

DEFLECTION CONNECTORS - CLIPS



BAILEY
METAL PRODUCTS LIMITED



MONTREAL · TORONTO · CALGARY · EDMONTON · VANCOUVER

Technical and Structural Information
OCTOBER 2009

THE STRENGTH WITHIN





BAILEY DEFLECTION CONNECTORS

Proven, reliable, and cost-effective.

DEFLECTION CONNECTORS, TRACKS, CLIPS AND ACCESSORIES

Bailey Metal Products Limited manufactures a complete line of deflection clips and tracks designed to meet every building need. All Bailey products have been rigorously tested and are engineered and designed to meet or exceed all building code requirements.

In addition to the most commonly used products shown within, Bailey Metal Products Limited manufactures numerous other products to meet even the most unique applications. Please contact any Bailey office for assistance with your own specific design needs.

TABLE OF CONTENTS

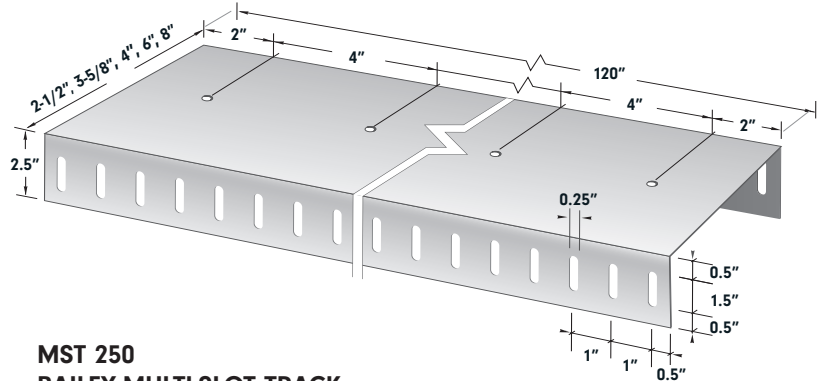
Bailey Multi-Slot Track - MST 250.....	3
Bailey Top Deflection Clip - TDC 350/587.....	6
Bailey Horizontal Flange Attachment Clip - HFA clip.....	8
Bailey Webslide Clip - WSC 350/550	10
Bailey Universal Bridging Clip - UBC 365/600/800	12



BAILEY MULTI-SLOT TRACK - MST 250

- Allows for fast, easy and flexible stud installation
- Pre-punched 1 1/2" slots are spaced 1" O.C. to accommodate any stud spacing
- 2 1/2" leg height for added strength and improved performance
- Reduces required material
- Reduces labour costs
- Can be used with the Bailey TDC Clips to increase the load capacity of the track

The **BAILEY MULTI-SLOT TRACK** is an economical deflection system designed to provide complete flexibility.



MST 250
BAILEY MULTI-SLOT TRACK

• All dimensions are in inches • Other profiles are available upon request.

BAILEY MST 250 PROPERTIES

Product Identification	Base Steel Thickness		Size		Weight*	Mass*	Yield Strength** ksi	Coating***
	Mils (Colour)	Design	in.	mm	lb/ft	kg/m		
250 MST 250 - 18	18 No Colour	0.0188	0.478	2-1/2	63.5	0.457	33	G60
362 MST 250 - 18				3-5/8	92.1	0.533		
400 MST 250 - 18				4	102	0.558		
600 MST 250 - 18				6	152	0.693		
250 MST 250 - 33	33 White	0.0346	0.879	2-1/2	63.5	0.822	33	G60 min
362 MST 250 - 33				3-5/8	92.1	0.959		
400 MST 250 - 33				4	102	1.00		
600 MST 250 - 33				6	152	1.25		
800 MST 250 - 33				8	203	1.49		
362 MST 250 - 43	43 Yellow	0.0451	1.15	3-5/8	92.1	1.24	33	G60 min
400 MST 250 - 43				4	102	1.30		
600 MST 250 - 43				6	152	1.61		
800 MST 250 - 43				8	203	1.93		
362 MST 250 - 54	54 Green	0.0566	1.44	3-5/8	92.1	1.55	50	G60 min
400 MST 250 - 54				4	102	1.62		
600 MST 250 - 54				6	152	2.02		
800 MST 250 - 54				8	203	2.41		
362 MST 250 - 68	68 Orange	0.0713	1.81	3-5/8	92.1	1.95	50	G60 min
400 MST 250 - 68				4	102	2.04		
600 MST 250 - 68				6	152	2.53		
800 MST 250 - 68				8	203	3.02		

362: Member depth in 1/100ths inches. Thus 362 means 362/100 = 3.62"

250: Member leg total length in 1/100ths inches. Thus 250 means 250/100 = 2.5"

362 MST 250 - 33

MST: Multi-Slot Track

33: Minimum thickness in 1/1000ths inches. Thus 33 means 33/1000 = 0.033"

* Weight is based on design steel thickness of net section. ** Meets ASTM A1003: Specification for Steel Sheet, Carbon, Metallic and Nonmetallic-Coated for Cold-Formed Framing Members. *** Meets ASTM A653: Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.



BAILEY MULTI-SLOT TRACK - MST 250

INSTALLATION

Connect the Multi-Slot MST 250 Track to the steel framing studs with #10 wafer or hex head screws. Install fasteners at the proper locations. Details for some common applications are provided on the following page.

MATERIAL SPECIFICATIONS

BAILEY MULTI-SLOT TRACK IS AVAILABLE IN THE FOLLOWING MATERIAL SPECIFICATIONS:

33 Mils, design thickness 0.0346 in. (0.879 mm)

43 Mils, design thickness 0.0451 in. (1.15 mm)

33 ksi Yield Strength

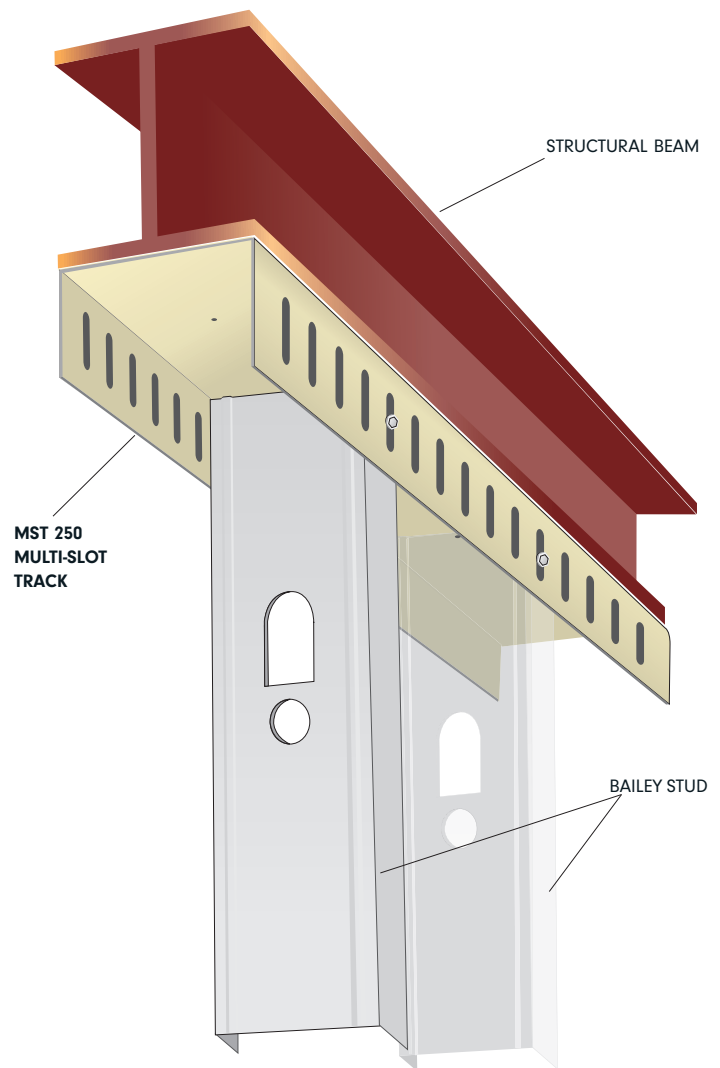
Coating Designation, minimum G60 hot dipped galvanized or equivalent, complies with ASTM A653 or equivalent

