ICC-ES Evaluation Report

ESR-5046

Reissued November 2024
Revised October 2025
Subject to renewal November 2025

This report also contains:

- City of LA Supplement
- CA Supplement w/DSA and OSHPD

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DIVISION: 07 00 00 — THERMAL AND MOISTURE PROTECTION Section: 07 41 13 — Metal Roof Panels	REPORT HOLDER: TAYLOR METAL, INC. (dba TAYLOR METAL PRODUCTS)	EVALUATION SUBJECT: TMP METAL ROOFING PANELS	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2024, 2021 and 2018 *International Building Code®* (IBC)
- 2024, 2021 and 2018 *International Residential Code®* (IRC)

Properties evaluated:

- Weather resistance
- Fire classification
- Structural
- Wind uplift resistance

1.2 Evaluation of the following green code:

- 2022 California Green Building Standards Code (CALGreen), Title 24, Part 11

Attributes verified:

See Section 3.1.

2.0 USES

The Taylor Metal Products (TMP) metal roofing panels are used as roof coverings over solid or closely fitted decking and over spaced supports.

3.0 DESCRIPTION

3.1 General:

The TMP metal roofing panels include standing seam roofing panels fastened to the supporting roof structure using clips and roofing panels which are directly fastened to the supporting roof structure. The panels comply with IBC Section 1507.4 and IRC Section R905.10. The panels are cold-formed from steel with a zinc or galvalume coating or from aluminum. See Table 1 for the applicable material specifications, including coatings and base metal thicknesses. See Figures 1 through 21 for detailed descriptions for each roofing panel type.

The attributes of the metal roofing panels have been verified as conforming to the provisions of CALGreen Section A5.406.1.2 for reduced maintenance. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.2 Material:

The TMP metal roofing panels are manufactured from steel or aluminum sheet material. The steel material complies with ASTM A792, with an AZ50 coating for painted panels and an AZ55 coating for unpainted panels; or with ASTM A653 with a G90 coating. The aluminum material is 3033-H14 complying with ASTM B209. See Table 1 for the base metal thickness and steel grade for each panel gauge, as applicable.

3.3 Roof Deck Material:

Solid or closely-fitted decking must be a minimum of $^{15}/_{32}$-inch-thick (11.9 mm) plywood or lumber sheathing complying with IBC Section 2304.8.2 or IRC Section R803, or must be minimum No. 22 gauge [0.030 inch thick (0.76 mm)] steel decking complying with 2024 IBC Section 2208 (2021 and 2018 IBC Section 2210.1.1.2).

3.4 Underlayment and Flashing:

Underlayment must be in accordance with IBC Section 1507.4.5 or 2024 IRC Section R905.10.6 (2021 and 2018 IRC Section R905.10.5), as applicable. Where underlayment is specified in Table 2, it must be one of the specific products shown in the table. Flashing must be in accordance with IBC Section 1503.2 or IRC Section R903.2, as applicable.

3.5 Clips:

Standing seam roof panels are installed using metal clips that are fastened to the supports. These clips are manufactured in accordance with the report holder's specifications. The design values in this report are based on use of the specific clip products described in Figures 1 through 11, as applicable.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: For each roofing panel type, tabulated section properties and allowable positive (gravity) and negative (uplift) loads are shown in Figures 1 through 21. See Sections 4.1.1.1 through 4.1.1.3 for general notes.

4.1.1.1 General Notes for Section Properties:

1. For SI: 1 inch = 25.4 mm, 1 in^3 = 1.64x10^4 mm, 1 in^4 = 4.16x10^5 mm^4, 1 ksi = 6.89 MPa.
2. Section properties for steel panels have been determined by calculation in accordance with AISI S100.
3. Section properties for aluminum panels have been determined by calculation in accordance with the ADM.
4. $I_{xx\ (eff)}$ values are used to determine panel deflection.

4.1.1.2 General Notes for Allowable Negative Loads (Uplift):

1. For SI: 1 inch = 25.4 mm, 1 ft = 305 mm, 1 psf = 47.9 Pa.
2. Tabulated values for installation over spaced supports are based on testing in accordance with ASTM E1592, in accordance with IBC Section 1504.4.2 (2018 IBC Section 1504.3.2). Tabulated values are based on panel strength and a deflection limit of L/180.
3. Tabulated values for installation over solid decking are based on testing in accordance with ASTM UL 580 and UL 1897.
4. The allowable loads must not be increased.
5. Panels must be installed with the clip type and clip spacing shown in the applicable figure. The fasteners used to the testing are described in the figures.
6. Tabulated loads do not address the capacity of the clip or panel connection to the structural support, as applicable. This connection strength must be determined by a registered design professional, taking into account the fastener properties and the supporting material properties.
5. For panels installed over solid decking, the decking must comply with Section 3.2.
6. For panels installed over spaced supports (purlins), the purlin width must be a minimum of 2.5 inches (64 mm) or as needed to fully support the applicable panel clip. Purlin spacing must be as shown in the applicable figure. The purlin size, shape, strength and span must be determined in accordance with the code.

4.1.1.3 General Notes for Positive Load Tables:

1. For SI: 1 inch = 25.4 mm, 1 ft = 305 mm, 1 psf = 47.9 Pa.
2. Tabulated loads have been determined by calculation in accordance with AISI S100 or the ADM, as applicable, based on panels having three or more equal spans.
3. A deflection limit of L/60 has been considered.
4. The allowable loads must not be increased.
5. Tabulated values apply to roof panels installed over spaced supports (purlins). Positive load capacity for roof panels installed over solid or closely-fitted decking is limited by the capacity of the decking.
6. The purlin width must be a minimum of 2.5 inches (64 mm) or as needed to fully support the applicable panel clip. Purlin spacing must be as shown in the applicable figure. The purlin size, shape, strength and span must be determined in accordance with the code.
7. Where design values are shown in **bold**, the applicable span condition is capable of supporting the tabulated uniform load and the minimum concentrated live load of 300 lbf (1.33 kN) required by IBC Table 1607.1 for roofs subject to maintenance workers. Other span conditions must not be used for roofs that will need to support maintenance workers.
8. For roof panels where no positive loads are shown, the panels are not suitable for use over open framing.

4.1.2 Impact Resistance: The MS-200 steel roof panels described in this report meet the requirements of IBC Section 1504.7 (2021 IBC Section 1507.4.8) for impact resistance when installed on roofs with a slope less than 2:12 (16.7 percent slope). Impact resistance of the other roofing panels described in this report is outside the scope of this evaluation.

4.1.3 Fire Classification: When installed as specified in Table 2, the metal roof panels are components of roof assemblies classified as Class A or B in accordance with ASTM E108 or UL790.

4.2 Installation:

Installation of the TMP metal roof panels must be in accordance with this report, IBC Section 1507.4, or IRC Section R905.10, as applicable, and the manufacturer's published installation instructions. The manufacturer's installation instructions must be available at the jobsite at all times during installation.

The panels must be installed on roofs with a minimum slope of 2:12 (16.7-percent slope), except for MS-200 steel roof panels which may be installed on roofs with a minimum slope of $^1/_4$: 12 (2 percent slope). Penetrations and terminations of the panels must be flashed and made weathertight in accordance with the manufacturer's published installation instructions and IBC Section 1503.2 or IRC Section R903.2, as applicable.

