21	2.92
		1.43	2.32	3.22	3.22	3.46	5.71
97 (12)	50	29.3	17.4	7.28	5.9	8.21	2.92
		1.43	2.32	3.22	3.22	3.46	5.71

Allowable Strength of RCC in Tension/Compression (F2)

CFS Member		Allowable Strength (lbs)					
Thickness (mils/ga)	Fy (ksi)	RCC358		RCC600		RCC800	
		No. of Screws		No. of Screws		No. of Screws	
33 (20)	33	3	6	3	6	5	10
		530	1,060	530	1,060	884	1,767
43 (18)	33	789	1,578	789	1,578	1,315	2,116
		1,602	2,116	1,602	2,116	2,116	2,116
54 (16)	50	1,640	2,116	1,640	2,116	2,116	2,116
		1,640	2,116	1,640	2,116	2,116	2,116
68 (14)	50	1,640	2,116	1,640	2,116	2,116	2,116
		1,640	2,116	1,640	2,116	2,116	2,116

Notes:

1. Tabulated values are based on #10-16 screws with ultimate shear capacity of 1,600 lbs per screw.
2. Allowable loads have not been increased for wind or seismic.
3. Tabulated loads are based on 1/2" diameter bolt with 1/2" Type A plain washer with a nominal outside diameter of 1.062" & nominal thickness of 0.095".
4. It is the responsibility of the design professional to design the connection of the RCC to the supporting structure.
5. Use linear interaction for combination of F1, F2, and M1.
6. The 1/4" thick Heavy Duty Washer (HDW) meets ASTM A36 Standard Specification for Carbon Structural Steel and is made from hot rolled flat bar and painted gray for corrosion resistance.

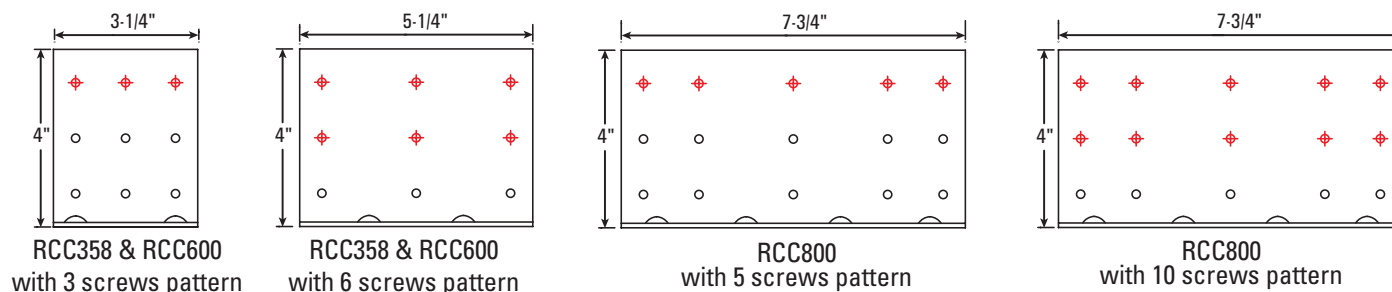


Rigid Clip Connector (RCC)

Model No.	Stud Size	Dimensions (in.)	Box Quantity
RCC358	3-5/8"	1-1/2 x 4 x 3-1/4	50
RCC600	6"	1-1/2 x 4 x 5-1/4	50
RCC800	8"	1-1/2 x 4 x 7-3/4	25

Allowable Strength of RCC in Shear (F1)

CFS Member		Allowable Strength (lbs)					
Thickness (mils/ga)	Fy (ksi)	RCC358		RCC600		RCC800	
		No. of Screws		No. of Screws		No. of Screws	
33 (20)	33	3	6	3	6	5	10
		450	450	600	710	850	850
43 (18)	33	450	450	600	710	850	850
		840	1,000	1,250	1,500	1,860	1,990
54 (16)	50	840	1,000	1,250	1,500	1,860	1,990
		840	1,000	1,250	1,500	1,860	1,990



RIGID CLIP CONNECTOR WITH HDW WASHER

Rigid Clip Connectors (RCC) are used to rigidly attach the bottom of a parapet stud to the structure, or where high tension or rotational restraint is required.

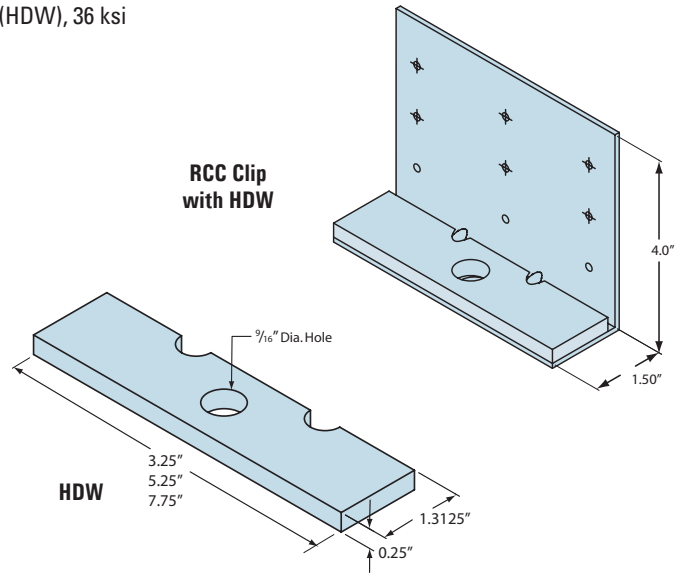
MATERIAL: 1/4" Carbon Structural Steel Hot Rolled Heavy Duty Washer (HDW), 36 ksi

FINISH: HDW washer is painted gray for corrosion resistance.

INSTALLATION:

- Attach long leg of Rigid Clip Connector to web of stud with #10–16 screws through pre-punched holes.
- Attach short leg of Rigid Clip Connector to structure with a 1/2" anchor bolt per Project Engineer's design.