54 Mils, design thickness 0.0566 in. (1.44 mm)

68 Mils, design thickness 0.0713 in. (1.81 mm)

50 ksi Yield Strength

Coating Designation, G60 or G90 hot dipped galvanized or equivalent, complies with ASTM A653 or equivalent



BAILEY MST 250 LOAD CAPACITIES

MST 250 Track		Service Limit Load	Ultimate Load
Mils	Yield Strength (ksi)	lb	lb
33	33	189	389
43	33	253	513
54	50	396	954
68	50	581	1267

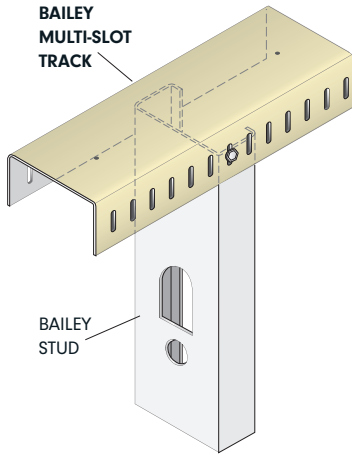
TABLE NOTES

- Track capacity loads were obtained from tests performed under the supervision of Dr. R. M. Schuster, P. Eng.
- The service limit load was recorded at 1/8" deflection according to the Research Note published by LGSEA on CFS "Testing and Establishing Design Values for Clips" by Roger LaBoube, P.E., Ph.D., February 2002
- Above loads are based on using #10 screws and following the installation instructions and standard details
- Anchoring of the top track is the responsibility of the engineer of record
- In the case where the stud thickness is less than the track thickness, web crippling must be checked in the stud by the engineer of record



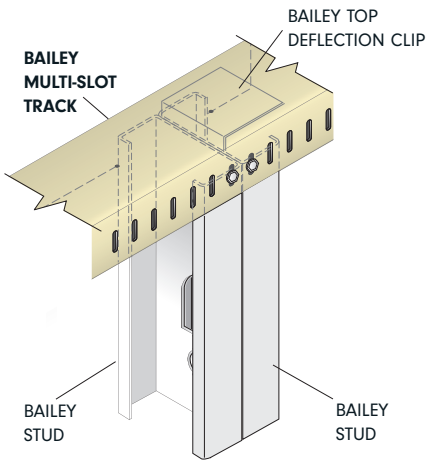
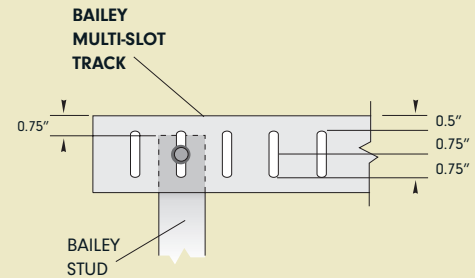
BAILEY MULTI-SLOT TRACK - MST 250

STANDARD DETAILS



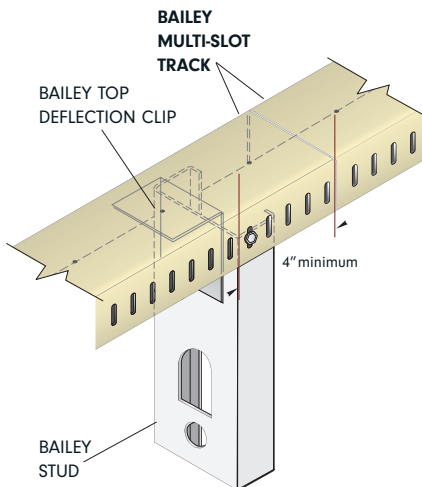
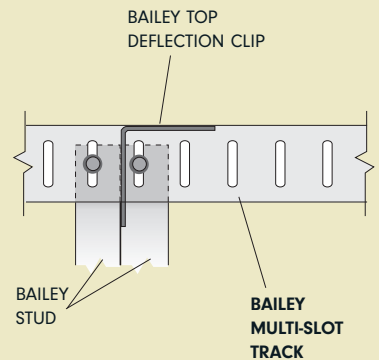
1

Typical Installation of a single stud for standard spacing and uniform loading. Allow 0.75" clearance from top of the stud to the track and affix screws in the centre of each slot.



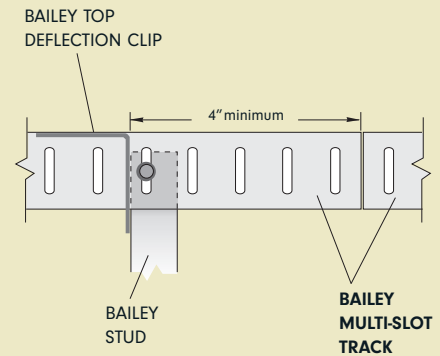
2

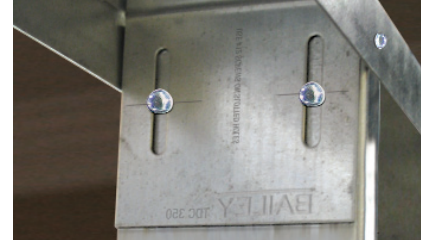
For a non-uniform loads (window jambs, door jambs, etc) use the **Bailey Top Deflection Clip** sized to accommodate the extra load and increase the capacity of the MST 250.



3

Use the **Bailey Top Deflection Clip** to increase the capacity of the MST 250 whenever studs are placed within 4" from the ends of spliced track.