The minimum number of fasteners needed at each clip (for standing seam roof panels) or the number of fasteners required per panel (for directly fastened roof panels) are shown Figures 1 through 21. Fasteners must have the minimum size indicated.

5.0 CONDITIONS OF USE:

The Taylor Metal Products metal roof panels described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with the applicable code, this report and the manufacturer's published installation instructions. In the event of conflict between this report and the manufacturer's instructions, this report governs.

5.2 The metal panels must be installed only by applicators approved by Taylor Metals, Inc.

5.3 Design wind uplift pressure on any roof area, including edge and corner zones, must not exceed the allowable wind pressure for the system installed in that particular area. Refer to the allowable wind uplift pressure for the metal panels shown in the applicable figure in this report.

5.4 Calculations demonstrating that the required gravity and wind resistances are less than the allowable gravity and wind resistances must be submitted to the code official.

5.5 The allowable wind uplift pressures shown in the figures in this report are for the roof covering only. The deck and framing to which the roof covering is attached must be designed for the applicable components and cladding wind loads in accordance with the IBC or IRC, as applicable.

5.6 Where underlayment is included in assemblies described in Table 2, it has only been evaluated under this report as a component of the qualified roof assembly. Compliance with the building code must be addressed in a separate ICC-ES evaluation report or through other means approved by the code official.

5.7 The metal roof panels are produced under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Metal Roof Coverings (AC166), dated February 2021 (editorially revised June 2024).

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5046) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, the panels are identified with a label bearing the product name and the material type.

7.3 The report holder's contact information is the following:

TAYLOR METAL, INC.
(dba TAYLOR METAL PRODUCTS)
4566 RIDGE DRIVE NE
SALEM, OREGON 97301
(503) 581-8338
www.taylormetal.com

TABLE 1—TAYLOR METAL ROOF PANEL SPECIFICATIONS AND FIGURE INDEX

PANEL	MATERIAL			APPLICABLE FIGURE
	Type	Min. Base Metal Thickness (inch)	Classification	
Standing Seam Profiles				
Clip-Lock 100™ 17" Width	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	1
MS-100 17" width	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	2 - 90° Seam 3 - 180° Seam
	Aluminum	0.040	n/a	
MS-150 12"-16"-18" widths	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	4 - 90° Seam 5 - 180° Seam
	Aluminum	0.032 0.040	n/a	
MS-200 12"-14"-16"-18" widths	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	6 - 90° Seam 7 - 180° Seam 8 - 180° Seam on OverEZee purlins 9 – No Male Leg Down 90° Seam
	Aluminum	0.032 0.040	n/a	
T-Panel™ with Narrow Batten 16" width	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	10
		0.0341 (20 gauge) 0.0451 (18 gauge)	SS Grade 33	
Versa-Span™ 12"-14"-16"-18" widths	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	11
		0.0341 (20 gauge)	SS Grade 33	
	Aluminum	0.032	n/a	

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TABLE 1—TAYLOR METAL ROOF PANEL SPECIFICATIONS AND FIGURE INDEX (cont.)

PANEL	MATERIAL			APPLICABLE FIGURE
	Type	Min. Base Metal Thickness (inch)	Classification	
Directly Fastened Profiles				
BR-36 36” Width	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	12 – Fastened with 5 screws 13 – Fastened with 3 screws
		0.0341 (20 gauge) 0.0451 (18 gauge)	SS Grade 33	
	Aluminum	0.032 0.040 0.500	n/a	
Classic Corrugated 37.33” Width	Steel	0.0180 (26 gauge)	SS Grade 80	14 – Fastened with 7 screws 15 – Fastened with 5 screws
		0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	
	Aluminum	0.032	n/a	
GR-7 36” Width	Steel	0.0180 (26 gauge)	SS Grade 80	16 – Fastened with 6 screws
		0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	
		0.0341 (20 gauge) 0.0451 (18 gauge)	SS Grade 33	
	Aluminum	0.032 0.040 0.050	n/a	
HR-34 34” Width	Steel	0.0180 (26 gauge)	SS Grade 80	17 – Fastened with 5 screws 18 – Fastened with 3 screws
		0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	
		0.0341 (20 gauge)	SS Grade 33	
	Aluminum	0.032 0.040	n/a	
Max Corr 37.25” Width	Steel	0.0180 (26 gauge)	SS Grade 80	19 – Fastened with 7 screws
		0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	
	Aluminum	0.032 0.040	n/a	
PBR 36” Width	Steel	0.0180 (26 gauge)	SS Grade 80	20 – Fastened with 6 screws
		0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	
	Aluminum	0.032	n/a	
TR-7.2 36” Width	Steel	0.0224 (24 gauge) 0.0281 (22 gauge)	SS Grade 50	21 – Fastened with 5 screws
		0.0341 (20 gauge) 0.0451 (18 gauge)	SS Grade 33	
	Aluminum	0.032 0.040	n/a	

For **SI:** 1 inch = 25.4 mm.

TABLE 2—FIRE CLASSIFICATION ASSEMBLIES

ROOF CLASSIFICATION	SUBSTRATE	MAX. ROOF SLOPE	ASSEMBLY DETAILS	
A	Noncombustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Insulation:	Any UL Classified roofing insulation, except for foam plastic insulation, minimum 1-inch-thick
A	Noncombustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Barrier Board:	Min. $^{15}/_{32}$-inch-thick plywood
			Ply Sheet (optional):	Min. one ply ASTM D226 Type I (No. 115) or Type II (No. 30) asphalt saturated felt or UL Certified Type G1 mechanically fastened
A	Combustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Barrier Board:	Georgia Pacific $^{1}/_{4}$ inch minimum DensDeck board or $^{1}/_{4}$ inch minimum United States Gypsum Co SECUROCK Glass-Mat Roof Board (Type SGMRX), National Gypsum DEXcell Glass Mat Roof Board or DEXcell FV Glass Mat Roof Board, CertainTeed Gypsum GlasRoc or $^{1}/_{2}$ inch minimum UL Certified gypsum board with all joints staggered a minimum of 6 inches from the plywood joints
			Ply Sheet (optional):	Min. one ply ASTM D226 Type I (No. 115) or Type II (No. 30) asphalt saturated felt or any UL Certified Type G1, G2 or G3 base or ply sheet mechanically fastened
A	Noncombustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Insulation:	Min. 1-inch-thick Perlite (ASTM C728) or wood fiber (ASTM C208, Type II)
			Ply Sheet (optional):	Min. one ply ASTM D226 Type I (No. 115) or Type II (No. 30) asphalt saturated felt or any UL Certified Type G1, G2 or G3 base or ply sheet mechanically fastened
A	Noncombustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Barrier Board:	Georgia Pacific $^{1}/_{4}$ inch minimum DensDeck board or $^{1}/_{4}$ inch minimum United States Gypsum Co SECUROCK Glass-Mat Roof Board (Type SGMRX), National Gypsum DEXcell Glass Mat Roof Board or DEXcell FV Glass Mat Roof Board, CertainTeed Gypsum GlasRoc or $^{1}/_{2}$ inch minimum UL Certified gypsum board with all joints staggered a minimum of 6 inches from the plywood joints
			Ply Sheet (optional):	Min. one ply ASTM D226 Type I (No. 115) or Type II (No. 30) asphalt saturated felt or any UL Certified Type G1, G2 or G3 base or ply sheet mechanically fastened
A	Combustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Underlayment:	One layer Versashield Fire-resistant Roof Deck Protection mechanically fastened per ESR-2053 -or- One layer Polystick XFR self-adhered installed per ESR-1697 -or- One layer of Owens Corning Titanium FR self-adhered
			Ply Sheet (optional):	Min. one ply ASTM D226 Type I (No. 15) or Type II (No. 30) asphalt saturated felt or any UL Certified Type G1, G2 or G3 base or ply sheet mechanically fastened

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TABLE 2—FIRE CLASSIFICATION ASSEMBLIES (cont.)

