

ICC-ES Evaluation Report

ESR-1765

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DIVISION: 05 00 00—METALS
Section: 05 05 23—Metal Fastenings
Section: 05 40 00—Cold-formed Metal Framing

REPORT HOLDER:

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EVALUATION SUBJECT:
ProX HEADER® SYSTEM
1.0 EVALUATION SCOPE
Compliance with the following code:

 2006 *International Building Code*® (IBC)

Property evaluated:

Structural

2.0 USES

The ProX Header® system consists of a cold-formed steel header (or sill) and end-support connectors, identified as ProX Clips™. The system provides lateral (out-of-plane) and vertical load support for cold-formed steel studs above a wall opening, such as door and window openings, in both interior and exterior walls.

3.0 DESCRIPTION
3.1 ProX Header® Assembly:

The ProX Header® components and assembly consist of a modified W-shaped member identified as the ProX Header (Outer). When needed for increased strength, it can be combined with a similarly modified W-shaped component, identified as the ProX Header (Insert). The ProX (Insert) interlocks into the ProX (Outer) forming an assembly that is identified as the ProX Header “Combo.” Table 1, Footnote 1, provides member designation and product nomenclature. The ProX Header (Outer) can be used in an assembly with or without the ProX “Insert.” Either way, the ProX Header connects to the vertical jamb studs of the wall using internal end-connectors identified as ProX Clips. Figure 1 provides a general schematic of the components. The ProX Clip transfers reaction loads from the ProX Header (with or without the insert) to supporting full-height vertical jamb studs. The ProX Clip is an internal connector that is mechanically attached (screw-attached) to the supporting vertical jamb stud. Once the ProX Clips are attached to the jamb studs, the ProX Header (without

Insert) is mechanically interlocked around the ProX Clips to each end of the ProX Header and the header is screw-attached to each clip. When the ProX Header is used as a ProX Header “Combo,” the insert is placed inside the ProX (Outer), interlocked into place, mechanically fastened along its length to the ProX (Outer) and fastened to the ProX Clip.

3.1.1 ProX Header (Combo) Assembly: The ProX Header (Combo) assembly is a combination of the ProX (Outer) and ProX (Insert) interlocked together and mechanically fastened (screw-attached) in accordance with this report. The ProX (Outer) may be used with or without the ProX (Insert). However, the ProX (Insert) must not be used by itself.

3.2 Materials:
3.2.1 ProX Header (Outer) and ProX Header (Insert):

The ProX Header (Outer) and ProX Header (Insert) members are manufactured from cold-formed steel having design and minimum uncoated base-metal thicknesses as shown in Table 2 of this report. The 33-mil-thick and 43-mil-thick (0.84 and 1.09 mm) members are cold-formed from hot-dipped, zinc-coated steel complying with ASTM A 653, SS, Grade 33. The 54-mil-thick and 68-mil-thick (1.37 and 1.73 mm) members are cold-formed from hot-dipped, zinc-coated steel complying with ASTM A 653, SS, Grade 50, Class 1. Designations for the various ProX members are given in Table 2 of this report. The ProX Header members are available in widths of 3⁵/₈, 4, 6 and 8 inches (92, 102, 152 and 203 mm), and in stock lengths of 10, 12 and 14 feet (3048, 3658 and 4267 mm). Special (custom order) lengths are also an option. Refer to Table 1 for ProX Header member dimensions and to Figure 1 for illustrations.

3.2.2 ProX Clip: The ProX Clips are manufactured from cold-formed steel having design and minimum base-metal thickness as shown in Table 2 of this report. ProX Clips are 54-mil-thick (1.37 mm) members which are stamped from cold-formed, hot-dipped, zinc-coated steel, complying with ASTM A 653, SS, Grade 50, Class 1. Designations for the various ProX Clips are given in Table 2 of this report. The ProX Clips are available in nominal widths of 3⁵/₈, 4, 6 and 8 inches (92, 102, 152, and 203 mm) to match the header widths. Refer to Table 1 for ProX Clip dimensions and to Figure 1 for illustrations. The ProX Clip leg length is 1¹/₂ inches (38mm).

3.2.3 Steel Stud Supports (Jamb Stud): The ProX Header is supported by steel jamb studs located on both ends of the header, on each side of the wall opening. The steel jamb stud must match or exceed the thickness and grade of steel of the ProX Header members, with the exception of jamb studs, which may be 54 mils (1.37 mm)

thick when using 68-mil-thick (1.73 mm) ProX Headers. The vertical jamb stud may be installed as a single (wide flange) jamb stud, double jamb stud or triple jamb stud system. The load capacity and jamb stud system used must be designed, and installation must be in accordance with the code.

3.2.4 Fasteners: Fasteners must be self-drilling sheet metal screws complying with ASTM C 1513. The No. 8 screws must have minimum shear and tensile allowable loads of 344 pounds (1.53 kN) and 118 pounds (0.52 kN), respectively. The No. 10 screws must have minimum shear and tensile allowable loads of 370 pounds (1.64 kN) and 137 pounds (0.61 kN), respectively.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 ProX Header: The section properties indicated in Table 3 of this report have been determined in accordance with the North American Specification for the Design of Cold-Formed Steel Structural Members, including 2004 Supplement (AISI-NAS). The allowable moments, M_a , as indicated in Tables 4 and 6, are for use with Allowable Stress Design (ASD), and are for the ProX Header used as a flexural member with the flanges braced by studs not exceeding 24 inches (610 mm) on center. For other conditions of flange bracing, the allowable moment must be determined in accordance with AISI-NAS. The design of flexural members must address combined stresses in accordance with AISI-NAS, as applicable. The x-axis referenced in the tables applies to the axis that is perpendicular to the plane of the wall. The y-axis referenced in the tables applies to the axis that is parallel to the plane of the wall.