RCC Clip with HDW



Allowable Strength of RCC with HDW (Washer) in Moment (M1)

CFS Member	Allowable Strength (in-kips) Flexibility (Rad/in-lb x10 ⁶)					
	Thickness (mil/ga)	F _y (ksi)	RCC358		RCC600	
			No. of Screws 3	No. of Screws 6	No. of Screws 3	No. of Screws 6
33 (20)	33	33	0.99	1.94	2.15	2.35
			28.4	8.07	4.06	4.06
43 (18)	33	33	0.99	1.94	2.15	2.35
			28.4	8.07	4.06	4.06
54 (16)	50	50	2.10	3.99	4.38	4.69
			28.4	8.07	4.06	4.06
68 (14)	50	50	2.10	3.99	4.38	4.69
			28.4	8.07	4.06	4.06
97 (12)	50	50	2.10	3.99	4.38	4.69
			28.4	8.07	4.06	4.06

Heavy Duty Washer (HDW)

Model No.	Stud Size	Dimensions (in.)	Box Quantity
HDW358	3-5/8"	1/4 x 1-5/16 x 3-1/4	50
HDW600	6"	1/4 x 1-5/16 x 5-1/4	50
HDW800	8"	1/4 x 1-5/16 x 7-3/4	25

Allowable Strength with HDW (Washer) in Shear (F1)

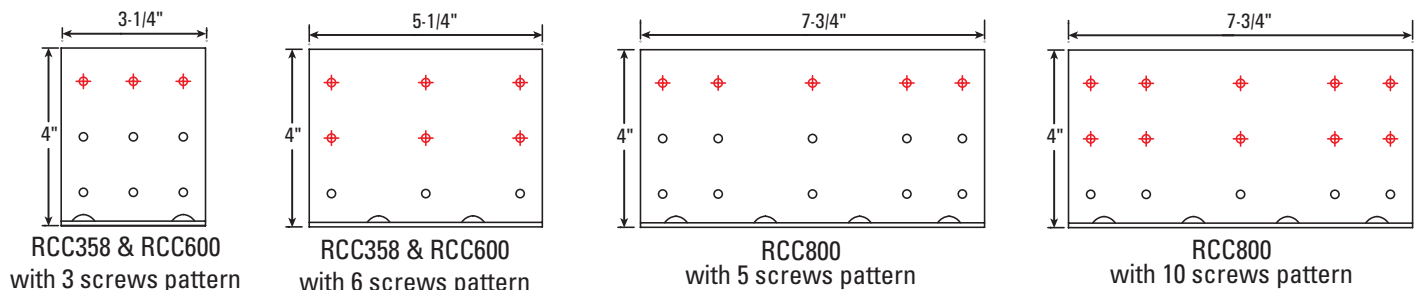
CFS Member	Allowable Strength (lbs)					
	Thickness (mils/Ga)	F _y (ksi)	RCC358		RCC600	
			No. of Screws 3	No. of Screws 6	No. of Screws 3	No. of Screws 6
33 (20)	33	33	480	480	660	760
43 (18)	33	33	480	480	660	760
54 (16)	50	50	1,070	1,100	1,450	1,670
68 (14)	50	50	1,070	1,100	1,450	1,670
97 (12)	50	50	1,070	1,100	1,450	1,670

Allowable Strength with HDW (Washer) in Tension/Compression (F2)

CFS Member	Allowable Strength (lbs)					
	Thickness (mils/Ga)	F _y (ksi)	RCC358		RCC600	
			No. of Screws 3	No. of Screws 6	No. of Screws 3	No. of Screws 6
33 (20)	33	33	530	1,060	530	1,060
43 (18)	33	33	789	1,578	789	1,578
54 (16)	50	50	1,602	3,205	1,602	2,219
68 (14)	50	50	1,640	3,244	1,640	3,205
97 (12)	50	50	1,640	3,244	1,640	3,244

Notes:

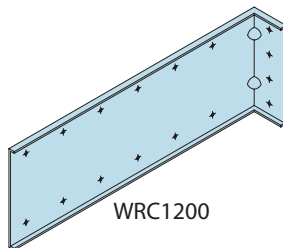
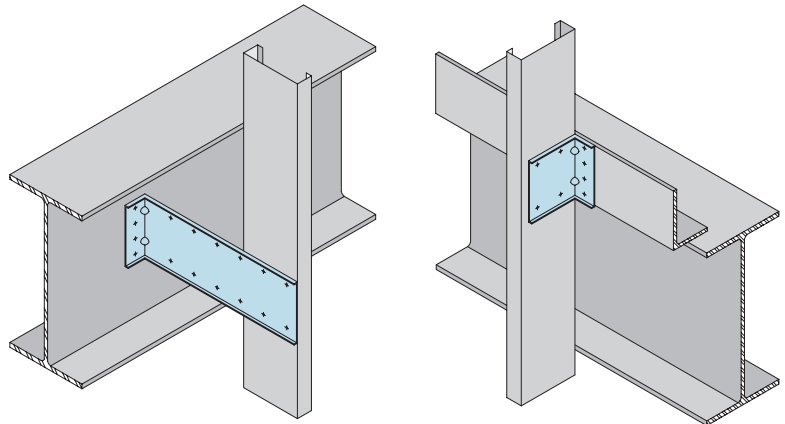
1. Tabulated values are based on #10-16 screws with ultimate shear capacity of 1,600 lbs per screw.
2. Allowable loads have not been increased for wind or seismic.
3. Tabulated loads are based on 1/2" diameter bolt with 1/2" Type A plain washer with a nominal outside diameter of 1.062" & nominal thickness of 0.095".
4. It is the responsibility of the design professional to design the connection of the RCC to the supporting structure.
5. Use linear interaction for combination of F1, F2, and M1.
6. The 1/4" thick Heavy Duty Washer (HDW) meets ASTM A36 Standard Specification for Carbon Structural Steel and is made from hot rolled flat bar and painted gray for corrosion resistance.



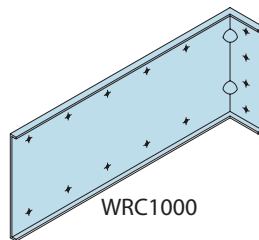
WRC RIGID CLIPS

The WRC series of clips connects exterior studs to the building structure and resists horizontal and lateral loads. The WRC has embossments and a continuous flange to allow for excellent load values. 25 pieces per box.