ROOF CLASSIFICATION	SUBSTRATE	MAX. ROOF SLOPE	ASSEMBLY DETAILS	
A (reroofing)	Combustible	Unlimited	Panels:	Clip-Lock 100, MS-100, MS-150, MS-200, T-Panel with Narrow Batten, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR steel roof panels
			Existing Roof System:	Any Class A UL listed asphalt shingle
			Slip sheet:	One layer Versashield Fire-resistant Roof Deck Protection mechanically fastened per ESR-2053 -or- One layer Polystick XFR self-adhered installed per ESR-1697 -or- One layer of Owens Corning Titanium FR self-adhered
A	Noncombustible	Unlimited	Panels:	MS-100, MS-150, MS-200, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR aluminum roof panels
A	Combustible	Unlimited	Panels:	MS-100, MS-150, MS-200, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR aluminum roof panels
			Underlayment:	Two layers Versashield Fire-resistant Roof Deck Protection mechanically fastened per ESR-2053 -or- One layer Polystick XFR self-adhered installed per ESR-1697 -or- Two layers of Owens Corning Titanium FR self-adhered
B	Combustible	Unlimited	Panels:	MS-100, MS-150, MS-200, Versa-Span, BR-36, Classic Corrugated, GR-7, HR-34 and PBR aluminum roof panels
			Underlayment:	One layer Versashield Fire-resistant Roof Deck Protection mechanically fastened per ESR-2053

For SI: 1 inch = 25.4 mm.

[1]Wood deck must be minimum $^{15}/_{32}$-inch-thick plywood or non-veneer APA-rated $^{7}/_{16}$-inch-thick oriented-strand board (OSB) or spaced sheathing. Steel deck must be a minimum of No. 22 gauge galvanized steel.
[2]GAF's VersaShield® Fire-Resistant Roof Deck Protection is evaluated under ICC-ES evaluation report ESR-2053 and must be installed in accordance with that report.
[3]Polyglass USA Polystick XFR self-adhered underlayment is evaluated under ICC-ES evaluation report ESR-1697 and must be installed in accordance with that report.

Clip-Lock 100 Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

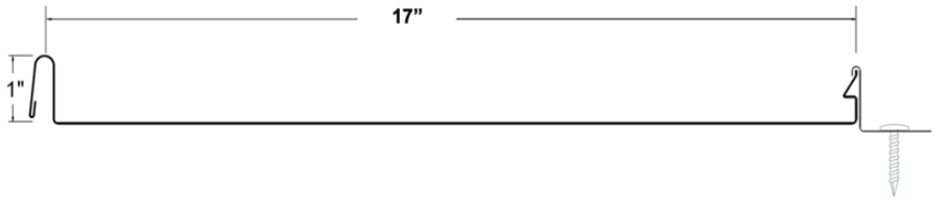
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
17	24	50	1.13	0.0117	0.0105	0.0126	0.0074	0.0086	0.0106	31.2	28.6	26.0	23.4	20.8	18.2	15.6
17	22	50	1.50	0.0155	0.0139	0.0171	0.0099	0.0115	0.0141	31.2	28.6	26.0	23.4	20.8	18.2	15.6
Clip-Lock Clip, Min. 22 Gage Type 304 Stainless Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch																

NEGATIVE LOAD - INSTALLATION OVER SOLID SUPPORT

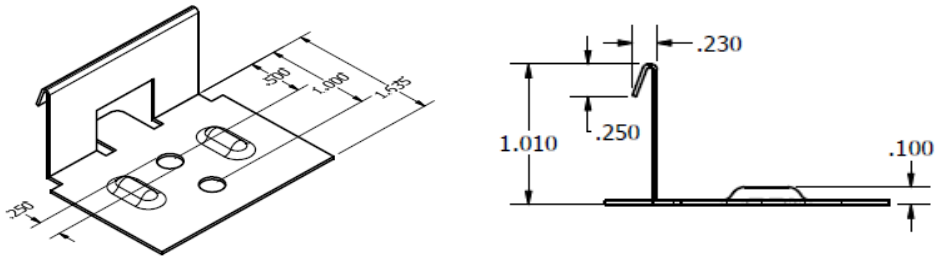
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf					
				Top in Compression			Bottom in Compression			Negative Load					
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	8"	1'	1.5'	2'	2.5'	3'
17	24	50	1.13	0.0117	0.0105	0.0126	0.0074	0.0086	0.0106	52.5	48.2	41.8	35.4	29.0	22.7
17	22	50	1.50	0.0155	0.0139	0.0171	0.0099	0.0115	0.0141	52.5	48.2	41.8	35.4	29.0	22.7
Clip-Lock Clip, Min. 22 Gage Type 304 Stainless Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch															

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf			
				Top in Compression			Bottom in Compression			Positive Load			
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	3'	4'
17	24	50	1.13	0.0117	0.0105	0.0126	0.0074	0.0104	0.0106	**265.0**	**66.3**	29.4	
17	22	50	1.50	0.0155	0.0139	0.0171	0.0099	0.0748	0.0141	**352.0**	**88.1**	39.2	22.0



Roofing Panel Profile and Typical Installation



Clip-Lock Clip

FIGURE 1—CLIP-LOCK 100 PANELS

MS-100 90° Seam Panel Profile and Fastening Schedules

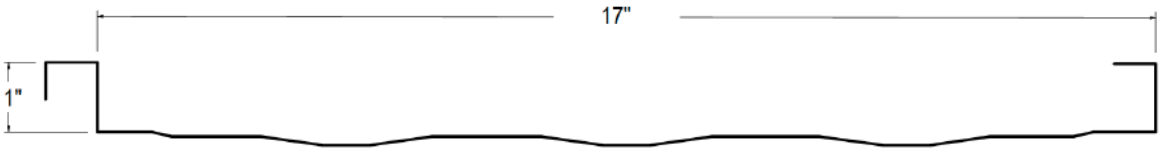
NEGATIVE LOAD - INSTALLATION OVER SOLID SUPPORT

Minimum support width of 2.5 inches

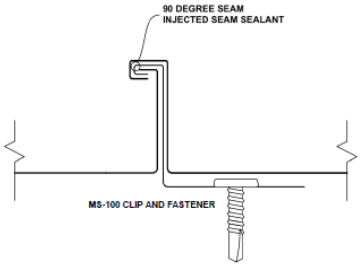
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf					
				Top in Compression			Bottom in Compression			Negative Load					
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	8"	1'	1.5'	2'	2.5'	3'
17	24	50	1.15	0.0219	0.0187	0.0246	0.0111	0.0142	0.0215	63.5	57.7	48.9	40.2	31.4	22.6
17	22	50	1.35	0.0261	0.0226	0.0296	0.0141	0.0176	0.0258	63.5	57.7	48.9	40.2	31.4	22.6
MS100 Fixed Clip, Min. 24 Gage Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch															