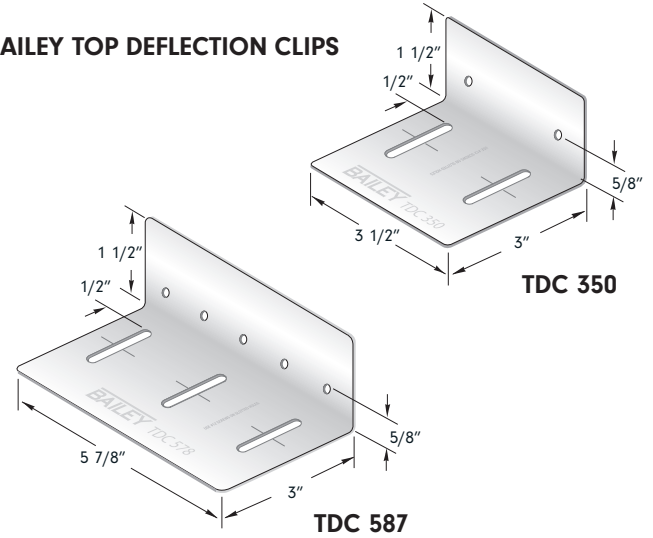


BAILEY TOP DEFLECTION CLIP (TDC 350 AND TDC 587)

Used on exterior curtain wall studs to allow for building structure deflection at the top of the wall. **BAILEY TOP DEFLECTION CLIPS** can also be used for non-load bearing interior wall requirements.

- Allows for up to 1.5" deflection (0.75" in each direction)
- Available in two sizes with 2 slots to accommodate 3 5/8" and 4" studs or 3 slots to accommodate 6" and 8" studs
- Designed with pre-punched holes to ensure correct fastening locations
- Can be used with Bailey Slotted Track where required

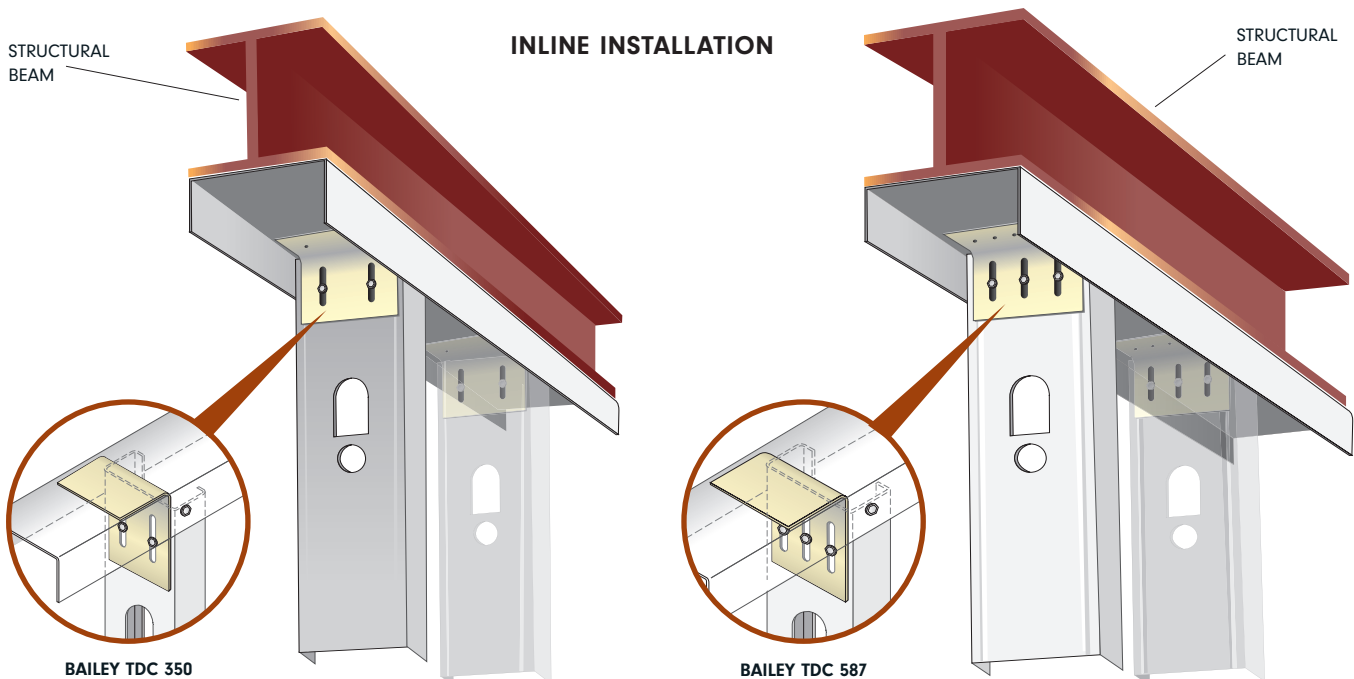
BAILEY TOP DEFLECTION CLIPS



BAILEY TDC 350 AND TDC 587 PROPERTIES

Product Identification	Base Steel Thickness		Design		Size		Weight*	Mass*	Yield Strength** ksi	Coating***	Packaging Pcs/Ctn
	Mils		in.	mm	in.	mm	lb	kg			
TDC 350	68	0.0713	1.81		1.5x3x3.5	38.1x76.2x88.9	0.301	0.137	50	G90	25
TDC 587					1.5x3x5.87	38.1x76.2x149	0.506	0.229			

* Weight is based on design steel thickness of net section. ** Meets ASTM A1003: Specification for Steel Sheet, Carbon, Metallic and Nonmetallic-Coated for Cold-Formed Framing Members. *** Meets ASTM A653: Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.





BAILEY TOP DEFLECTION CLIP (TDC 350 AND TDC 587)

INSTALLATION

The Bailey TDC 350 or TDC 587 Deflection Clip can be attached to the structure using power actuated fasteners (PAF), screws, concrete anchors or by welding, depending on the base material of the structure and as specified by the engineer of record and outlined on the engineered shop drawings.