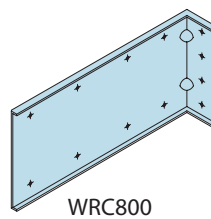
Part No.	Ga. (Mil)	Material	Finish	Size
WRC362	14ga (68)	50 KSI	G-90	4" x 1.5" x 3.5"
WRC600	14ga (68)	50 KSI	G-90	4" x 1.5" x 5.5"
WRC800	14ga (68)	50 KSI	G-90	4" x 1.5" x 7.5"
WRC1000	14ga (68)	50 KSI	G-90	4" x 1.5" x 9.5"
WRC1200	14ga (68)	50 KSI	G-90	4" x 1.5" x 11.5"



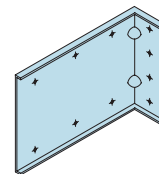
WRC1200



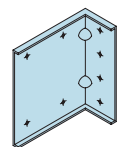
WRC1000



WRC800



WRC600



WRC362

GUSSET PLATE (UNPUNCHED) (GP)

Designed for a variety of construction connections. Used for conditions such as roof, wall and floor framing connections. GPU Plate is used for in plane truss chord connections, header to jamb connections and tension strap connections. Adapts to varying construction tolerances.

MATERIAL: See Table, 50ksi

FINISH: Galvanized coating weight as requested.

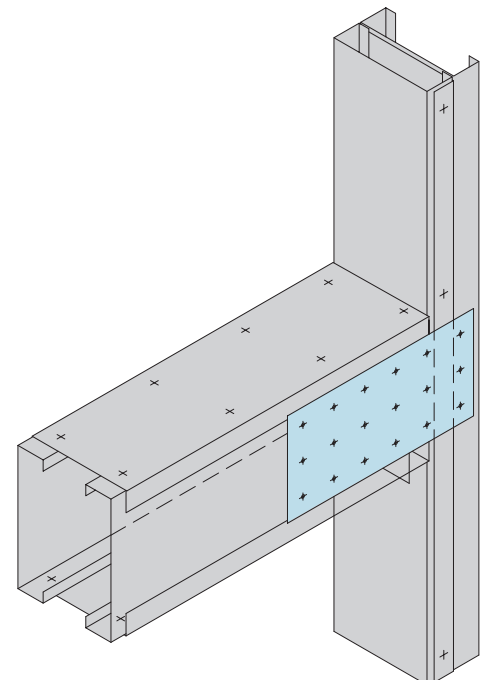
INSTALLATION:

- As specified by design.
- 16 Gauge (54 mils) .0566" Design Thickness
- 12 Gauge (97 mils) .1017" Design Thickness
- Custom sizes available upon request.

Model No.	Gauge	Size
GPU66-16	16	6"x6"
GPU612-16	16	6"x12"
GPU1212-16	16	12"x12"
GPU66-12	12	6"x6"
GPU612-12	12	6"x12"
GPU1212-12	12	12"x12"



Gusset Plate (Unpunched)



BRIDGERITE CLIP (BR)

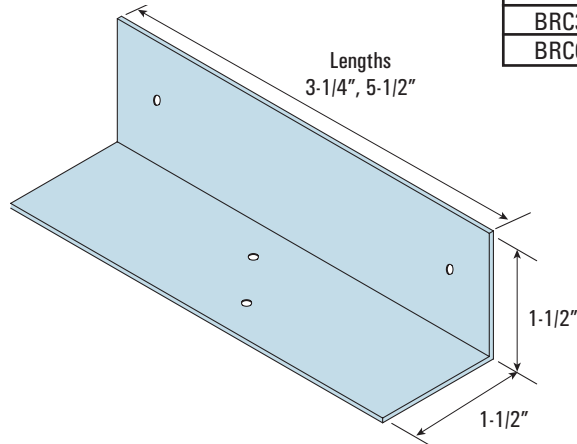
BridgeRite Clips are ready for use to attach cold rolled channel to wall studs. This easy to use clip will save time and money from having to cut longer length angles down to size.

MATERIAL: 16 ga (54) 50ksi

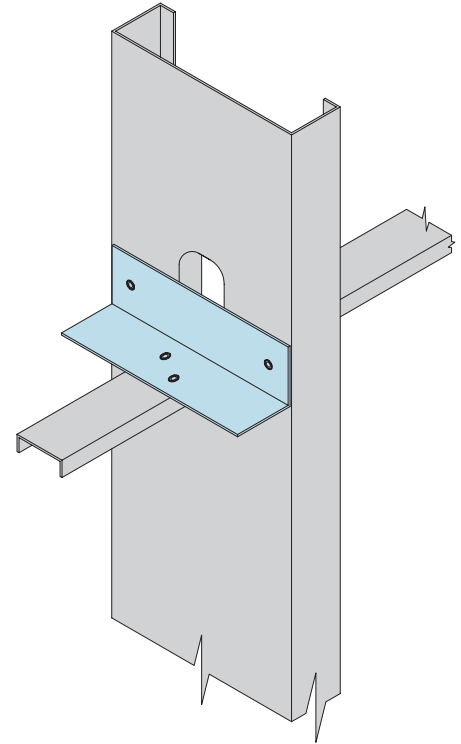
FINISH: Galvanized – G90

INSTALLATION:

- Attach BridgeRite clip to web of stud and cold rolled channel #10 - 16 screws through pre-punched holes.



Model No.	Size	Box Quantity
BRC3	3-1/4", 4"	200
BRC6	6", 8"	100

**KATZ BLOCKING (KB)**

Katz Blocking has been designed to provide attachment between parallel framing members. Product is pre-punched to work in 16" and 24" spacing of parallel framing members of wood or steel.