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

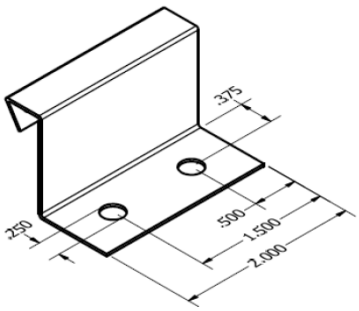
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf				
				Top in Compression			Bottom in Compression			Positive Load				
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	3'	4'	5'
17	24	50	1.15	0.0219	0.0187	0.0246	0.0111	0.0142	0.0215	**358.2**	**134.4**	**59.7**	33.6	21.5
17	22	50	1.35	0.0261	0.0226	0.0296	0.0141	0.0176	0.0258	**330.9**	**161.3**	**71.7**	40.3	25.8
17	0.040"	19	0.435	0.0366	0.0366	0.0417	0.0366	0.0366	0.0319	27.0				

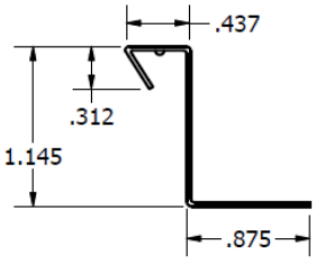


Roofing Panel Profile



90° Seam





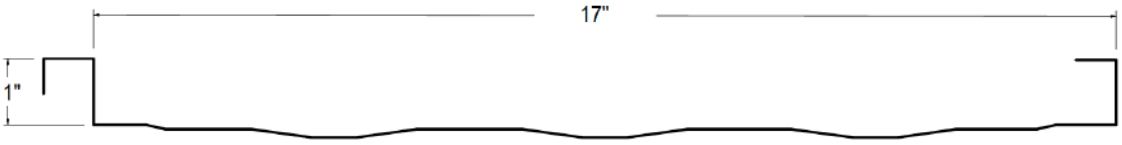
MS100 Fixed Clip

FIGURE 2—MS-100 PANELS - 90° PANEL SEAM

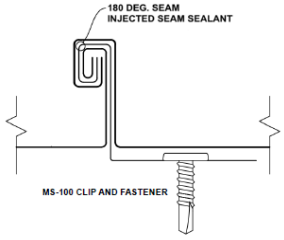
MS-100 180° Seam Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS																
Minimum support width of 2.5 inches																
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
17	24	50	1.15	0.0219	0.0187	0.0246	0.0111	0.0142	0.0215	130.0	114.4	98.8	83.2	67.6	52.0	36.4
17	22	50	1.35	0.0261	0.0226	0.0296	0.0141	0.0176	0.0258	130.0	114.4	98.8	83.2	67.6	52.0	36.4
MS100 Fixed Clip, Min. 24 Gage Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch																

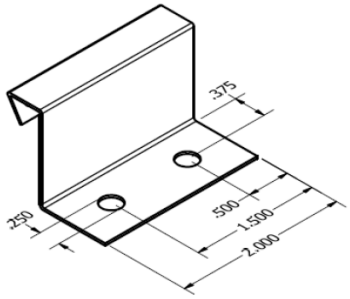
POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS														
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf				
				Top in Compression			Bottom in Compression			Positive Load				
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	3'	4'	5'
17	24	50	1.15	0.0219	0.0187	0.0246	0.0111	0.0142	0.0215	**358.2**	**134.4**	**59.7**	33.6	21.5
17	22	50	1.35	0.0261	0.0226	0.0296	0.0141	0.0176	0.0258	**330.9**	**161.3**	**71.7**	40.3	25.8
17	0.040"	19	0.435	0.0366	0.0366	0.0417	0.0366	0.0366	0.0319	27.0				

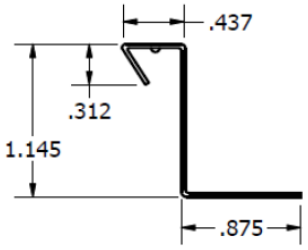


Roofing Panel Profile



180° Seam





MS100 Fixed Clip

FIGURE 3—MS-100 PANELS - 180° PANEL SEAM

MS-150 90° Seam Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

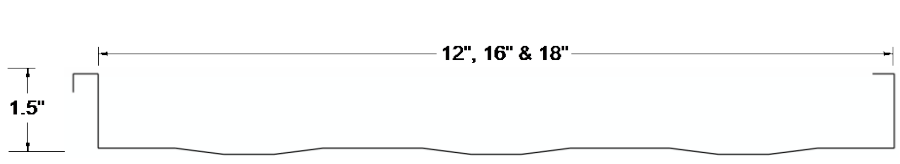
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
16	24	50	1.22	0.2350	0.2100	0.1350	0.1478	0.1731	0.1488	13.0	12.1	11.3	10.4			
16	22	50	1.46	0.2868	0.2560	0.1623	0.1821	0.2125	0.1824	57.3	50.4	43.4	36.5	29.5	22.6	15.6
16	0.032"	19	0.56	0.2070	0.2070	0.1220	0.2070	0.2070	0.5696	36.4	32.5	28.6	24.7	20.8	16.9	13.0
MS150 Fixed Clip - 22 Gage Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch																

NEGATIVE LOAD - INSTALLATION OVER SOLID SUPPORT

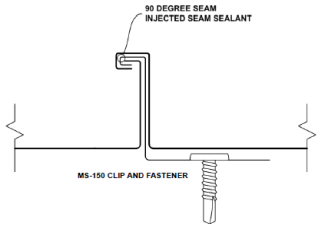
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf					
				Top in Compression			Bottom in Compression			Negative Load					
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	8"	1'	1.5'	2'	2.5'	3'
12	24	50	1.28	0.0795	0.9199	0.0629	0.0406	0.0519	0.0552	78.5	74.8	69.2	63.7	58.1	52.5
12	22	50	1.54	0.0955	1.1083	0.0759	0.0513	0.0641	0.0736	78.5	74.8	69.2	63.7	58.1	52.5
16	24	50	1.20	0.0623	0.8609	0.0476	0.0306	0.0398	0.0416	71.0	66.9	60.6	54.3	48.0	41.7
16	22	50	1.45	0.0752	1.0399	0.0578	0.0383	0.0490	0.0556	71.0	66.9	60.6	54.3	48.0	41.7
MS150 Floating Clip - Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch															