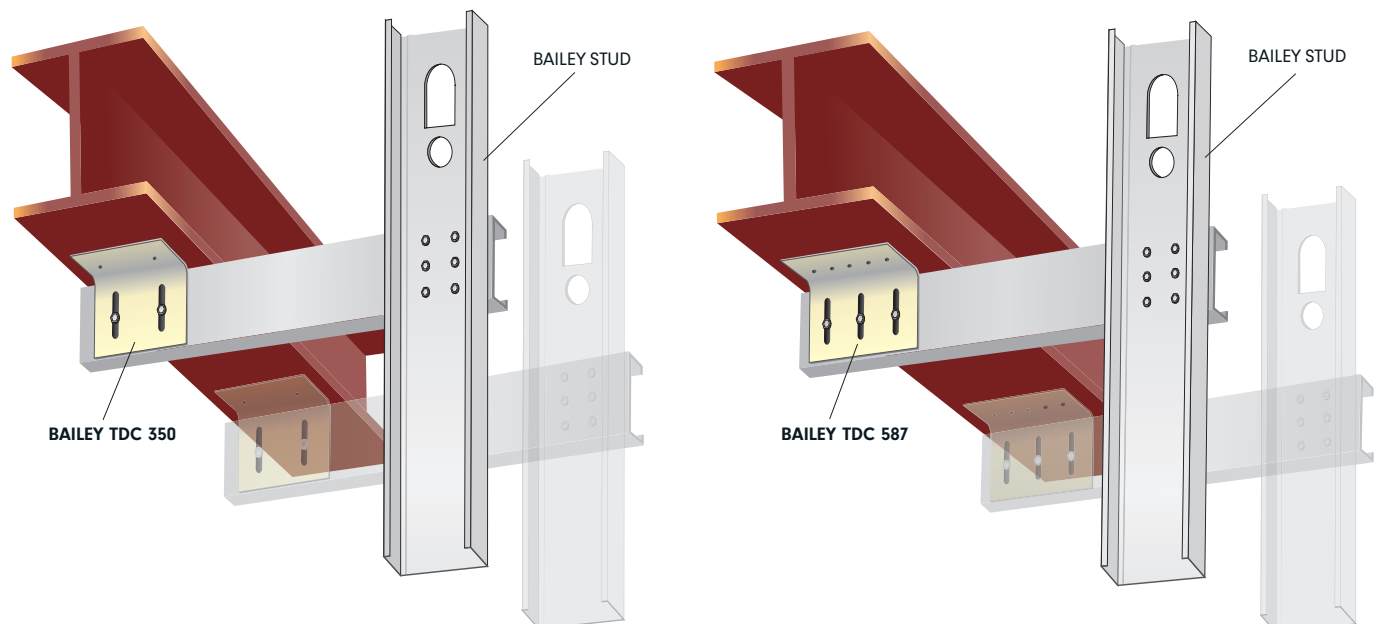
LOAD CAPACITIES

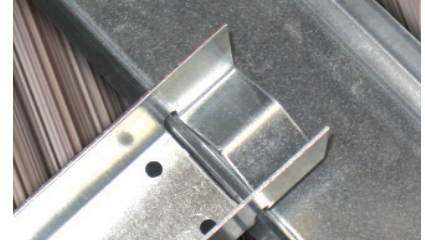
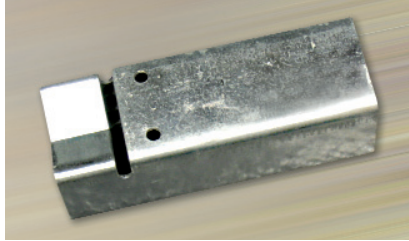
	Stud Identification	Stud Steel Properties		Service Limit Load	Ultimate Load	LSD Factored Load Resistance
		Mils	Yield Strength (ksi)	lb	lb	lb
TDC 350	362 S 162 - 33	33	33	896	896	427
	362 S 162 - 43	43	33	1322	1346	641
	362 S 162 - 54	54	50	1582	1940	924
	362 S 162 - 68	68	50	1546	2317	1104
TDC 587	600 S 162 - 33	33	33	1068	1068	509
	600 S 162 - 43	43	33	2036	2036	970
	600 S 162 - 54	54	50	2983	2983	1421
	600 S 162 - 68	68	50	3525	4110	1958

TABLE NOTES

- Clip capacity loads were obtained from tests performed under the supervision of Dr. R. M. Schuster, P. Eng.
- Above loads are based on using #12 screws and following the installation instructions
- The service limit load was recorded at 1/8" deflection according to the Research Note published by LGSEA on CFS "Testing and Establishing Design Values for Clips" by Roger LaBoube, P.E., Ph.D., February 2002
- Minimum gap required between the top of the stud and the TDC is 0.75" or as specified by the engineer of record
- Ultimate loads are based the maximum clip resistance
- LSD factored load resistances were derived according to section F1.1 of CSA S136-07
- Anchoring the TDC to the structure is the responsibility of the engineer of record

STAND-OFF APPLICATION



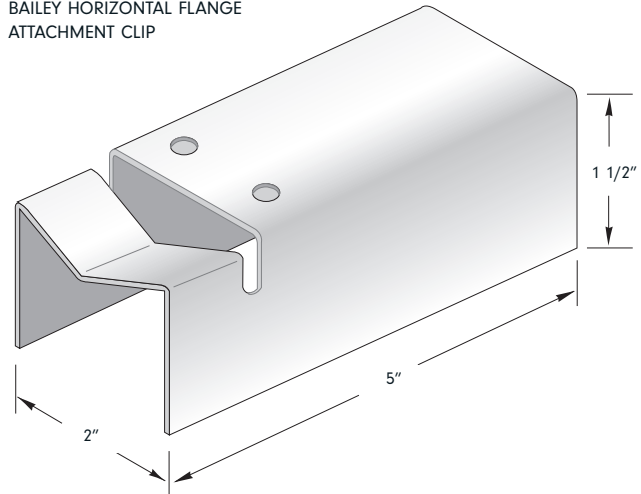


BAILEY HORIZONTAL FLANGE ATTACHMENT CLIP (HFA CLIP)

BAILEY HFA CLIP is a low cost method to accommodate the vertical deflection in exterior by-pass curtain wall conditions.

- Allows for vertical movement of the structure independent from the exterior curtain wall framing
- Eliminates the need for mechanical fastening between the clip and the steel stud
- If the design requires a stand off distance, an additional steel stud should be used to eliminate the stand-off and establish the connection

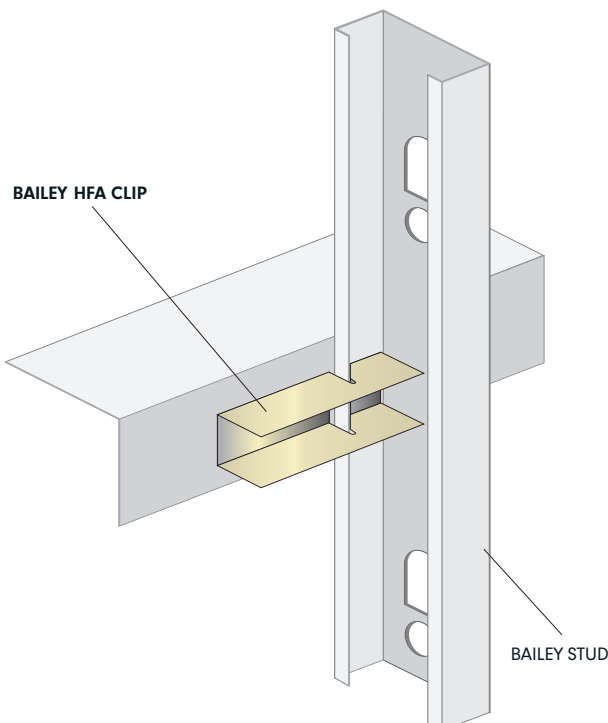
BAILEY HFA CLIP
BAILEY HORIZONTAL FLANGE
ATTACHMENT CLIP

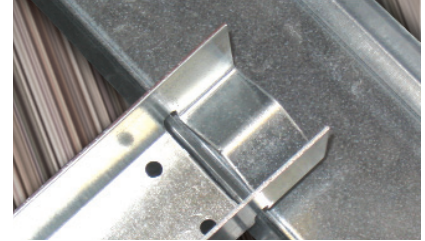
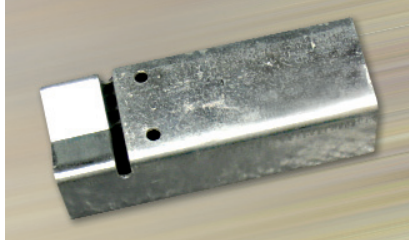


BAILEY HFA CLIP PROPERTIES

Product Identification	Base Steel Thickness		Design		Size		Weight*	Mass*	Yield Strength** ksi	Coating***	Packaging Pcs/Ctn
	Mils		in.	mm	in.	mm	lb	kg			
Bailey HFA Clip	68		0.0713	1.81	2x5	50.8x127	0.526	0.238	50	G90	50

* Weight is based on design steel thickness of net section. ** Meets ASTM A1003: Specification for Steel Sheet, Carbon, Metallic and Nonmetallic-Coated for Cold-Formed Framing Members. *** Meets ASTM A653: Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.