4.1.2 ProX Clip: The allowable load imposed by the ProX Header assembly on the ProX Clip must not exceed the allowable load capacities shown in Tables 7A through 8B.

4.1.3 Alternate Load Combinations: When using alternate basic load combinations in Section 1605.3.2 of the IBC that include wind or earthquake loads, the ASD allowable loads in Table 4 must not be increased by 33½ percent, and the alternate basic load combinations must not be reduced by a factor of 0.75. When using “component and cladding loads” per Table 1605.3.2 of the IBC, it is allowed to use a 0.7 factor for determining deflections.

4.2 Installation:

4.2.1 General: The ProX Header components must be installed in accordance with this report, approved plans and details, and the manufacturer’s published installation instructions. The installation instructions must be available at the jobsite at all times during installation. The ProX Header assembly is installed by first fastening the ProX Clip to the jamb(s). The cold-formed steel cripple studs must be installed per the wall schedule. The width of the ProX Header assembly chosen must be compatible with the web depth of the jamb and cripple studs. The spacing of the cripple studs attached to the ProX Header must be designed in accordance with the code and must not exceed 24 inches (610 mm). The cripple studs must be fastened to the ProX Header. Sheet metal screws must comply with Section 3.2.5 of this report. The screws must extend through the steel a minimum of three exposed threads. See Figure 2 for the installation instructions.

4.2.2 Attachment of ProX Clip to Steel Jamb Stud: The ProX Clip must be installed having full contact with the steel jamb.

4.2.2.1 When Installing ProX Header Outer Only:

Each ProX Clip must be attached to the web of the steel jamb stud(s) at the desired height. For the 3⁵/₈-inch (92 mm) and 4-inch (102 mm) ProX Clips, the clip must be fastened to the steel jamb using No. 8 or No. 10 screws at each of the predrilled hole locations, at the four corners of the ProX Clip, for a total of four screws per clip. For the 6-inch (152 mm) and 8-inch (203 mm) ProX Clips, the clip must be fastened to the steel jamb using No. 8 or No. 10 screws at each of the predrilled hole locations, at the four corners and at the center of the ProX Clip, for a total of six screws per clip.

4.2.2.2 When Installing ProX Header Combo:

Each ProX Clip must be attached to the web of the steel jamb stud(s) at the desired height. For the 3⁵/₈-inch (92 mm) and 4-inch (102 mm) ProX Clips, the clip must be fastened to the steel jamb using No. 8 or No. 10 screws at each of the predrilled hole locations on the ProX Clips, for a total of six screws per clip, three on each side. For the 6-inch (152 mm) and 8-inch (203 mm) ProX Clips, the clip must be fastened to the steel jamb using No. 8 or No. 10 screws at each of the predrilled hole locations on the ProX Clips, for a total of ten screws per clip, five on each side.

4.2.3 Attachment of ProX Header and ProX Insert to ProX Clip:

The gap between the end of the ProX Header or the ProX Insert and the steel jamb stud must not exceed 3/8 inch (9.5 mm) at each end of the header.

4.2.3.1 When Installing ProX Header Outer Only:

The ProX Outer must be attached to the ProX Clip using one No. 8 or No. 10 screw at each of the bottom (horizontal) tabs of the ProX Clip (total of two screws) and one No. 8 or No. 10 screw in each of the upper (vertical) tabs on the ProX Clip (total of two screws). These screws must be placed in the ProX Outer “rib-line” so that the screw’s head is flush with the finished metal surface. A total of four screws must be installed, two on each side.

4.2.3.2 When Installing ProX Header Combo:

The ProX Outer must be attached to the ProX Clip using one No. 8 or No. 10 screw in each of the bottom (horizontal) tabs of the ProX Clip (total of two screws) and one No. 8 or No. 10 screw in each of the four (vertical) tabs on the ProX Clip (total of four screws). The ProX Insert must be installed and attached to the clips with one No. 8 or No. 10 screw in each of the top (horizontal) tabs of the ProX Clip (total of two screws), for a total of eight screws installed, four on each side, per clip.

4.2.4 Attachment of ProX Insert to ProX Outer (ProX Combo):

The ProX Insert must be inserted into the installed ProX Outer member and interlocked with the ProX Outer. The insert must be fastened to the ProX Outer with No. 8 or No. 10 screws within the rib channel section of the ProX Outer, with the screws at a maximum spacing of 8 inches (203 mm) on center.

5.0 CONDITIONS OF USE

The ProX Header™ described in this report complies with, or is a suitable alternative to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions:

5.1 Complete plans and calculations demonstrating that applied loads are less than the allowable loads must be furnished to the code official for approval. The calculations and plans must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is being constructed.

- 5.2 The uncoated minimum base-metal thickness of cold-formed members, as delivered to the jobsite, must be at least 95 percent of the design thickness.
- 5.3 Recognition of the ProX Header members as boundary members in a lateral force-resisting system is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with Appendix B of the ICC-ES Acceptance Criteria for Cold-formed Steel Framing Members (AC46), dated February 2011.
- 6.2 Data in accordance with Appendix A of the ICC-ES Acceptance Criteria for Connectors Used with Cold-formed Steel Structural Members (AC261), dated December 2010.

7.0 IDENTIFICATION

- 7.1 Each ProX Header component (ProX Outer and ProX Insert) must be identified with a label indicating the report holder’s name, the name of the ProX member (ProX Header, ProX Insert), the base-metal thickness (uncoated) in decimal units, the minimum yield strength, the galvanized coating designation (G60), and the evaluation report number (ESR-1765).
- 7.2 Each ProX Clip is identified with a label indicating the report holder’s name, the name of the ProX component (ProX Clip), the base-metal thickness (uncoated) in decimal units, the minimum yield strength, the coating grade (G60), and the evaluation report number (ESR-1765).