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

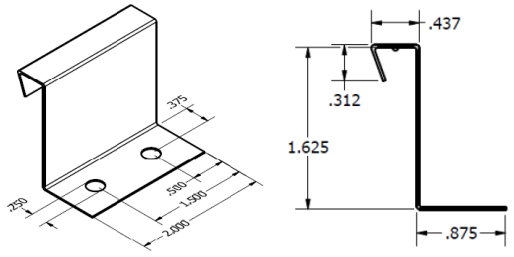
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
12	24	50	1.24	0.1239	0.1100	0.1017	0.0772	0.0907	0.1068	**279.6**	**223.6**	**186.4**	**159.7**	**139.8**	**124.2**	**106.8**	**88.3**	**74.2**	41.7
12	22	50	1.58	0.1497	0.1330	0.1233	0.0953	0.1110	0.1104	**404.6**	**323.6**	**269.7**	**225.3**	**172.5**	**136.3**	**110.4**	**91.2**	**76.7**	43.1
12	0.032"	19	0.700	0.1720	0.1720	0.1419	0.1720	0.1720	0.4826	39.3	25.2								
12	0.040"	19	0.855	0.2110	0.2110	0.1739	0.4110	0.2110	0.5924	**60.5**	38.7	26.9							
16	24	50	1.18	0.0990	0..0871	0.0777	0.0579	0.0698	0.0805	**209.6**	**167.6**	**139.7**	**119.7**	**104.8**	**93.1**	**77.7**	**64.2**	**54.0**	30.4
16	22	50	1.52	0.1200	0.1060	0.0941	0.0720	0.0860	0.0830	**303.2**	**242.6**	**202.1**	**173.3**	**147.0**	**116.2**	**94.1**	**77.8**	**65.4**	36.8
16	0.032"	19	0.640	0.1370	0.1370	0.1084	0.1370	0.1370	0.4732	22.4									
16	0.040"	19	0.780	0.1690	0.1690	0.1330	0.1690	0.1690	0.5800	34.6	22.2								
18	24	50	1.12	0.0900	0.0788	0.0692	0.0513	0.0625	0.0715	**125.5**	**100.4**	**83.6**	**71.7**	**62.7**	**55.8**	**50.2**	45.6	41.8	27.0
18	22	50	1.46	0.1090	0.0960	0.0839	0.0640	0.0771	0.0737	**269.6**	**215.6**	**179.7**	**154.0**	**131.1**	**103.6**	**83.9**	**69.3**	**58.3**	32.8
18	0.032"	19	0.620	0.1250	0.1250	0.0967	0.1250	0.1250	0.4680										
18	0.040"	19	0.760	0.1540	0.1540	0.1180	0.1540	0.1540	0.5720	27.3									



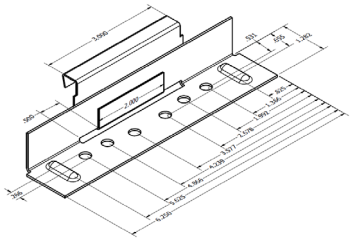
Roofing Panel Profile



90° Seam



MS150 Fixed Clip



MS150 Floating Clip

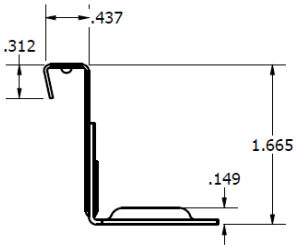


FIGURE 4—MS-150 PANELS - 90° PANEL SEAM

MS-150 180° Seam Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

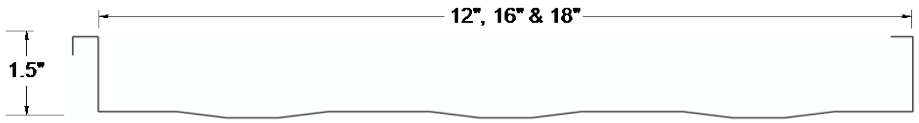
Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
12	22	50	1.58	0.1233	0.1100	0.0994	0.0779	0.0911	0.0816	182.2	161.8	141.4	121.1	100.7	80.3	59.9
12	24	50	1.24	0.0973	0.0864	0.0781	0.0596	0.0705	0.0643	137.9	124.0	110.2	96.3	82.4	68.6	54.7
12	.032"	19	0.62	0.134	0.134	0.1077	0.134	0.134	0.4107	111.9	100.1	88.4	76.7	65.0	53.3	41.6
16	24	50	1.36	0.0782	0.0686	0.0598	0.0451	0.0547	0.0484	119.7	107.1	94.5	81.9	69.4	56.8	44.2
16	22	50	1.71	0.0992	0.0874	0.0767	0.0586	0.0704	0.0965	145.7	128.8	111.9	95.0	78.0	61.1	44.2
18	24	50	1.28	0.0707	0.0618	0.0534	0.0400	0.0489	0.0429	109.3	97.1	85.0	72.8	60.7	48.5	36.4
18	22	50	1.61	0.0910	0.0797	0.0686	0.0520	0.0633	0.0570	124.9	111.5	98.0	84.6	71.1	57.7	44.2
18	0.032"	19	0.62	0.2070	0.2070	0.1220	0.2070	0.2070	0.5696	83.3	73.7	64.2	54.6	45.1	35.5	26.0

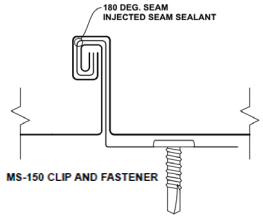
MS150 Fixed Clip - Min. 22 Gage Galvanized Steel
Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

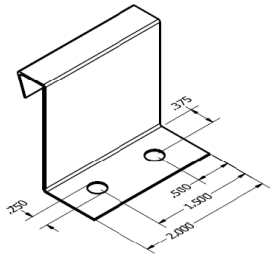
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
12	24	50	1.24	0.1239	0.1100	0.1017	0.0772	0.0907	0.1068	**279.6**	**223.6**	**186.4**	**159.7**	**139.8**	**124.2**	**106.8**	**88.3**	**74.2**	41.7
12	22	50	1.58	0.1497	0.1330	0.1233	0.0953	0.1110	0.1104	**404.6**	**323.6**	**269.7**	**225.3**	**172.5**	**136.3**	**110.4**	**91.2**	**76.7**	43.1
12	0.032"	19	0.700	0.1720	0.1720	0.1419	0.1720	0.1720	0.4826	39.3	25.2								
12	0.040"	19	0.855	0.2110	0.2110	0.1739	0.4110	0.2110	0.5924	**60.5**	38.7	26.9							
16	24	50	1.18	0.0990	0..0871	0.0777	0.0579	0.0698	0.0805	**209.6**	**167.6**	**139.7**	**119.7**	**104.8**	**93.1**	**77.7**	**64.2**	**54.0**	30.4
16	22	50	1.52	0.1200	0.1060	0.0941	0.0720	0.0860	0.0830	**303.2**	**242.6**	**202.1**	**173.3**	**147.0**	**116.2**	**94.1**	**77.8**	**65.4**	36.8
16	0.032"	19	0.640	0.1370	0.1370	0.1084	0.1370	0.1370	0.4732	22.4									
16	0.040"	19	0.780	0.1690	0.1690	0.1330	0.1690	0.1690	0.5800	34.6	22.2								
18	24	50	1.12	0.0900	0.0788	0.0692	0.0513	0.0625	0.0715	**125.5**	**100.4**	**83.6**	**71.7**	**62.7**	**55.8**	**50.2**	45.6	41.8	27.0
18	22	50	1.46	0.1090	0.0960	0.0839	0.0640	0.0771	0.0737	**269.6**	**215.6**	**179.7**	**154.0**	**131.1**	**103.6**	**83.9**	**69.3**	**58.3**	32.8
18	0.032"	19	0.620	0.1250	0.1250	0.0967	0.1250	0.1250	0.4680										
18	0.040"	19	0.760	0.1540	0.1540	0.1180	0.1540	0.1540	0.5720	27.3									