BAILEY HORIZONTAL FLANGE ATTACHMENT CLIP (HFA CLIP)

INSTALLATION

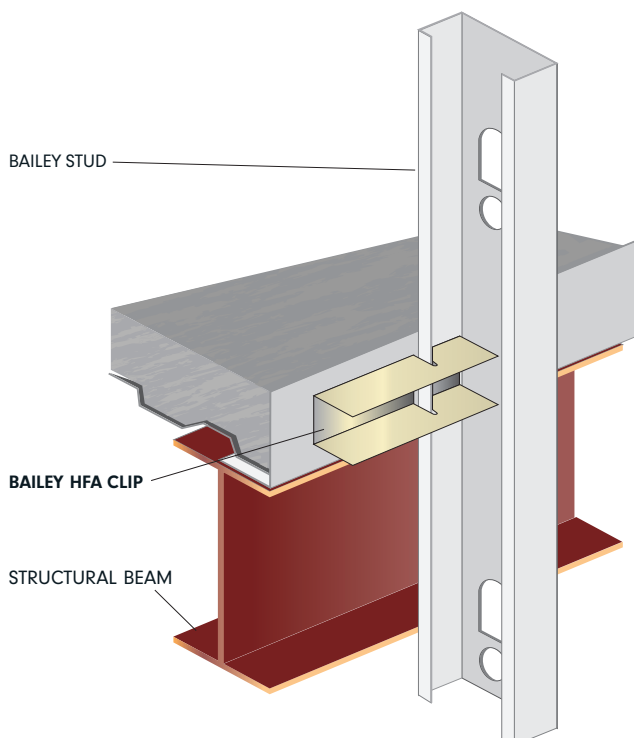
Connect the Bailey HFA Clip to the steel stud flange, then attach to the building structure adequately using suitable screws, PAF or welds as per the engineer of record, designs and shop drawings. If a stand-off situation exists between the studs and the structure, use an additional stud to bridge the distance.

LOAD CAPACITIES

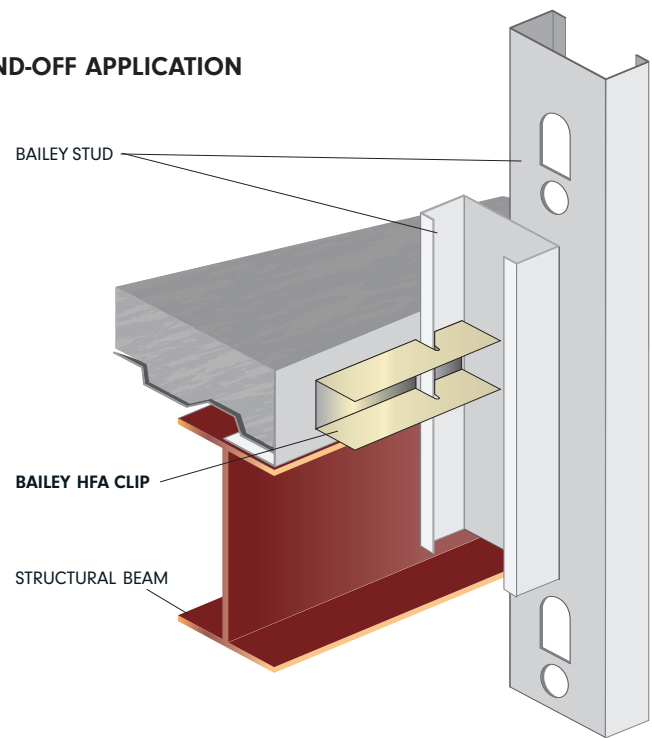
	Stud Identification	Stud Steel Properties		Service Limit Load	Ultimate Load	LSD Factored Load Resistance
		Mils	Yield Strength (ksi)	lb	lb	lb
HFA CLIP	362 S 162 - 33	33	33	409	964	459
	362 S 162 - 43	43	33	524	1272	606
	362 S 162 - 54	54	50	734	1362	649
	362 S 162 - 68	68	50	828	1448	689
	600 S 162 - 33	33	33	378	1274	607
	600 S 162 - 43	43	33	542	1343	639
	600 S 162 - 54	54	50	746	1410	671
	600 S 162 - 68	68	50	851	1450	690

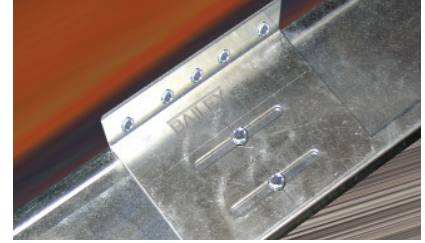
TABLE NOTES

- Clip capacity loads were obtained from tests performed under the supervision of Dr. R. M. Schuster, P. Eng.
- Above loads are based on using #12 screws and following the installation instructions
- The service limit load was recorded at 1/8" deflection according to the Research Note published by LGSEA on CFS "Testing and Establishing Design Values for Clips" by Roger LaBoube, P.E., Ph.D., February 2002
- Ultimate loads are based the maximum clip resistance
- LSD factored load resistances were derived according to section F1.1 of CSA S136-07
- Anchoring the Bailey HFA Clip to the structure is the responsibility of the engineer of record



STAND-OFF APPLICATION





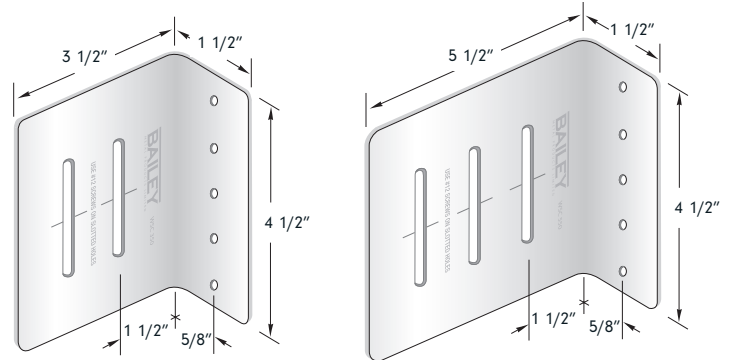
BAILEY WEBSLIDE CLIP (WSC 350 AND WSC 550)

BAILEY WEBSLIDE CLIP

Used with exterior curtain wall steel studs, specifically in by-pass applications.