TABLE 1—DIMENSIONS OF ProX HEADER COMPONENTS

ProX OUTER			ProX CLIP		ProX INSERT		
Member Designation ¹	Width (inches)	Height (inches)	Member Designation	Leg Length (inches)	Member Designation	Width (inches)	Height (inches)
362X425	3.625	4.25	362Clip-54	1.5	362XT162	3.464	1.625
400X425	4.000	4.25	400Clip-54	1.5	400XT162	3.839	1.625
600X425	6.000	4.25	600Clip-54	1.5	600XT162	5.839	1.625
800X425	8.000	4.25	800Clip-54	1.5	800XT162	7.839	1.625

For SI: 1 inch = 25.4 mm.

¹Member designation is defined as the width by the depth or height of the header and the base-metal steel thickness, in mils. For example, 362X425-33 represents a ProX Outer having a width of 3.62 inches by a height of 4.25 inches and having steel thickness of 33 mils. The X letter in the member designation represents the ProX Outer, the XT letters in the member designation represents the ProX Insert, and the XTC letters in the member designation represent the ProX Combo.

TABLE 2—ProX HEADER STEEL THICKNESSES AND YIELD STRENGTH

THICKNESS ¹				MINIMUM YIELD STRENGTH ² (ksi)	GALVANIZATION COATING DESIGNATION ³
Gage	Mils	Minimum Uncoated Base-Metal Thickness ⁴ (inch)	Design Thickness (inch)		
20	33	0.0329	0.0346	33	G60
18	43	0.0428	0.0451	33	G60
16	54	0.0538	0.0566	50	G60
14	68	0.0677	0.0713	50	G60

For SI: 1 inch = 25.4 mm, 1 mil = 0.0254 mm, 1 ksi = 6.89 MPa.

¹ProX Outer and Insert members are manufactured using the thicknesses of cold-formed steel shown in the table, except the ProX Clips are manufactured using 16 gage (54 mil) steel.

²The 33- and 43-mil-thick ProX Outer and Insert members are cold-formed from hot-dipped zinc-coated steel complying with ASTM A 653, SS, Grade 33; and the 54- and 68-mil-thick ProX Outer and Insert members are cold-formed from hot-dipped zinc-coated steel complying with ASTM A 653, SS, Grade 50 Class 1.

³Hot-dipped zinc coating complies with ASTM A 653.

⁴Minimum uncoated base-metal thickness of the cold-formed steel header members must not at any location be less than 95 percent of the specified design thicknesses, except lesser thicknesses are permitted at bends due to cold-forming effects.

TABLE 3—ProX OUTER SECTIONAL PROPERTIES

DESCRIPTION			GROSS SECTION PROPERTIES						EFFECTIVE PROPERTIES						TORSIONAL PROPERTIES			
Member Designation ¹	Design Steel Thickness (inch)	Weight (lbs./ft.)	Area (in. ²)	I _x (in. ⁴)	R _x (in.)	I _y (in. ⁴)	R _y (in.)	I _x Pos. (in. ⁴)	I _x Neg. (in. ⁴)	I _y (in. ⁴)	S _x Pos. (in. ³)	S _x Neg. (in. ³)	S _y (in. ³)	Y _o (in.)	J (in. ⁴)	C _w (in. ⁶)	R _o (in.)	
362X425-33	0.0346	1.6610	0.48853	0.7487	1.2380	1.1067	1.5051	0.3699	0.74869	0.83181	0.12191	0.27855	0.39064	-2.0762	0.0001950	2.2738	2.8475	
362X425-43	0.0451	2.1519	0.63291	0.9608	1.2321	1.4110	1.4931	0.5540	0.9608	1.11330	0.18766	0.35931	0.53793	-2.0665	0.0004291	2.8719	2.8316	
362X425-54	0.0566	2.6752	0.78683	1.1819	1.2256	1.7236	1.4800	0.6840	1.1819	1.33250	0.23334	0.44490	0.64169	-2.0610	0.0008402	3.4670	2.8178	
362X425-68	0.0713	3.3271	0.97854	1.4497	1.2172	2.0953	1.4633	0.9944	1.4497	1.70130	0.35150	0.55050	0.84590	-2.0551	0.0016582	4.1490	2.8011	
400X425-33	0.0346	1.7051	0.50151	0.7789	1.2462	1.3605	1.6471	0.3879	0.7789	1.02600	0.12637	0.28552	0.43849	-2.1374	0.0002001	2.8338	2.9722	
400X425-43	0.0451	2.2094	0.64983	0.9998	1.2404	1.7374	1.6351	0.5800	0.9998	1.37410	0.19406	0.36838	0.60351	-2.1280	0.0004406	3.5851	2.9565	
400X425-54	0.0566	2.7474	0.80806	1.2305	1.2340	2.1261	1.6221	0.7166	1.2305	1.64820	0.24140	0.45629	0.72125	-2.1228	0.0008629	4.3372	2.9428	
400X425-68	0.0713	3.4180	1.0053	1.5106	1.2258	2.5909	1.6054	1.0404	1.5106	2.10770	0.36280	0.56490	0.95090	-2.1171	0.0017035	5.2054	2.9261	
600X425-33	0.0346	1.9404	0.57071	0.9168	1.2674	3.2507	2.3866	0.4686	0.9168	2.46650	0.14507	0.31498	0.71069	-2.2394	0.0002277	6.9805	3.5096	
600X425-43	0.0451	2.5161	0.74003	1.1779	1.2616	4.1732	2.3747	0.6968	1.1779	3.35460	0.22090	0.40660	0.99690	-2.2301	0.0005017	8.8786	3.4935	
600X425-54	0.0566	3.1323	0.92126	1.4520	1.2556	5.1380	2.3616	0.8626	1.4524	4.05660	0.27520	0.50420	1.20030	-2.2238	0.0009838	10.8150	3.4784	
600X425-68	0.0713	3.9028	1.1479	1.7880	1.2479	6.3120	2.3449	1.2472	1.7877	5.20550	0.41020	0.62520	1.57920	-2.2165	0.0019450	13.1010	3.4596	
800X425-33	0.0346	2.1757	0.63991	1.0250	1.2653	6.1460	3.0991	0.5296	0.9727	4.48780	0.15800	0.32590	0.95370	-2.1896	0.0002554	13.3150	4.0000	
800X425-43	0.0451	2.8228	0.83023	1.3170	1.2594	7.9120	3.0870	0.7856	1.3137	6.24650	0.23960	0.43260	1.38110	-2.1798	0.0005630	16.9820	3.9834	
800X425-54	0.0566	3.5172	1.0345	1.6250	1.2534	9.7740	3.0738	0.9734	1.6252	7.61930	0.29860	0.53750	1.68190	-2.1720	0.0011050	20.7610	3.9669	
800X425-68	0.0713	4.3876	1.2905	2.0030	1.2458	12.0580	3.0567	1.4050	2.0030	10.0820	0.44300	0.66700	2.31430	-2.1627	0.0021870	25.2700	3.9462	