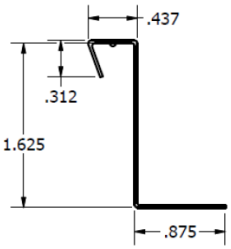


Roofing Panel Profile



180° Seam





MS150 Fixed Clip

FIGURE 5—MS-150 PANELS - 180° PANEL SEAM

MS-200 90° Seam Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

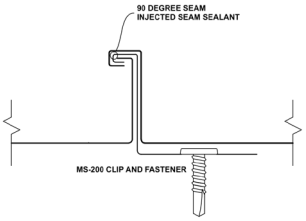
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
18	24	50	1.33	0.2350	0.2100	0.1350	0.1478	0.1731	0.1488	59.9	53.4	46.9	40.4	33.8	27.3	20.8
18	22	50	1.67	0.2868	0.2560	0.1623	0.1821	0.2125	0.1824	98.9	88.1	77.2	66.4	55.5	44.7	33.8
18	0.032"	19	0.62	0.2070	0.2070	0.1220	0.2070	0.2070	0.5696	36.4	32.5	28.6	24.7	20.8	16.9	13.0
18	0.040"	19	0.76	0.2560	0.2560	0.1510	0.2560	0.2560	0.7010	46.9	42.6	38.2	33.4	29.5	25.2	20.8

MS200 Fixed Clip - Min. 22 Gage Galvanized Steel
Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch

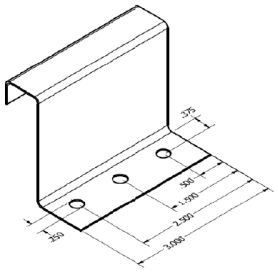
POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

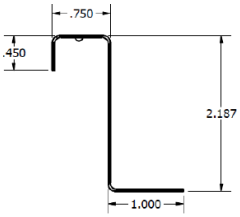
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
12	24	50	1.47	0.2350	0.2100	0.1350	0.1478	0.1731	0.1488	**276.4**	**221.1**	**184.2**	**157.9**	**138.2**	**122.8**	**110.6**	**100.5**	**92.1**	**52.7**
12	22	50	1.875	0.2868	0.2560	0.1623	0.1821	0.2125	0.1824	**400.3**	**320.4**	**267.0**	**228.8**	**200.2**	**178.0**	**160.2**	**134.1**	**112.7**	**63.4**
12	0.032"	19	0.83	0.3290	0.3290	0.2102	0.3290	0.3290	0.6599	**50.5**	37.3	25.9							
12	0.040"	19	1.01	0.4050	0.4050	0.2582	0.4050	0.4050	0.8133	**74.1**	**57.5**	39.9	29.3	22.5					
16	24	50	1.36	0.1850	0.1640	0.1020	0.1110	0.1325	0.1100	**207.3**	**165.8**	**138.2**	**118.4**	**103.6**	**92.1**	**82.9**	**75.4**	**69.1**	39.8
16	22	50	1.71	0.2320	0.2050	0.1220	0.1380	0.1653	0.1394	**300.5**	**240.4**	**200.3**	**171.7**	**150.2**	**133.5**	**120.2**	**100.8**	**84.7**	47.7
16	0.032"	19	0.76	0.2660	0.2660	0.1610	0.2660	0.2660	0.6450	33.2	21.3								
16	0.040"	19	0.92	0.3270	0.3270	0.1980	0.3270	0.3270	0.7940	**51.6**	33.0	22.9							
18	24	50	1.28	0.1670	0.1470	0.0900	0.0990	0.1187	0.0970	**184.1**	**147.3**	**122.7**	**105.2**	**92.1**	**81.8**	**73.6**	**66.9**	**61.4**	35.2
18	22	50	1.61	0.2090	0.1840	0.1080	0.1220	0.1472	0.1236	**266.8**	**213.5**	**177.9**	**152.5**	**133.4**	**118.6**	**106.7**	**89.3**	**75.0**	42.2
18	0.032"	19	0.74	0.2420	0.2420	0.1430	0.2420	0.2420	0.6370	26.2									
18	0.040"	19	0.90	0.2970	0.2970	0.1764	0.2970	0.2970	0.7840	40.8	26.1								

Roofing Panel Profile



90° Seam





MS200 Fixed Clip

FIGURE 6—MS-200 PANELS - 90° PANEL SEAM

MS-200 180° Seam Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

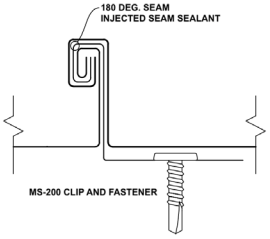
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Negative Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'	4.5'	5'
16	24	50	1.36	0.1549	0.1370	0.0789	0.0925	0.1106	0.0908	161.3	147.6	134.0	120.3	106.7	93.0	79.4	67.7	52.1
16	22	50	1.71	0.2040	0.1800	0.1010	0.1210	0.1451	0.1213	163.9	150.9	137.9	124.9	111.9	98.9	85.9	72.9	59.9
18	24	50	1.28	0.1400	0.1230	0.0708	0.0820	0.0988	0.0809	109.3	101.1	93.0	84.9	76.7	68.6	60.5	52.3	44.2
18	22	50	1.61	0.1850	0.1620	0.0880	0.1070	0.1296	0.1079	156.1	143.4	130.7	118.0	105.4	92.7	80.0	67.3	54.7
18	0.032"	19	0.62	0.2070	0.2070	0.1220	0.2070	0.2070	0.5696	83.3	77.4	71.5	65.7	59.8	54.0	48.1	42.3	36.4

Two-part 2" Float Clip - Galvanized Steel
Two 1/4-14 Hex Washer Head Fasteners per Clip, Minimum nominal head diameter of 5/16 inch

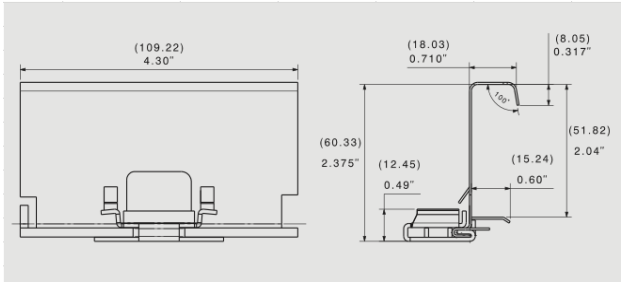
POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
12	24	50	1.47	0.2350	0.2100	0.1350	0.1478	0.1731	0.1488	**276.4**	**221.1**	**184.2**	**157.9**	**138.2**	**122.8**	**110.6**	**100.5**	**92.1**	**52.7**
12	22	50	1.875	0.2868	0.2560	0.1623	0.1821	0.2125	0.1824	**400.3**	**320.4**	**267.0**	**228.8**	**200.2**	**178.0**	**160.2**	**134.1**	**112.7**	**63.4**
12	0.032"	19	0.83	0.3290	0.3290	0.2102	0.3290	0.3290	0.6599	**50.5**	37.3	25.9							
12	0.040"	19	1.01	0.4050	0.4050	0.2582	0.4050	0.4050	0.8133	**74.1**	**57.5**	39.9	29.3	22.5					
16	24	50	1.36	0.1850	0.1640	0.1020	0.1110	0.1325	0.1100	**207.3**	**165.8**	**138.2**	**118.4**	**103.6**	**92.1**	**82.9**	**75.4**	**69.1**	39.8
16	22	50	1.71	0.2320	0.2050	0.1220	0.1380	0.1653	0.1394	**300.5**	**240.4**	**200.3**	**171.7**	**150.2**	**133.5**	**120.2**	**100.8**	**84.7**	47.7
16	0.032"	19	0.76	0.2660	0.2660	0.1610	0.2660	0.2660	0.6450	33.2	21.3								
16	0.040"	19	0.92	0.3270	0.3270	0.1980	0.3270	0.3270	0.7940	**51.6**	33.0	22.9							
18	24	50	1.28	0.1670	0.1470	0.0900	0.0990	0.1187	0.0970	**184.1**	**147.3**	**122.7**	**105.2**	**92.1**	**81.8**	**73.6**	**66.9**	**61.4**	35.2
18	22	50	1.61	0.2090	0.1840	0.1080	0.1220	0.1472	0.1236	**266.8**	**213.5**	**177.9**	**152.5**	**133.4**	**118.6**	**106.7**	**89.3**	**75.0**	42.2
18	0.032"	19	0.74	0.2420	0.2420	0.1430	0.2420	0.2420	0.6370	26.2									
18	0.040"	19	0.90	0.2970	0.2970	0.1764	0.2970	0.2970	0.7840	40.8	26.1								