MATERIAL: See Table. 18 ga (43 mil) 33ksi; 20 ga (30 mil) 33ksi; 25 ga (18 mil) 33ksi

FINISH: Galvanized – G40

INSTALLATION:

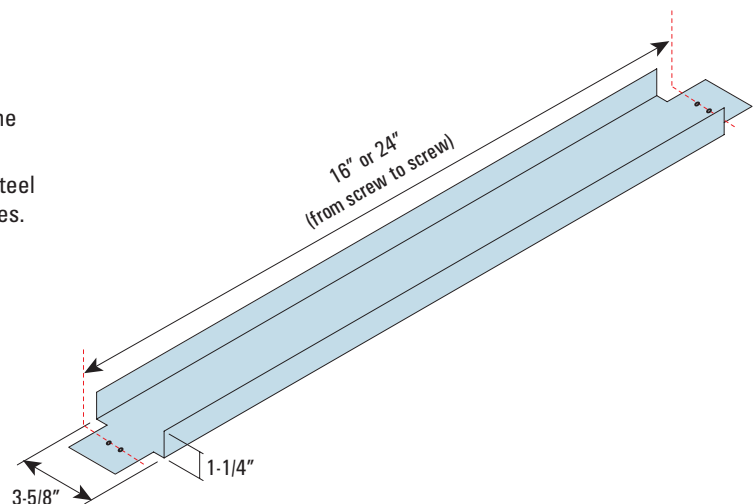
Insert the pre-cut structural blocking to fit securely between the underside of the floor/ceiling joist or roof trusses.

Using #8 minimum self-drilling screws secure the blocking to steel framing of #8d nail to wood framing using the pre-punched holes.

Use Katz blocking at 4' o.c. or maximum specified.

For steel studs Katz are designed for 1-1/4" flanges

Model No.	Length	Gauge	Size	Pallet Qty
KATZ16	16"	25	3-5/8"	500
KATZ24	24"	25	3-5/8"	500
KATZ2024	24"	20	3-5/8"	500



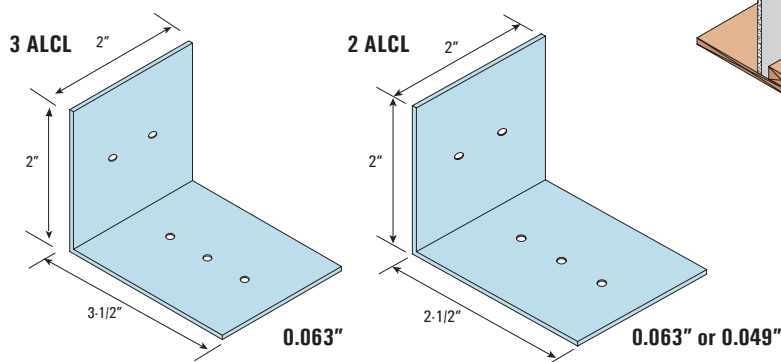
BREAKAWAY CLIP (BA)

Breakaway Clips are manufactured from aluminum and designed to melt under extreme heat allowing a fire damaged structure to collapse while permitting the fire wall to remain in place to protect adjacent units.

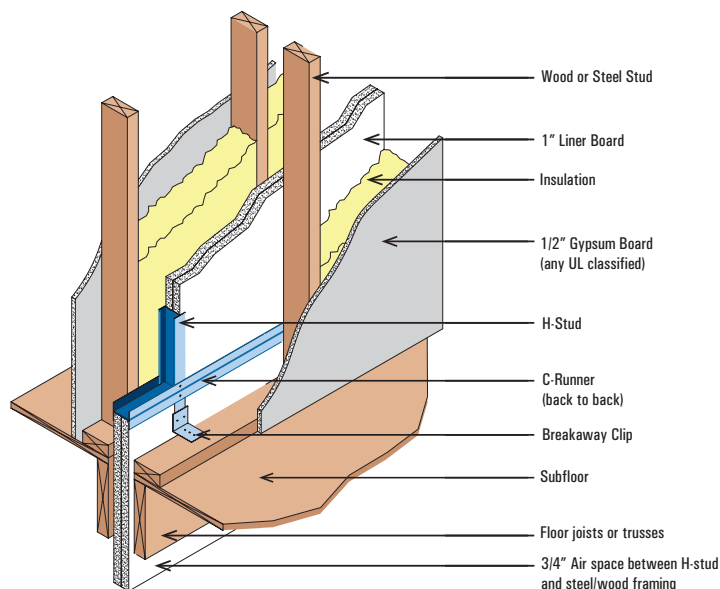
MATERIAL: Aluminum .063" or 0.049"

INSTALLATION:

- Must be used in conjunction with Area Separation Wall Systems.
- Attach the Breakaway Clip to the completed Area Separation Wall Assembly.
- One Clip should be located at each side of each H Stud.
- Fasten BA Clip to H Stud with a screw through pre-punched holes.
- Attach to wood or steel adjacent framing with nails or screws respectively.



WALL SECTION ASSEMBLY



GenieClip® SOUND ISOLATION CLIP

AN INNOVATIVE AND RELIABLE SOUND SOLUTION

Engineered for superior acoustical performance in reducing the transmission of airborne and impact sound through wall and floor/ceiling assemblies. The GenieClip® is a unibody molded rubber and galvanized steel mount used to attach Gypsum Wallboard (GWB) to either wall or floor/ceiling assemblies. Made from recycled components, and engineered to allow reduction in assembly weight, the GenieClip contributed to LEED certified building.



- 40 UL certifications
- Over 150 independent laboratory and field test reports
- Installation instructions
- Complete laboratory test reports and field data
- Technical papers
- Performance comparisons Cost analysis
- Case studies
- Private website for engineers
- LEED information and carbon footprint analysis
- Technical binder request
- Local Sales support in U.S., U.K., Canada, Middle East and Southeast Asia

****Only install on 25 gauge hemmed furring channel****

For more information, please contact MarinoWARE® Technical Services at 866.545.1545
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SOLID BLOCKING (JB)

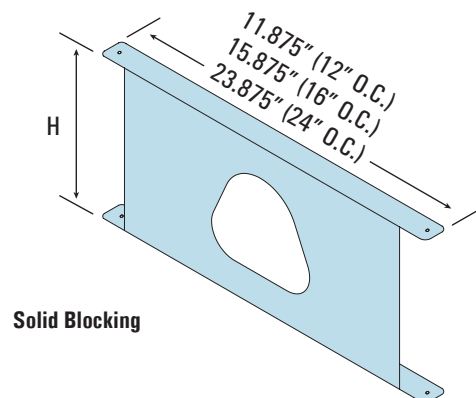
Blocking is pre-cut to fit securely between joists to prevent joist rotation. Blocking is a one piece system in lieu of the typical 3 piece detail offering an economical alternative to installing conventional clips and solid web members.