For SI: 1 inch = 25.4 mm, 1lb/ft = 14.6 N/m, 1 in-lb = 0.112985 N-m.

¹See Figure 1 for a description of the x- and y-axes.

TABLE 4—ProX OUTER ALLOWABLE VALUES

DESCRIPTION			ALLOWABLE VALUES			
Member Designation	Design Steel Thickness (inch)	Weight (lbs./ft.)	Positive Moment +Ma (in.-lbs)		Negative Moment -Ma (in.-lbs)	
			X-Axis	Y-Axis	X-Axis	Y-Axis
362X425-33	0.0346	1.6610	2,409	7,719	5,504	7,719
362X425-43	0.0451	2.1519	3,708	10,630	7,100	10,630
362X425-54	0.0566	2.6752	6,986	19,212	13,320	19,212
362X425-68	0.0713	3.3271	10,524	25,326	16,483	25,326
400X425-33	0.0346	1.7051	2,497	8,665	5,642	8,665
400X425-43	0.0451	2.2094	3,835	11,926	7,279	11,926
400X425-54	0.0566	2.7474	7,228	21,594	13,661	21,594
400X425-68	0.0713	3.4180	10,863	28,469	16,914	28,469
600X425-33	0.0346	1.9404	2,867	14,044	6,224	14,044
600X425-43	0.0451	2.5161	4,366	19,699	8,035	19,699
600X425-54	0.0566	3.1323	8,239	35,938	15,096	35,938
600X425-68	0.0713	3.9028	12,283	47,282	18,720	47,282
800X425-33	0.0346	2.1757	3,123	18,847	6,440	18,847
800X425-43	0.0451	2.8228	4,735	27,292	8,549	27,292
800X425-54	0.0566	3.5172	8,939	50,355	16,092	50,355
800X425-68	0.0713	4.3876	13,263	69,290	19,969	69,290

For SI: 1 inch = 25.4 mm, 1lb/ft = 14.6 N/m, 1 in-lb = 0.112985 N-m.