Roofing Panel Profile



180° Seam



Two-part 2" Float Clip

FIGURE 7—MS-200 PANELS - 180° PANEL SEAM

MS-200 180° Seam on OverEZee purlins Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS (OVEREZEE PURLINS)

Minimum support width of 2.5 inches

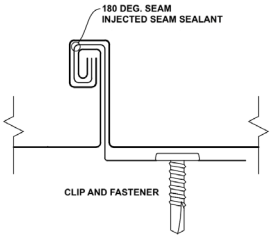
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Negative Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'	4.5'	5'
16	24	50	1.36	0.1570	0.1330	0.0942	0.0752	0.0989	0.0626	140.5	127.8	115.1	102.4	89.8	77.1	64.4	51.7	39.0
16	22	50	1.61	0.2050	0.1730	0.1260	0.0932	0.1250	0.0851	140.5	127.8	115.1	102.4	89.8	77.1	64.4	51.7	39.0

2" Float Engineered Panel Clip - Galvanized Steel with Sealant
Two #12 Hex Washer Head Fasteners per Clip

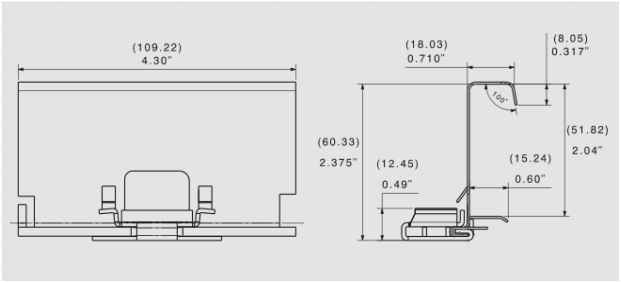
POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
16	24	50	1.36	0.1570	0.1330	0.0942	0.0752	0.0989	0.0626	**348.2**	**174.1**	**116.1**	**87.1**	**62.6**	43.5	31.9	24.5		
16	22	50	1.61	0.2050	0.1730	0.1260	0.0932	0.1250	0.0851	**468.2**	**234.1**	**156.1**	**117.1**	**85.1**	**59.1**	43.4	33.2	26.3	21.3
16	0.032"	19	0.636	0.2460	0.2460	0.1520	0.2460	0.2460	0.6350	**54.6**	20.9								
16	0.040"	19	0.795	0.3010	0.3010	0.1860	0.3010	0.3010	0.7800	**82.7**	32.0								

Roofing Panel Profile



180° Seam



Two-part 2" Float Clip

FIGURE 8—MS-200 PANELS - 180° PANEL SEAM ON OVEREZEE PURLINS

MS-200 No Male Leg Down 90° Seam Panel Profile and Fastening Schedules

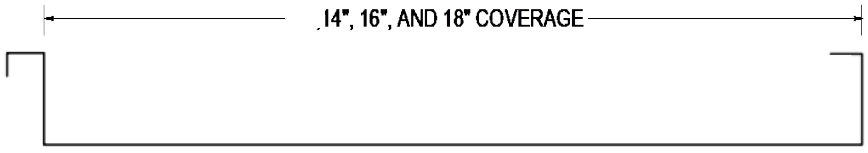
NEGATIVE LOAD - INSTALLATION OVER SOLID SUPPORT

Minimum support width of 2.5 inches

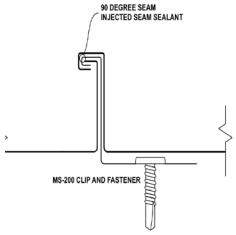
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf					
				Top in Compression			Bottom in Compression			Negative Load					
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	I_{xx} (eff) in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	I_{xx} (eff) in^4/ft.	S_{xx} in^3/ft	8"	1'	1.5'	2'	2.5'	3'
14	24	50	1.40	0.2100	0.1832	0.0992	0.1175	0.1443	0.0939	101.0	96.7	90.3	83.9	77.4	71.0
14	22	50	1.69	0.2709	0.2350	0.1296	0.1470	0.1829	0.1135	101.0	96.7	90.3	83.9	77.4	71.0
16	24	50	1.34	0.1872	0.1630	0.0866	0.1038	0.1280	0.0826	93.5	89.2	82.8	76.4	59.7	63.5
16	22	50	1.62	0.2428	0.2099	0.1140	0.1293	0.1622	0.1000	93.5	89.2	82.8	76.4	59.7	63.5
18	24	50	1.30	0.1673	0.1455	0.0763	0.0920	0.1138	0.0827	86.0	81.3	74.1	66.9	59.7	52.5
18	22	50	1.57	0.2180	0.1880	0.1017	0.1147	0.1447	0.0887	86.0	81.3	74.1	66.9	59.7	52.5
MS200 Floating Clip - Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch															

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

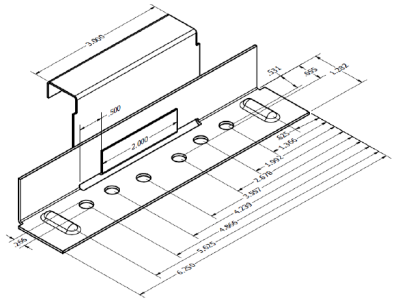
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Positive Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	I_{xx} (eff) in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	I_{xx} (eff) in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'
14	24	50	1.40	0.2100	0.1832	0.0992	0.1175	0.1443	0.0939	**174.1**	**139.3**	**116.1**	**99.5**	**87.1**	**77.4**	**69.6**	**63.3**	**58.0**
14	22	50	1.69	0.2709	0.2350	0.1296	0.1470	0.1829	0.1135	**234.1**	**187.3**	**156.1**	**133.8**	**117.1**	**104.0**	**93.6**	**85.1**	**78.0**
14	0.032"	19	0.66	0.2470	0.2470	0.1535	0.2470	0.2470	0.6313	24.1								
14	0.040"	19	0.83	0.3034	0.3034	0.1885	0.3034	0.3034	0.7753	37.0	23.7							
16	24	50	1.34	0.1872	0.1630	0.0866	0.1038	0.1280	0.0826	**174.1**	**139.3**	**116.1**	**99.5**	**87.1**	**77.4**	**69.6**	**63.3**	**57.4**
16	22	50	1.62	0.2428	0.2099	0.1140	0.1293	0.1622	0.1000	**234.1**	**187.3**	**156.1**	**133.8**	**117.1**	**104.0**	**93.6**	**82.6**	**69.4**
16	0.032"	19	0.64	0.2233	0.2233	0.1359	0.2233	0.2233	0.6264	22.2								
16	0.040"	19	0.80	0.2744	0.2744	0.1669	0.2744	0.2744	0.7686	28.7	20.0							
18	24	50	1.30	0.1673	0.1455	0.0763	0.0920	0.1138	0.0827	**174.1**	**139.3**	**116.1**	**99.5**	**87.1**	**77.4**	**69.6**	**63.3**	**57.4**
18	22	50	1.57	0.2180	0.1880	0.1017	0.1147	0.1447	0.0887	**234.1**	**187.3**	**156.1**	**133.8**	**117.1**	**104.0**	**88.7**	**73.3**	**61.6**
18	0.040"	19	0.77	0.2487	0.2487	0.1488	0.2487	0.2487	0.7575	22.7								