MATERIAL: 16 ga (54 mil) 50ksi

FINISH: Galvanized – G90

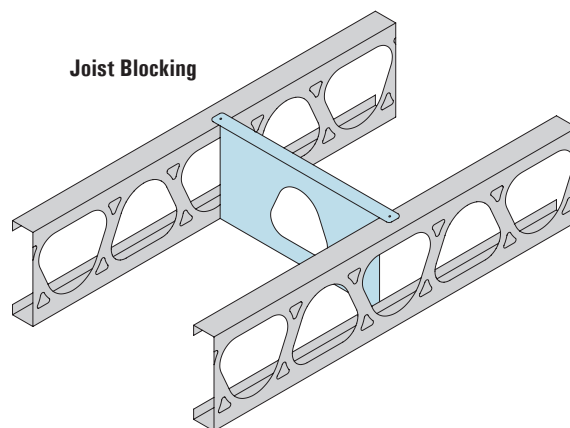
INSTALLATION:

- Position the pre-cut Blocking to fit securely between the joists.
- (4) #10 - 16 screws are required to secure the blocking to the joist flanges using the pre-punched holes.
- Solid blocking should be installed 7' o.c. maximum along the joist length.
- Fits up to 2" flange product.
- Blocking for 2-1/2" and 3" flanges available as a special order.

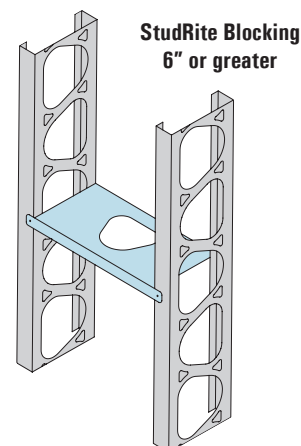


Solid Blocking

Model No.	Size (H)	Spacing (o.c.)	Box Quantity
800JB-12	8"	12	10
925JB-12	9-1/4"	12	10
1000JB-12	10"	12	10
1125JB-12	11-1/4"	12	10
1200JB-12	12"	12	10
1400JB-12	14"	12	10
600SB-16	6"	16	10
800JB-16	8"	16	10
925JB-16	9-1/4"	16	10
1000JB-16	10"	16	10
1125JB-16	11-1/4"	16	10
1200JB-16	12"	16	10
1400JB-16	14"	16	10
800JB-24	8"	24	10
925JB-24	9-1/4"	24	10
1000JB-24	10"	24	10
1125JB-24	11-1/4"	24	10
1200JB-24	12"	24	10
1400JB-24	14"	24	10



Joist Blocking



StudRite Blocking
6" or greater

*6 Solid Blocking designed for 1-5/8" flange only

WEB STIFFENER (JS)

Web Stiffeners are used to provide reinforcement of joist webs to prevent crippling. Web reinforcement is often required by design to enhance the load capacity of joists. Web stiffeners are installed on the inside or outside of the joist.

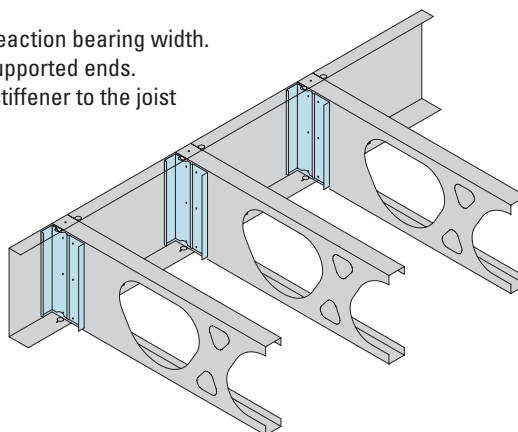
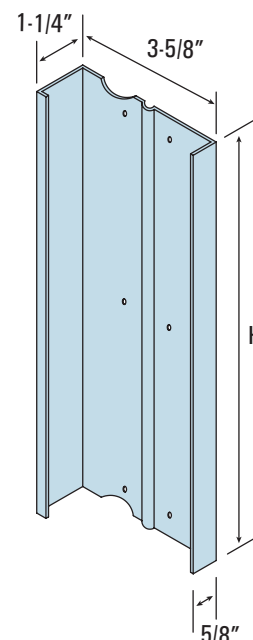
MATERIAL: 16 ga (54 mil) 50ksi

FINISH: Galvanized – G90

INSTALLATION:

- Web stiffeners are centered within the load or reaction bearing width.
- Web stiffeners require full bearing along their supported ends.
- (4-6) #10 - 16 screws are required to attach the stiffener to the joist web using pre-punched holes.

Web Stiffener



Model No.	Joist Size	Height (H)	Box Quantity
8JS-362	8"	7-11/16"	24
925JS-362	9-1/4"	8-15/16"	24
10JS-362	10"	9-11/16"	24
1125JS-362	11-1/4"	10-15/16"	24
12JS-362	12"	11-11/16"	24
14JS-362	14"	13-11/16"	24

For more information, please contact MarinoWARE® Technical Services at 866.545.1545

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BH JOIST HANGER

The BH Joist hanger is used to connect floor joists to the supporting structure.