TABLE 5—ProX COMBO SECTIONAL PROPERTIES

MEMBER DESIGNATION	GROSS SECTION PROPERTIES						EFFECTIVE PROPERTIES						TORSIONAL PROPERTIES			
	Area (in. ²)	Ix (in. ⁴)	Rx (in.)	Iy (in. ⁴)	Ry (in.)	Ix Pos. (in. ⁴)	Ix Neg. (in. ⁴)	Iy (in. ⁴)	Sx Pos. (in. ³)	Sx Neg. (in. ³)	Sy (in. ³)	Yo (in.)	J (in. ⁴)	Cw (in. ⁶)	Ro (in.)	
362XTC425-33	0.7985	0.9237	1.0755	1.5771	1.4054	0.64530	0.92370	1.32010	0.24804	0.38078	0.66212	-1.5102	0.0003186	2.5199	2.3265	
362XTC425-43	1.0327	1.1838	1.0707	2.0157	1.3971	0.8821	1.1838	1.51030	0.34583	0.49150	0.72694	-1.4966	0.0007002	3.1769	2.3104	
362XTC425-54	1.2891	1.4644	1.0658	2.4694	1.3840	1.0919	1.4644	2.10180	0.43070	0.61180	1.07500	-1.4923	0.0013766	3.8561	2.2975	
362XTC425-68	1.6009	1.7981	1.0598	2.9801	1.3644	1.4502	1.7981	2.60590	0.58630	0.75840	1.36200	-1.5061	0.0027128	4.6076	2.2920	
400XTC425-33	0.82478	0.9820	1.0912	1.9512	1.5381	0.6996	0.9820	1.63750	0.26712	0.40120	0.74605	-1.5309	0.0003291	3.1526	2.4290	
400XTC425-43	1.069	1.2717	1.0907	2.5172	1.5345	0.9602	1.2717	2.17140	0.37120	0.51970	1.00010	-1.5511	0.0007248	4.0748	2.4393	
400XTC425-54	1.3339	1.5897	1.0917	3.1269	1.5310	1.1974	1.5897	2.66070	0.46220	0.64880	1.21480	-1.5720	0.0014244	5.0897	2.4509	
400XTC425-68	1.6627	1.9820	1.0919	3.8750	1.5265	1.6064	1.9821	3.38730	0.62890	0.80870	1.56180	-1.6028	0.0028170	6.3350	2.4681	
600XTC425-33	0.96285	1.2816	1.1537	4.7898	2.2304	0.9842	1.2417	4.01930	0.37230	0.50500	1.22590	-1.5166	0.0003842	7.7281	2.9335	
600XTC425-43	1.2512	1.6530	1.1494	6.1790	2.2224	1.3322	1.6529	5.40140	0.51290	0.66750	1.68740	-1.4998	0.0008480	9.8530	2.9171	
600XTC425-54	1.556	2.0420	1.1457	7.5680	2.2054	1.6496	2.0424	6.54390	0.63930	0.83010	2.04260	-1.5082	0.0016620	12.0010	2.9071	
600XTC425-68	1.9385	2.5220	1.1407	9.2770	2.1877	2.1544	2.5222	8.22020	0.85290	1.03410	2.60750	-1.5087	0.0032850	14.5530	2.8919	
800XTC425-33	1.0981	1.5760	1.1980	9.1800	2.8913	1.1815	1.3383	7.36400	0.43250	0.56480	1.64570	-1.4643	0.0004380	14.6350	3.4553	
800XTC425-43	1.4235	2.0280	1.1937	11.8000	2.8792	1.6550	1.8760	10.0560	0.62460	0.76950	2.32370	-1.4635	0.0009650	18.6350	3.4433	
800XTC425-54	1.7709	2.5050	1.1893	14.5410	2.8655	2.0590	2.3410	12.3290	0.78300	0.96180	2.85380	-1.4658	0.0018910	22.7380	3.4314	
800XTC425-68	2.2046	3.0890	1.1838	17.8800	2.8479	2.7080	3.0850	15.9840	1.05680	1.24240	3.81920	-1.4696	0.0037360	27.6080	3.4164	

For SI: 1 inch = 25.4 mm, 1lb/ft = 0.112985 N-m.

TABLE 6—ProX COMBO ALLOWABLE VALUES

DESCRIPTION ^{1,2}			ALLOWABLE VALUES					
Member Designation	Design Steel Thickness (inch)	Weight (lbs./ft.)	Positive Moment +Ma (in.-lbs)		Negative Moment -Ma (in.-lbs)		Vertical Shear Va (lbs.)	
			X-Axis	Y-Axis	X-Axis	Y-Axis	#8 @ 8" o/c ¹	#10 @ 8" o/c ¹
362XTC425-33	0.0346	2.7149	4,901	13,084	7,524	13,084	250	270
362XTC425-43	0.0451	3.5111	6,834	14,365	9,712	14,365	424	457
362XTC425-54	0.0566	4.3830	12,895	32,187	18,318	32,187	602	648
362XTC425-68	0.0713	5.4430	17,553	40,779	22,706	40,779	717	771
400XTC425-33	0.0346	2.8043	5,278	14,742	7,928	14,742	254	274
400XTC425-43	0.0451	3.6347	7,335	19,762	10,269	19,762	448	483
400XTC425-54	0.0566	4.5354	13,838	36,372	19,425	36,372	675	725
400XTC425-68	0.0713	5.6530	18,831	46,760	24,213	46,760	877	943
600XTC425-33	0.0346	3.2737	7,356	24,225	9,979	24,225	241	260
600XTC425-43	0.0451	4.2540	10,135	33,345	13,190	33,345	394	425
600XTC425-54	0.0566	5.2903	19,142	61,157	24,853	61,157	556	598
600XTC425-68	0.0713	6.5909	25,537	78,068	30,960	78,068	627	675
800XTC425-33	0.0346	3.7336	8,547	32,520	11,160	32,520	244	264
800XTC425-43	0.0451	4.8397	12,341	45,917	15,205	45,917	387	417
800XTC425-54	0.0566	6.0211	23,444	85,444	28,796	85,444	543	584
800XTC425-68	0.0713	7.4956	31,640	114,350	37,200	114,350	593	637

For **SI**: 1 inch = 25.4 mm, 1lb/ft = 14.6 N/m, 1 in-lb = 0.112985 N-m.

¹Screw spacing is each side of the ProX Outer to the ProX Insert. Allowable shear is based upon a uniform loading.

²ProX Outer and ProX Insert must have same steel thickness.

TABLE 7A—ProX CLIP ALLOWABLE VALUES - WITHOUT INSERT INSTALLED WITH NO. 8 SCREWS

ProX OUTER WIDTHS (inches)	ProX OUTER THICKNESS (mils)	NUMBER OF FASTENERS ATTACHING ProX CLIP TO VERTICAL STEEL JAMB STUD ^{1,2}	NUMBER OF SCREWS ATTACHING ProX OUTER TO CLIP ^{3,4}	ALLOWABLE SHEAR VALUES (pounds) ⁵	
				V _{vertical}	V _{horizontal}
3.625	33	4	4	400	472
3.625	43	4	4	573	492
3.625	54	4	4	726	514
3.625	68	4	4	726	514
4.000	33	4	4	400	523
4.000	43	4	4	573	690
4.000	54	4	4	783	719
4.000	68	4	4	783	719
6.000	33	6	4	492	538
6.000	43	6	4	704	709
6.000	54	6	4	963	921
6.000	68	6	4	963	921
8.000	33	6	4	492	538
8.000	43	6	4	704	709
8.000	54	6	4	963	921
8.000	68	6	4	963	921

For **SI**: 1 inch = 25.4 mm, 1 mil = 0.0254mm, 1 lb = 4.45 N.