- Accommodates standoff situations where required
- Allows up to 2.50" vertical movement (1.25" in each direction)
- Available in two sizes with 2 slots to accommodate 3 5/8" or 4" studs and 3 slots to accommodate 6" or 8" studs
- Designed with pre-punched holes to ensure correct fastening locations

BAILEY WEBSLIDE CLIP



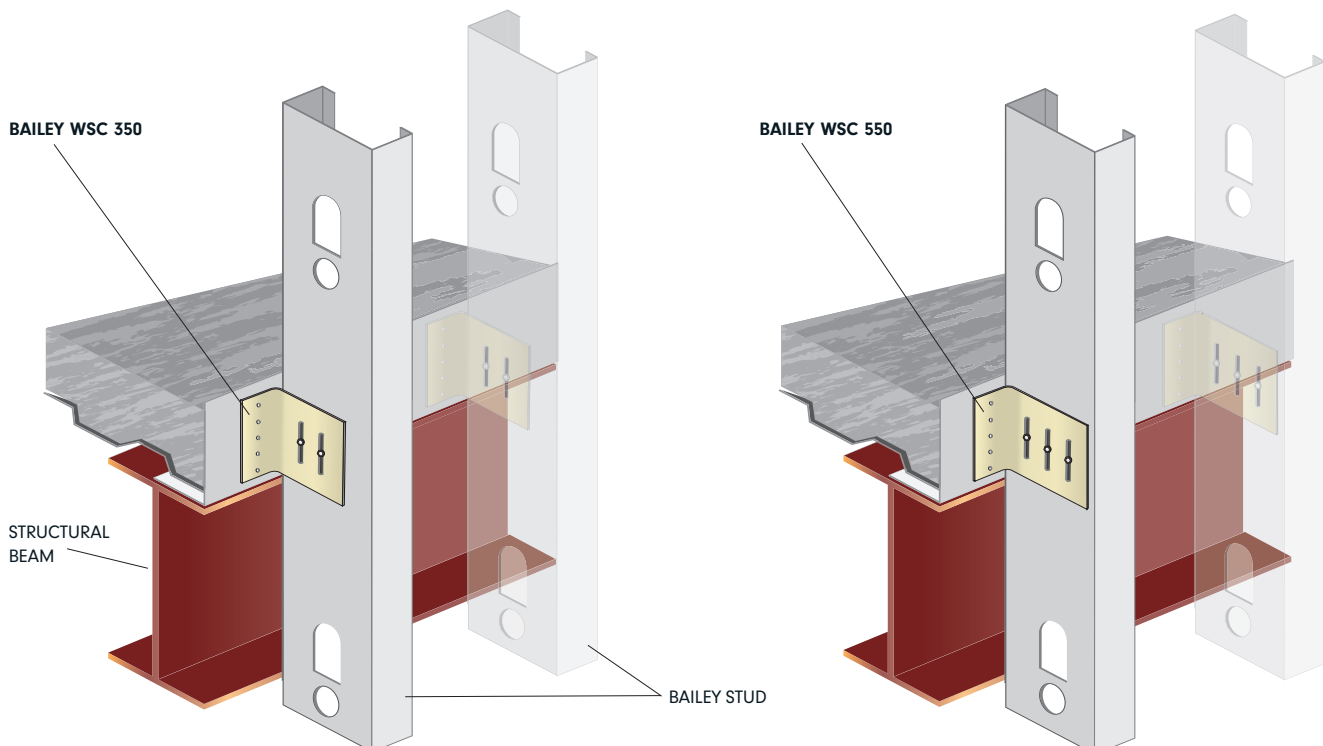
WSC 350

WSC 550

BAILEY WSC 350 AND WSC 550 PROPERTIES

Product Identification	Base Steel Thickness		Size		Weight*	Mass*	Yield Strength** ksi	Coating***	Packaging Pcs/Ctn	
	Mils	Design		in.	mm	lb				kg
		in.	mm							
WSC 350	97	0.102	2.58	1.5x4.5x3.5	38.1x114x88.9	0.614	0.279	50	G90	25
WSC 550				1.5x4.5x5.5	38.1x114x139	0.860	0.390			

* Weight is based on design steel thickness of net section. ** Meets ASTM A1003: Specification for Steel Sheet, Carbon, Metallic and Nonmetallic-Coated for Cold-Formed Framing Members. *** Meets ASTM A653: Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.





BAILEY WEBSLIDE CLIP (WSC 350 AND WSC 550)

INSTALLATION

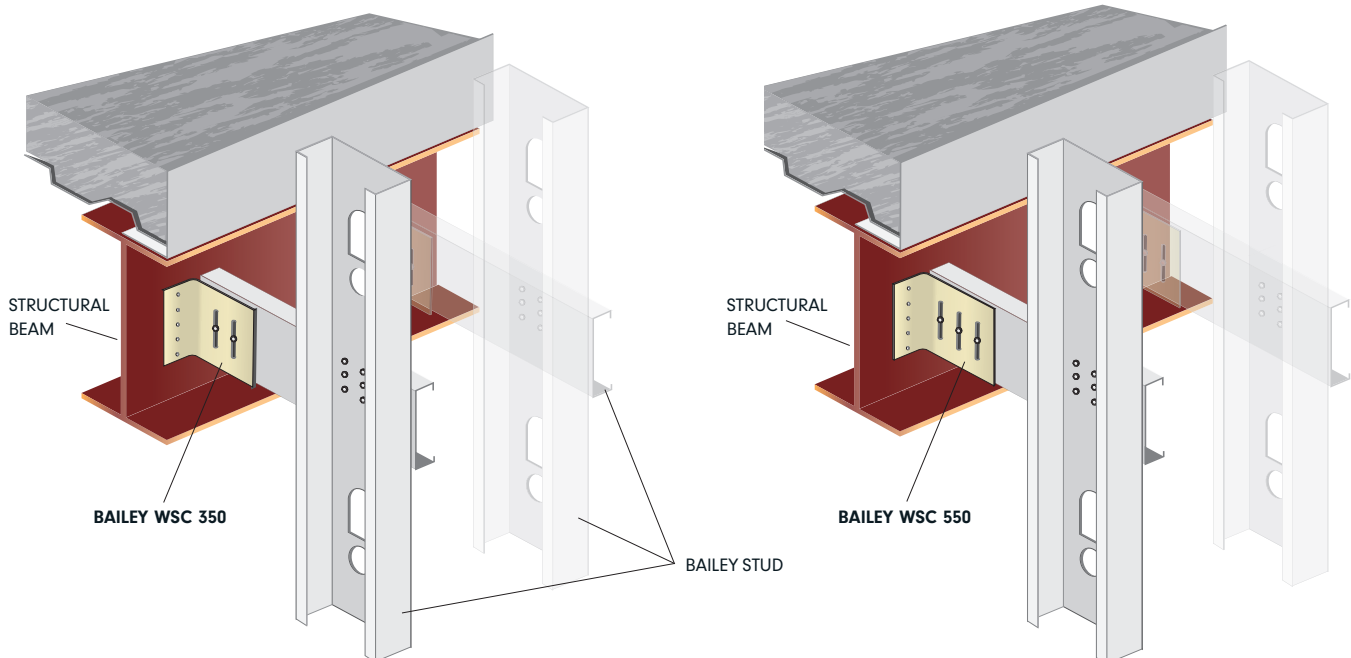
The WSC 350 or WSC 550 Deflection Clip can be attached to the structure using power actuated fasteners (PAF), screws, concrete anchors or by welding, dependant upon the base material of the structure and as specified by the engineer of record and as outlined on the engineered shop drawings. When stand-off bridging is required, an additional steel stud should be used to bridge the distance.