GAUGE (MIL) YIELD: 12 (97) 50ksi

FINISH: Galvanized – G90

OPTIONS:

Single BH Hanger:

- W=2-1/8" for 2" Flange Joists

Double BH Hanger:

- W=4-1/4" for 2" Flange Joists

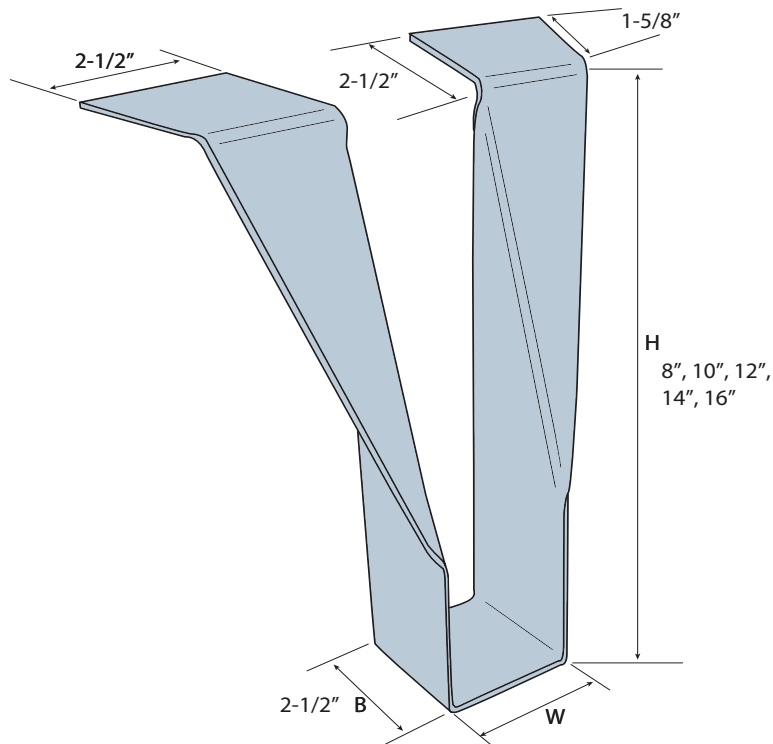
Tripple BH Hanger:

- W=6-3/8" for all 2" Flange Joists

Model No.	W (in)	H (in)
800BH12	2-1/8"	8
100BH12		10
120BH12		12
140BH12		14
160BH12		16
800DB12	4-1/4"	8
100DB12		10
120DB12		12
140DB12		14
160DB12		16
800TBH12	6-3/8"	8
100TBH12		10
120TBH12		12
140TBH12		14
160TBH12		16

*Call for other sizes

Model No.	Dimensions			Fasteners	Allowable Downloads
	W (in)	H (in)	B (in)		
BH - Screw	See table	See table	2-1/2"	6-#10 Screws	2560
BH - Welded	See table	See table		1/8" x 2" Weld	4015
BH - P.A.F.				6-P.A.F. fasteners	2665

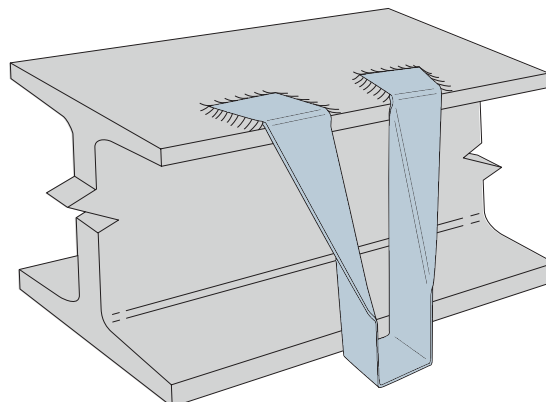
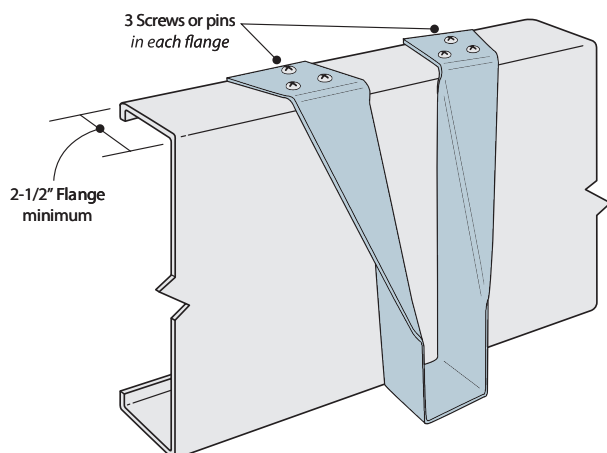


Notes:
The height values (H) measured from the inside dimension from the seat of the hanger to the outside dimension at the top of the hanger

Notes:

1. Loads are governed by tests and may not be increased.
2. The joist must be properly seated in the hanger.
3. Header to be engineered by a design professional.
4. Powder actuated fastener and welded loads are based on hanger attached to 3/8" structural steel member.
5. Loads for screw attached hanger were based on hanger attached to 68 mil CFS member.
6. Powder actuated fastener loads were tested with Hilti X-U Pins.
7. BH hangers were tested per AISI S914-08, Test Standard for Joist Connectors Attached to CFS framing.

BH Hanger application



SIMPSON
Strong-Tie

COILED STRAP (CS)

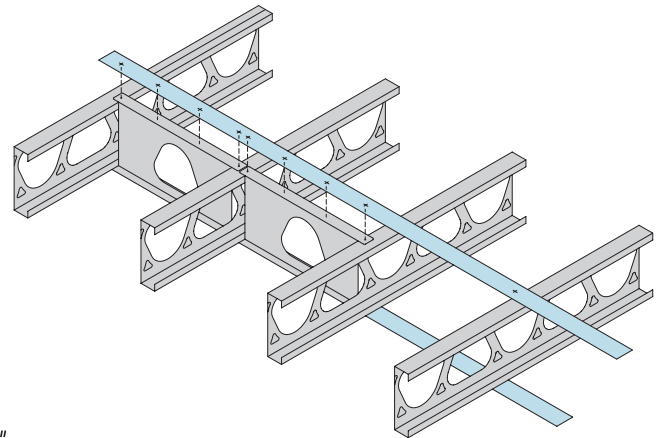
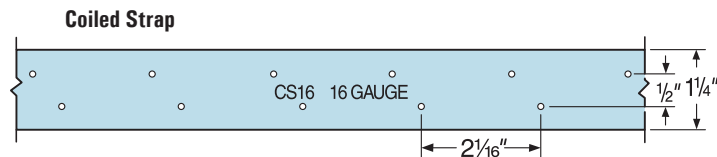
CS are continuous utility straps which can be cut to length on the job site. Packaged in lightweight (about 40 pounds) cartons.