¹Jamb member thickness to match or exceed ProX Header thickness, except as described in Section 3.2.3 of this report.

²Locate the screws from clip to jamb at the four corner holes of the clip when supporting a ProX Header without insert.

³Maximum gap between end of header and jamb to be 3/8 inch.

⁴All clips are 54 mils.

⁵Values may not be increased by 33% for load combinations involving wind or seismic loading.

TABLE 7B— ProX CLIP ALLOWABLE VALUES - WITH INSERT AND NO. 8 SCREWS

ProX COMBO ¹ WIDTHS (inches)	ProX COMBO THICKNESS (mils)	NUMBER OF FASTENERS ATTACHING ProX CLIP TO STEEL JAMB STUD ²	NUMBER OF SCREWS ATTACHING ProX OUTER TO CLIP ^{3,4}	ALLOWABLE SHEAR VALUES ⁵ (pounds)	
				V _{vertical}	V _{horizontal}
3.625	33	6	8	865	657
3.625	43	6	8	1215	701
3.625	54	6	8	1582	747
3.625	68	6	8	1582	747
4.000	33	6	8	923	861
4.000	43	6	8	1273	1057
4.000	54	6	8	1704	1111
4.000	68	6	8	1704	1111
6.000	33	10	8	985	698
6.000	43	10	8	1328	960
6.000	54	10	8	1751	1282
6.000	68	10	8	1751	1282
8.000	33	10	8	985	698
8.000	43	10	8	1328	960
8.000	54	10	8	1751	1282
8.000	68	10	8	1751	1282

For SI: 1 inch = 25.4 mm, 1 mil = 0.0254mm, 1 lb = 4.45 N.

¹ProX Outer and ProX Insert must have same thickness. All clips are 54 mils.

²Jamb member thickness to match or exceed ProX Header thickness, except as described in Section 3.2.3 of this report.

³Maximum gap between end of header and jamb to be ³/₈ inch.

⁴Locate screws from clip to jamb in all holes of the clip when supporting ProX Combo (with Insert). At clips with 10 screw holes, fill the center two holes as well (6 total). At ProX Header with Insert install a fastener in each hole.

⁵Values may not be increased by 33% for load combinations involving wind or seismic loading.

TABLE 8A—ProX CLIP ALLOWABLE VALUES - WITHOUT INSERT INSTALLED WITH NO. 10 SCREWS

ProX OUTER WIDTHS (inches)	ProX OUTER THICKNESS (mils)	NUMBER OF FASTENERS ATTACHING ProX CLIP TO STEEL JAMB STUD ^{1,2}	NUMBER OF SCREWS ATTACHING ProX OUTER TO CLIP ^{3,4}	ALLOWABLE SHEAR VALUES (pounds) ⁵	
				V _{vertical}	V _{horizontal}
3.625	33	4	4	442	483
3.625	43	4	4	631	506
3.625	54	4	4	793	531
3.625	68	4	4	793	531
4.000	33	4	4	442	558
4.000	43	4	4	631	711
4.000	54	4	4	861	734
4.000	68	4	4	861	734
6.000	33	6	4	544	574
6.000	43	6	4	775	759
6.000	54	6	4	1014	989
6.000	68	6	4	1014	989
8.000	33	6	4	544	574
8.000	43	6	4	775	759
8.000	54	6	4	1014	989
8.000	68	6	4	1014	989

For SI: 1 inch = 25.4 mm, 1 mil = 0.0254mm, 1 lb = 4.45 N.

¹Jamb member thickness to match or exceed ProX Header thickness, except as described in Section 3.2.3 of this report.

²Locate the screws from clip to jamb at the four corner holes of the clip when supporting a ProX Header without insert.

³Maximum gap between end of header and jamb to be ³/₈ inch.

⁴All clips are 54 mils.

⁵Values may not be increased by 33% for load combinations involving wind or seismic loading.

TABLE 8B—ProX CLIP ALLOWABLE VALUES - WITH INSERT AND NO. 10 SCREWS

ProX COMBO WIDTHS (inches) ¹	ProX COMBO THICKNESS (mils)	NUMBER OF FASTENERS ATTACHING ProX CLIP TO STEEL JAMB STUD ²	NUMBER OF SCREWS ATTACHING ProX OUTER TO CLIP ^{3,4}	ALLOWABLE VALUES (pounds) ⁵	
				V _{vertical}	V _{horizontal}
3.625	33	6	8	938	682
3.625	43	6	8	1317	730
3.625	54	6	8	1708	784
3.625	68	6	8	1708	784
4.000	33	6	8	996	909
4.000	43	6	8	1375	1093
4.000	54	6	8	1848	1143
4.000	68	6	8	1848	1143
6.000	33	10	8	1057	753
6.000	43	10	8	1428	1036
6.000	54	10	8	1892	1381
6.000	68	10	8	1892	1381
8.000	33	10	8	1057	753
8.000	43	10	8	1428	1036
8.000	54	10	8	1892	1381
8.000	68	10	8	1892	1381

For SI: 1 inch = 25.4 mm, 1 mil = 0.0254mm, 1 lb = 4.45 N.

¹ProX Outer and ProX Insert must have same thickness.

²Jamb member thickness to match or exceed ProX Header thickness, except as described in Section 3.2.3 of this report.

³At clips with 10 screw holes, fill the center two holes as well (6 total). At ProX Header with Insert fill all holes.

⁴Locate screws from dip to jamb in all holes of the clip when supporting ProX Combo (with Insert). Maximum gap between end of header and jamb to be ³/₈ inch. All clips are 54 mils.

⁵Values may not be increased by 33% for load combinations involving wind or seismic loading.