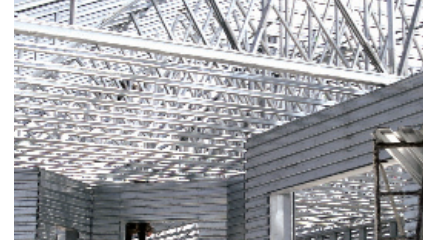
LOAD CAPACITIES

	Stud Identification	Stud Steel Properties		Service Limit Load	Ultimate Load	LSD Factored Load Resistance
		Mils	Yield Strength (ksi)	lb	lb	lb
WSC 350	362 S 162 - 33	33	33	831	831	396
	362 S 162 - 43	43	33	1272	1272	606
	362 S 162 - 54	54	50	1640	2136	1017
	362 S 162 - 68	68	50	1682	3148	1499
WSC 550	600 S 162 - 33	33	33	1128	1128	537
	600 S 162 - 43	43	33	1614	1954	930
	600 S 162 - 54	54	50	1730	3049	1453
	600 S 162 - 68	68	50	1582	3411	1624

TABLE NOTES

- Clip capacity loads were obtained from tests performed under the supervision of Dr. R. M. Schuster, P. Eng.
- Above loads are based on using #12 screws and following the installation instructions
- The service limit load was recorded at 1/8" deflection according to the Research Note published by LGSEA on CFS "Testing and Establishing Design Values for Clips" by Roger LaBoube, P.E., Ph.D., February 2002
- Ultimate loads are based the maximum clip resistance
- LSD factored load resistances were derived according to section F1.1 of CSA S136-07
- Anchoring the Bailey WSC Clip to the structure is the responsibility of the engineer of record



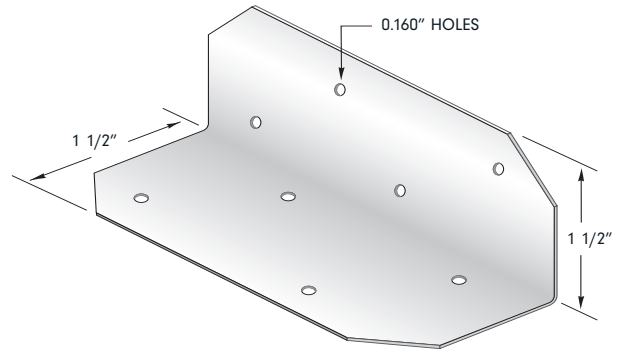


BAILEY UNIVERSAL BRIDGING CLIP (UBC 365, UBC 600, UBC 800)

BAILEY UNIVERSAL BRIDGING CLIP

The Bailey Universal Bridging clip is a unique patented design engineered for rapid, economic installation with Bailey bridging channel in both curtain and loadbearing steel stud designs. Installs rapidly with #8 or #10 screws in pre-punched holes.

BAILEY PATENTED UNIVERSAL BRIDGING CLIP (UBC)



BAILEY UBC 365, UBC 600 AND UBC 800 PROPERTIES

Product Identification	Base Steel Thickness			Size		Weight*	Mass*	Yield Strength** ksi	Coating***	Packaging Pcs/Ctn
	Mils	Design		in.	mm	lb	kg			
		in.	mm							
UBC 365	54	0.0566	1.438	1.5x3.65x1.5	38.1x92.7x38.1	0.131	0.0593	50	G90	100
UBC 600				1.5x6x1.5	38.1x152x38.1	0.234	0.106			
UBC 800				1.5x8x1.5	38.1x203x38.1	0.326	0.148			

* Weight is based on design steel thickness of net section. ** Meets ASTM A1003: Specification for Steel Sheet, Carbon, Metallic and Nonmetallic-Coated for Cold-Formed Framing Members. *** Meets ASTM A653: Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

Product Identification	Stud Bridging Clip	Clip Length
UBC 365	4"	3 1/4"
UBC 600	6"	5 1/2"
UBC 800	8"	7 1/2"

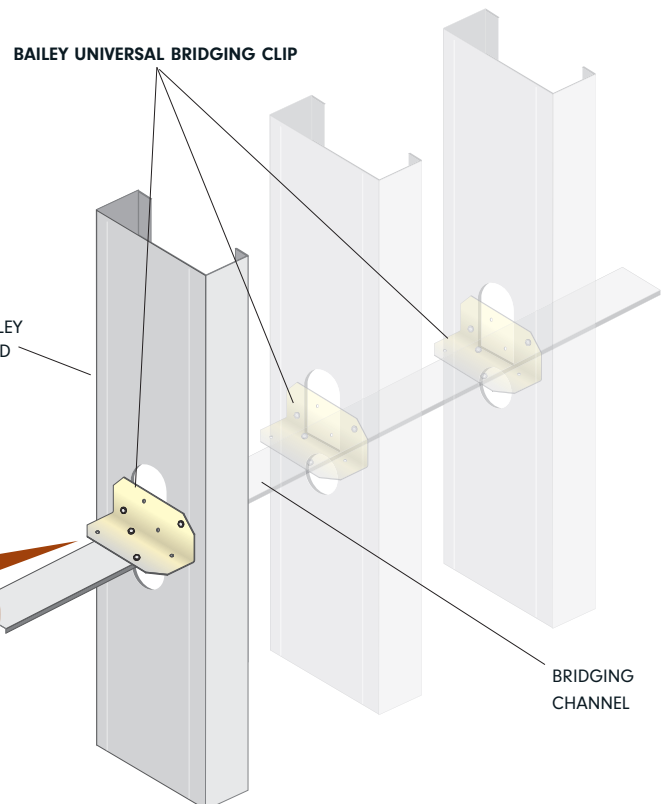
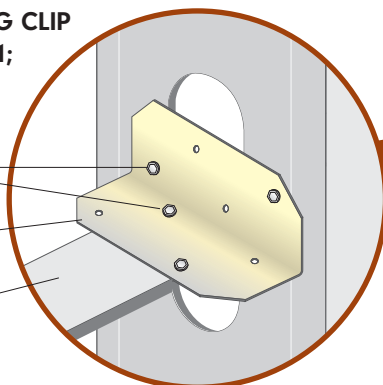
• Other profiles are available upon request.