MATERIAL: 33 mil (20 ga), 43 mil (18 ga) & 54 mil (16 ga)

FINISH: Galvanized – G90

INSTALLATION:

- Use all specified fasteners.
- Refer to the applicable code for minimum edge and end distances.
- The table shows the maximum allowable loads and the screws required to obtain them. See footnote #1. Fewer screws may be used; reduce the allowable load by the code lateral load for each fastener subtracted from each end.



Typical CS installation

Model No.	Length	Material Thickness (mil/ga)	Width	Fasteners (Total) Rafter/Stud/Joist Thickness			Allowable Tension Loads 33 mil (20ga), 43 mil (18ga) & 54 mil (16ga)	
				33 mil (20ga)	43 mil (18ga)	54 mil (16ga)	(100)	(133)
CS16	150'	54 (16ga)	1-1/4"	18 -#10	12 -#10	8 -#10	1550	2560
CS18	200'	43 (18ga)	1-1/4"	14 -#10	10 -#10	6 -#10	1235	4015
CS20	250'	33 (20ga)	1-1/4"	12 -#10	8 -#10	6 -#10	945	2665

Notes:

1. Use half of the fasteners in each member being connected to achieve the listed loads.
2. For CS straps: End Length (inches) = 1/2 total fasteners + 1".
3. Total Cut Length = End Length + Clear Span + End Length.
4. For a reduced number of screws, allowable load = (#screws used/#screws in table) x table load.
5. Loads are based on lesser of steel strap capacity and 2001 AISI NASPEC fastener calculation.
6. Tabulated loads shown at (100) do not include steel stress increase.
Tabulated loads shown at (133) include a 1/3 stress increase on the steel.

SIMPSON
Strong-Tie

SBR & DBR SPACER BRACERS

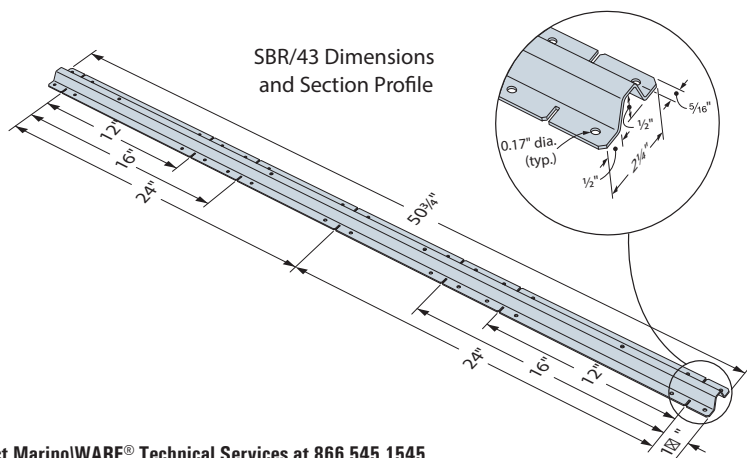
Simpson Strong-Tie introduces the SBR and DBR spacer bracers for cold-formed steel construction. These spacer bracers reduce the installed cost of cold-formed steel stud walls by enabling faster stud layout while minimizing the need for bridging clips.

MATERIAL: SBR/43 — 43 mil (40 ksi); DBR/30 — 27 mil (33 ksi)

FINISH: Galvanized (G90)

INSTALLATION:

- Spacer-bracers are fed through the stud knockout at a 90-degree angle until studs align with spacer-bracer slots. With the slots engaging the stud web, the spacerbracer is then rotated back to the flat position so that the slotted flanges are on the bottom.
- For off-layout or end-of-run studs where a spacerbracer slot does not engage a stud, manually snip the spacerbracer flanges with a 1/2" deep slot and secure the spacer bracer to the stud with Simpson Strong-Tie LSSC or RCA connectors. Use all specified fasteners.
- Wear gloves while handling and installing spacer bracers.



SUBH BRIDGING CONNECTORS

Simplified Design and Installation Through Innovation

Simpson Strong-Tie® SUBH and MSUBH wall stud bridging connectors for cold-formed steel (CFS) framing offer a compact profile that allows standard 1 5/8" studs to be sistered directly against adjacent studs. The LSUBH connector provides the same installation benefits of the SUBH/MSUBH connectors, and is suitable for many wind- and load-bearing situations where the load demand is light to moderate. Many applications require only one screw, greatly reducing labor costs and increasing productivity.