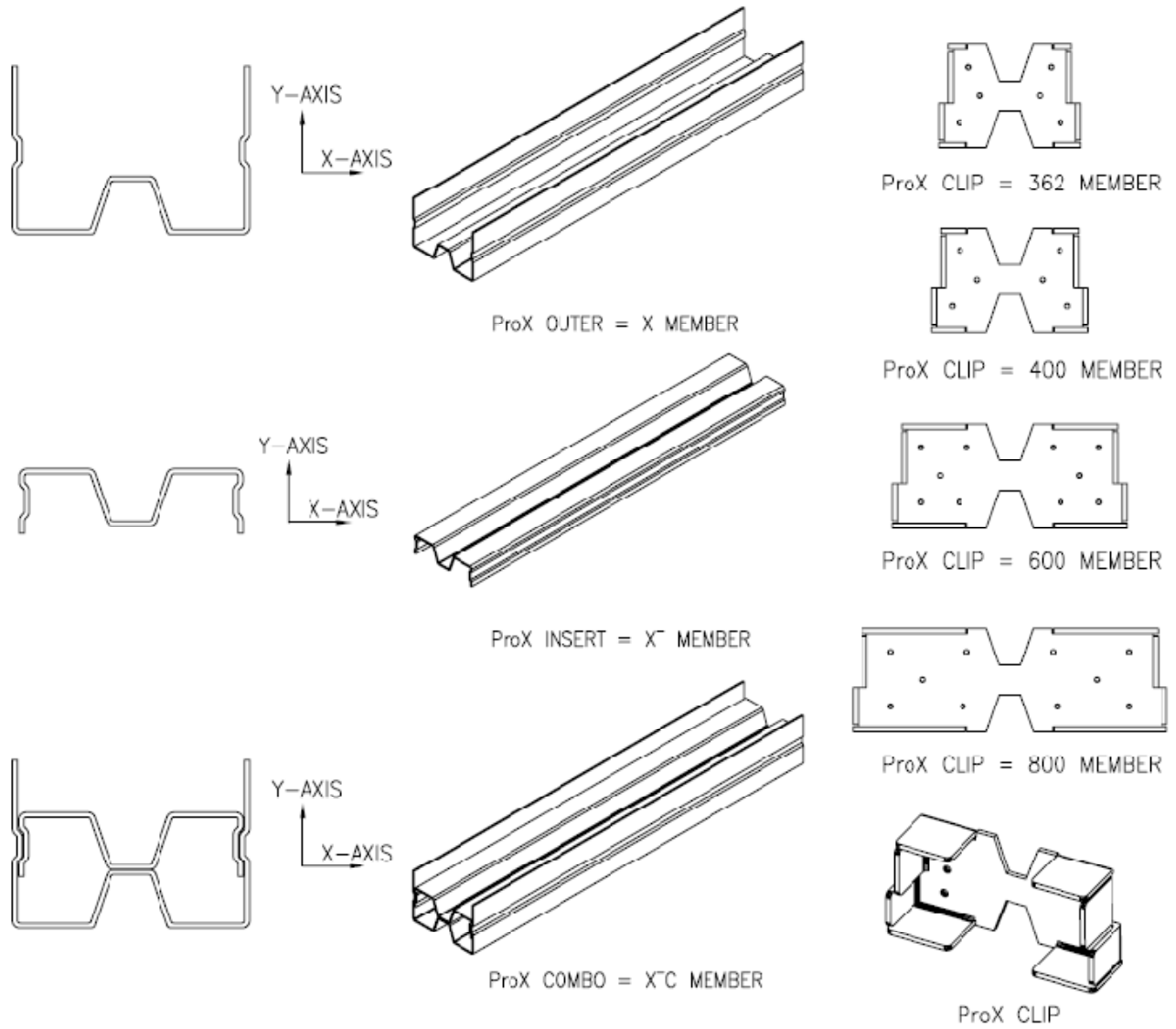


FIGURE 1—ProX HEADER COMPONENTS

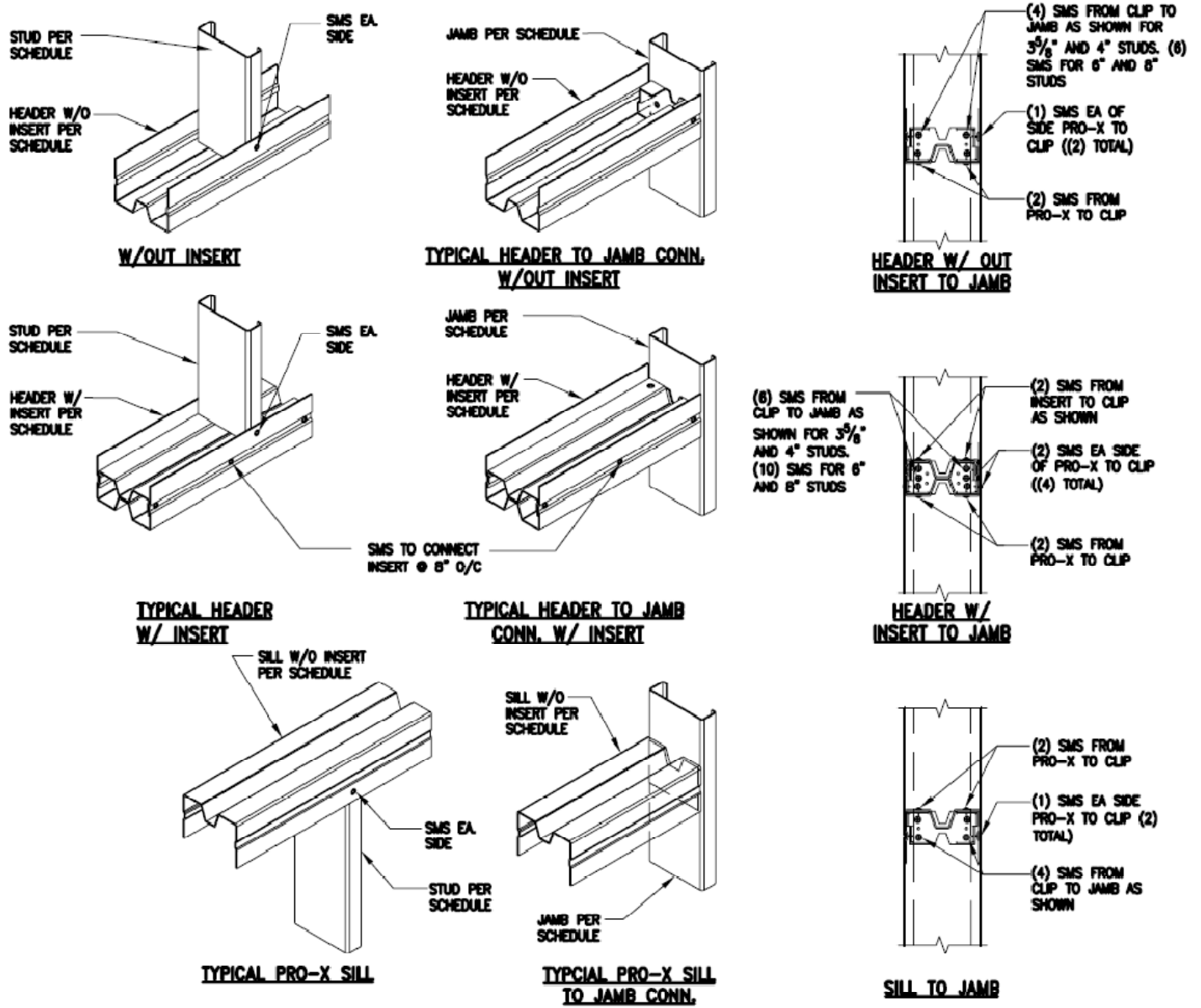
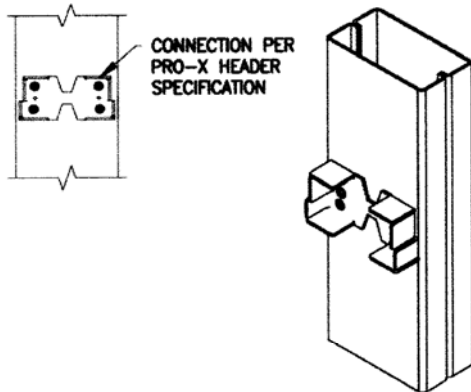


FIGURE 2—INSTALLATION PROCEDURES

INSTALLATION—ProX CLIP

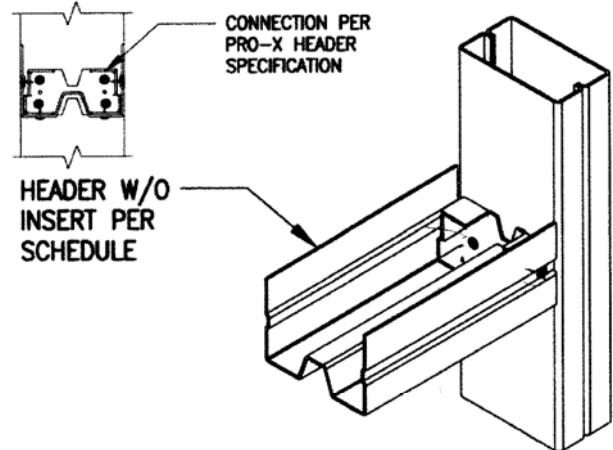
Using a laser level, or other means, mark the height of the rough opening on both sides of the jamb studs and attach the ProX Clip in accordance with the ProX Clip matrix/screw requirement schedule. Screws can be driven from either direction.



The ProX Clips can be installed on the jamb (as shown) or within the ProX Header. When installing within the ProX Header simply slide the header, with the clips attached within, into position and then screw attach the clip from the back side.