**BAILEY UNIVERSAL BRIDGING CLIP
PATENT NUMBER - CAZ496961;
USA PATENT PENDING.**

USE 4 FASTENERS PER CLIP

BAILEY UBC CLIP

BRIDGING CHANNEL

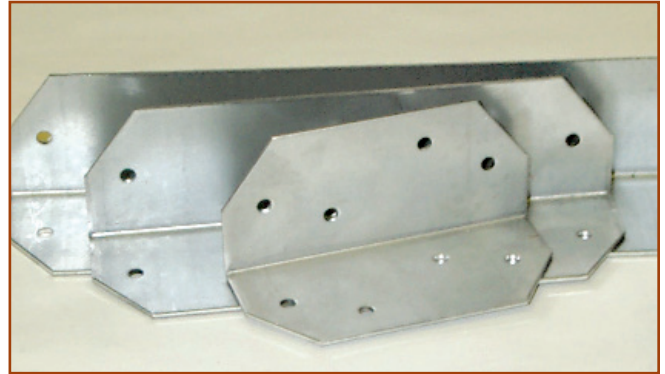
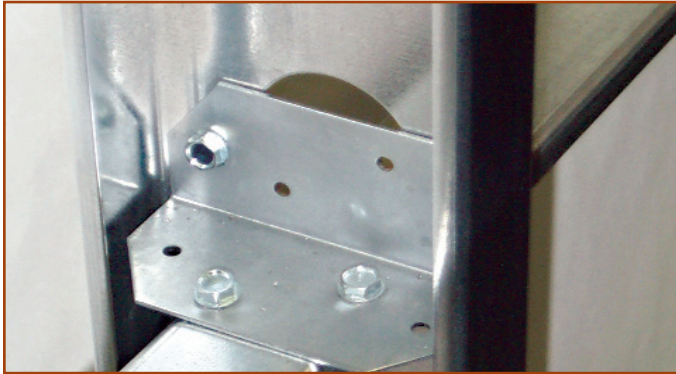




BAILEY UNIVERSAL BRIDGING CLIP (UBC 365, UBC 600, UBC 800)

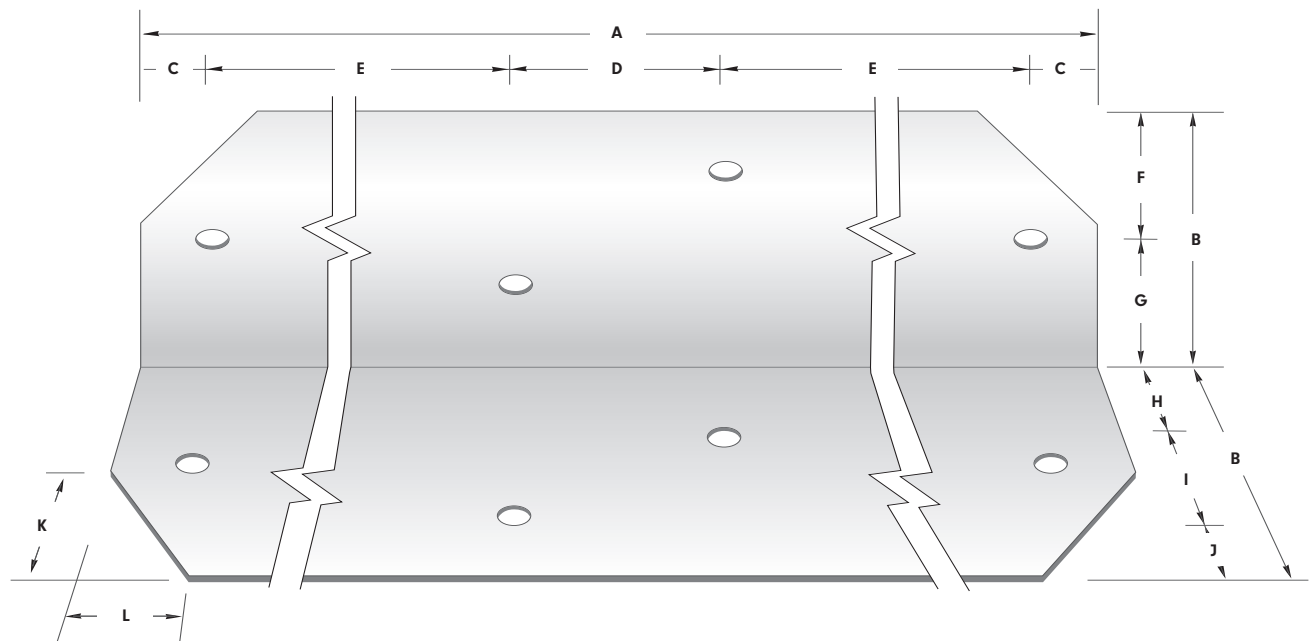
INSTALLATION

The Bailey Universal Bridging Clip is unique in that it can be easily installed onto the inside or outside of the stud. The angled corners make it easy to rotate into position and works well for all stud flange heights. The convenient, pre-punched holes allow for easy installation using hex head screws. The additional holes give greater flexibility for special connections for headers and sills, as well as framing around door and window openings.



CLIP DIMENSIONS (in.)

Product identification	A	B	C	D	E	F	G	H	I	J	K	L
UBC 365	3.25	1.5	0.4375	1.0	0.6875	0.75	0.75	0.5	0.625	0.375	0.75	0.5625
UBC 600	5.5	1.5	0.4375	1.0	1.8125	0.75	0.75	0.5	0.625	0.375	0.75	0.5625
UBC 800	7.5	1.5	0.4375	1.0	2.8125	0.75	0.75	0.5	0.625	0.375	0.75	0.5625



BAILEY PATENTED UNIVERSAL BRIDGING CLIP (UBC) DIMENSIONS



BAILEY METAL PRODUCTS LIMITED

MONTREAL

LES PRODUITS METALLIQUES BAILEY LTEE

525 Avenue Edward VII
Dorval QC H9P 1E7
Tel: (514) 735 3455
(800) 263 3455
Fax: (514) 735 5052

TORONTO

One Caldari Road
Concord ON L4K 3Z9
Tel: (905) 738 9267
(800) 668 2154
Fax: (905) 738 5712

CALGARY

3924 27th Street NE
Calgary AB T1Y 5K7
Tel: (403) 248 3536
(800) 665 2013
Fax: (403) 248 0288

EDMONTON

5710 Roper Road N.W., Suite 101
Edmonton AB T6B 3G7
Tel: (780) 462 5757
(800) 563 1751
Fax: (780) 465 3791

VANCOUVER

7715 Anvil Way
Surrey BC V3W 6A2
Tel: (604) 590 5100
(800) 818 2666
Fax: (604) 599 5371

sales@bmp-group.com • www.bmp-group.com