KEY FEATURES

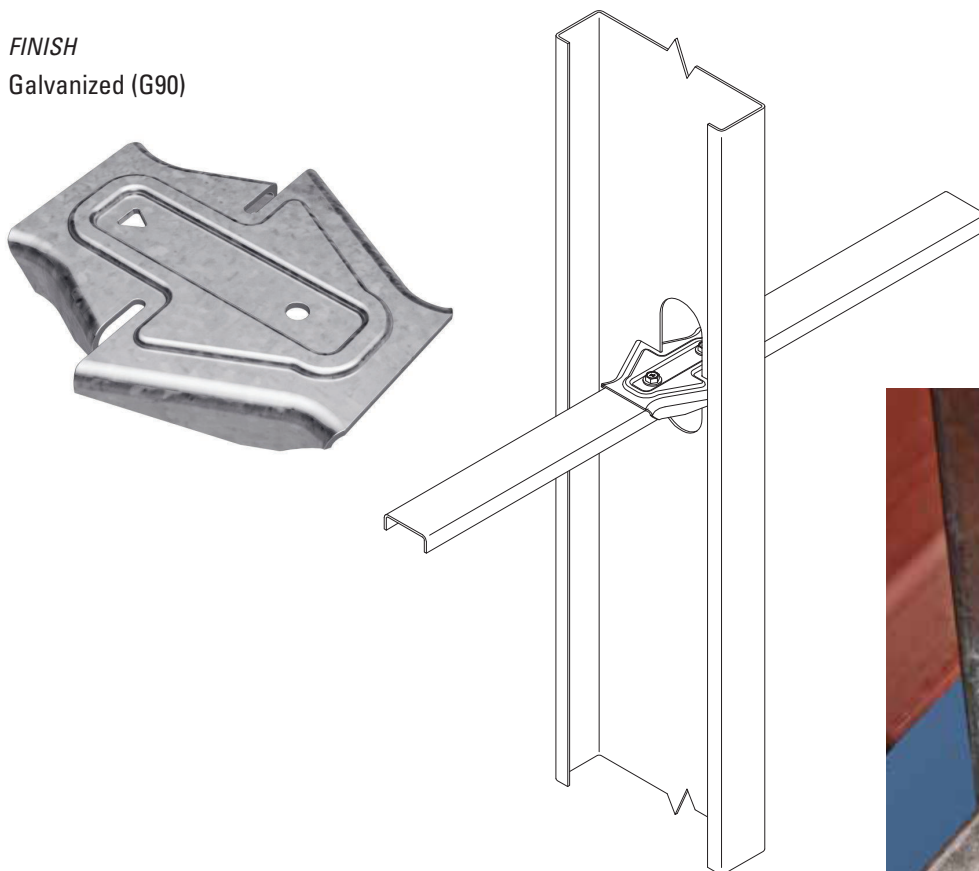
- Tested to include stud-web strength and stiffness in the tabulated design values
- Design values ensure compliance with AISI S100 Sections D3.2.1 and D3.3 for axially and laterally loaded studs
- Flexible design solutions for web thicknesses of 33 mil (20 ga.) through 97 mil (12 ga.) and stud sizes from 3 5/8" to 8"
- SUBH and LSUBH accommodates single studs 33 mil (20 ga.) to 54 mil (16 ga.)
- MSUBH accommodates single studs 54 mil (16 ga.) to 97 mil (12 ga.) and back-to-back built-up members ranging from 33 mil (20 ga.) to 54 mil (16 ga.)

MATERIAL

- LSUBH3.25 - 33 mil (20 ga.); SUBH3.25 - 43 mil (18 ga.); MSUBH3.25 - 68 mil (14 ga.)

FINISH

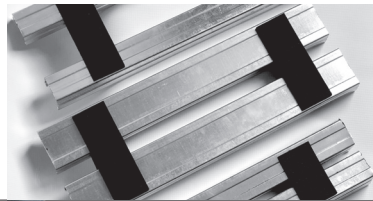
Galvanized (G90)



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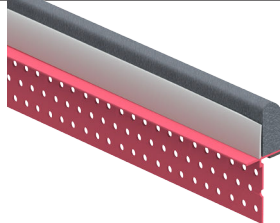
SOUND GUARD
THE SILENT STEEL FRAMING SYSTEM



- Reduces labor and materials
- Increases available floor space
- Does not require additional bracing or resilient channel



Firestopping
Fire Board • Fire Gasket • HotRod XL



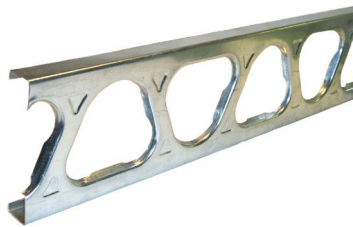
- Firestopping and sound control for building joints
- Innovative firestop devices for faster installation
- Prevents passage of fire, smoke and toxic fumes



StudRite®



JoistRite®



- High strength-to-mass ratio
- Increased structural performance due to lip reinforced triangular cutouts and embossments
- Efficient design for installing plumbing, heating, electrical, and other trades
- Saves construction professionals valuable time and reduces labor costs



- Unsurpassed resistance against loads imposed by seismic activity, hurricane force winds, fire, mold, impact and blast, while actively reducing sound transmission



RC-MAX



- RC-MAX is manufactured from 0.0190" 50 KSI steel for additional strength
- Offers economical means for controlling sound transmission



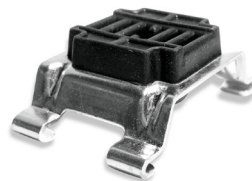
ClipSource



- A comprehensive line of connectors for cold formed steel framing
- Designed to facilitate quicker, more cost-effective installation, while making proper attachment of cold formed steel members easier



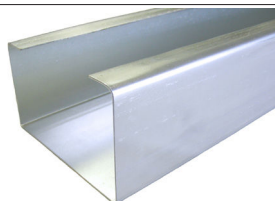
GenieClip™



- Engineered for superior acoustical performance in reducing the transmission of airborne and impact sound through wall and floor/ceiling assemblies
- Easy and fast to install using standard steel furring channel



QuickFrame
Rough Opening System



- Eliminates the need for multiple piece headers, jambs, and sills, reducing jobsite labor assembly time by more than 50%

YOUR SUCCESS DEPENDS ON QUALITY BUILDING PRODUCTS AND SO DOES OURS.

For over 30 years, Marino\WARE®, a division of Ware Industries Inc., has served our customers with top quality cold-formed steel framing products, while delivering better solutions to design and construction challenges. We are committed to providing a superior customer experience through a vast selection of readily available products, a knowledgeable sales team, comprehensive technical support and services, prompt delivery through our fleet of trucks, and an extensive distribution network.

Our best-in-class product development team delivers innovative solutions to installation and cost challenges with products designed to save time, labor, and materials. In addition, we utilize the latest in roll forming techniques, maintain the latest level of technology available to the steel framing industry, and strictly adhere to all ASTM specifications.

Marino\WARE is 100% American-owned and operated. We take pride in creating local jobs, supporting local communities, and manufacturing products that reflect the uncompromising skill and ethics of our professional team. We operate state-of-the-art production facilities in New Jersey, Georgia, and Indiana, as well as a sales office in New York.

Visit MarinoWARE.com to experience our full line of innovative solutions.



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