INSTALLATION—ATTACH THE ProX HEADER

Snap the ProX Header over the ProX Clip. The header will now hold itself in place. Make final plumbing and leveling adjustments and screw attach the header to the clip.



Screws attach the header to the clip, and may be driven from either direction. Finished Opening Frames (FOF) shall be installed in accordance with the FOF manufacturers installation instructions.

INSTALLATION—INSTALL THE CRIPPLE STUDS

Install the cripple studs per the wall schedule; ensure all screws are placed in accordance with the project documents.

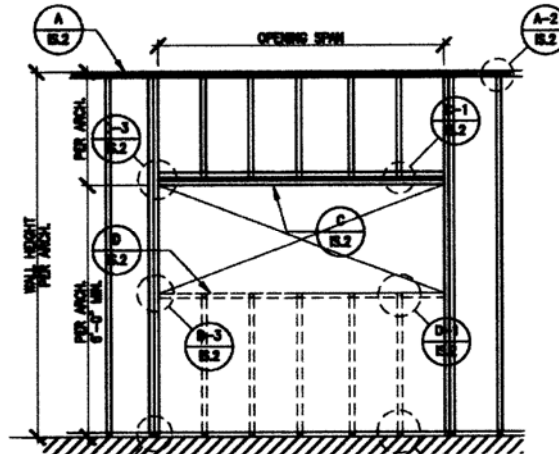


FIGURE 2—INSTALLATION PROCEDURES (Continued)