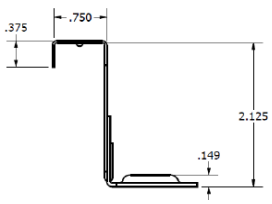


Roofing Panel Profile



90° Seam



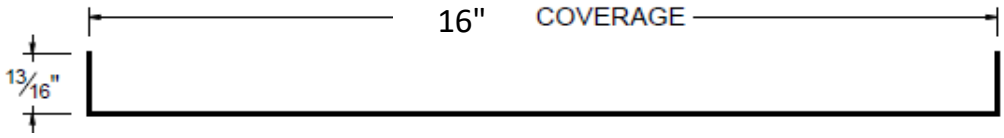


MS200 Floating Clip

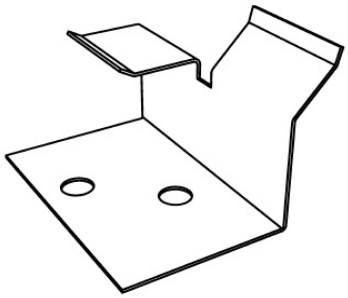
FIGURE 9—MS-200 PANELS - NO MALE LEG DOWN - 90° PANEL SEAM

T-Panel™ with Narrow Batten Profile and Fastening Schedules

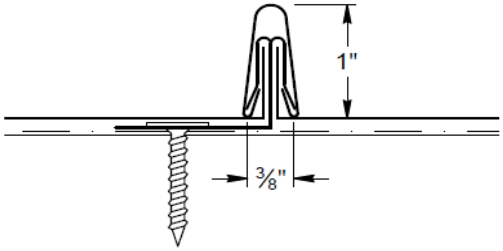
NEGATIVE LOAD - INSTALLATION OVER SOLID SUPPORT									
PANEL MODEL				ALLOWABLE UNIFORM LOADS, psf					
Width, in.	Gauge	Yield ksi	Weight psf	Negative Load					
				8"	1'	1.5'	2'	2.5'	3'
16	24	50	1.19	86.0	77.0	63.4	49.8	36.2	22.6
16	22	50	1.61	86.0	77.0	63.4	49.8	36.2	22.6
16	20	33	2.02	86.0	77.0	63.4	49.8	36.2	22.6
16	18	33	2.43	86.0	77.0	63.4	49.8	36.2	22.6
T-Panel Narrow Batten Clip - Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch									



Roofing Panel Profile



T-Panel Narrow Batten Clip



Typical Installation

FIGURE 10—T-PANEL WITH NARROW BATTEN

Versa-Span™ Panel Profile and Fastening Schedules

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

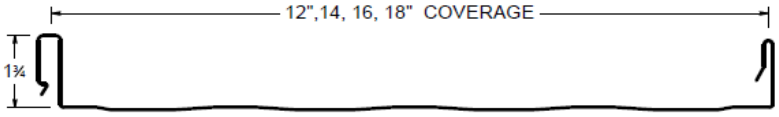
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
16	24	50	1.36	0.1549	0.1370	0.0789	0.0925	0.1106	0.0908	83.2	73.6	64.1	54.6	45.0	35.5	26.0
16	22	50	1.71	0.2040	0.1800	0.1010	0.1210	0.1451	0.1213	93.6	87.1	78.0	68.9	59.8	50.7	41.6
18	24	50	1.28	0.1400	0.1230	0.0708	0.0820	0.0988	0.0809	67.6	59.8	52.0	44.2	36.4	28.6	20.8
18	22	50	1.61	0.1850	0.1620	0.0880	0.1070	0.1296	0.1079	90.1	79.8	69.6	59.3	49.1	38.8	28.6
16	0.032"	19	0.64	0.1420	0.1420	0.0961	0.1420	0.1420	0.4760	46.8	42.4	38.1	33.8	29.4	25.1	20.8
18	0.032"	19	0.62	0.2070	0.2070	0.1220	0.2070	0.2070	0.5696	54.6	48.5	42.4	36.4	30.3	24.2	18.2
Versa-Span Snap Lock Clip - Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch																

NEGATIVE LOAD - INSTALLATION OVER SOLID SUPPORT

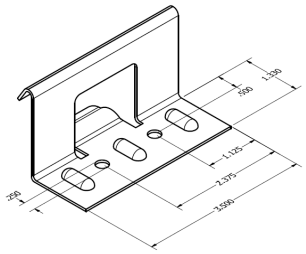
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf					
				Top in Compression			Bottom in Compression			Negative Load					
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	8"	1'	1.5'	2'	2.5'	3'
14	24	50	1.38	0.1160	0.0969	0.0809	0.0500	0.0691	0.0553	138.5	130.0	117.1	104.3	91.4	78.5
14	22	50	1.66	0.1380	0.1161	0.0964	0.0626	0.0845	0.0673	138.5	130.0	117.1	104.3	91.4	78.5
14	20	33	2.03	0.1663	0.1444	0.1162	0.0907	0.1126	0.0897	138.5	130.0	117.1	104.3	91.4	78.5
16	24	50	1.32	0.1020	0.0855	0.0682	0.0451	0.0616	0.0480	116.0	109.6	100.0	90.3	80.7	71.0
16	22	50	1.60	0.1323	0.1116	0.0825	0.0609	0.0816	0.0623	116.0	109.6	100.0	90.3	80.7	71.0
16	20	33	1.95	0.1492	0.1292	0.1027	0.0803	0.1002	0.0786	116.0	109.6	100.0	90.3	80.7	71.0
18	24	50	1.28	0.0920	0.0769	0.0605	0.0400	0.0551	0.0426	101.0	95.7	87.6	79.6	71.5	63.5
18	22	50	1.55	0.1200	0.1009	0.0798	0.0540	0.0731	0.0553	101.0	95.7	87.6	79.6	71.5	63.5
18	20	33	2.46	0.1740	0.1537	0.1179	0.1040	0.1243	0.0953	101.0	95.7	87.6	79.6	71.5	63.5
Versa-Span Snap Lock Clip - Galvanized Steel Two #10 Pancake Head Fasteners per Clip, Minimum nominal head diameter of 7/16 inch															

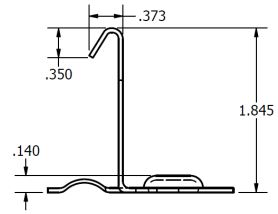
POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
12	24	50	1.47	0.1299	0.1095	0.0907	0.0596	0.0800	0.0638	**278.2**	**222.6**	**177.2**	**130.2**	**99.7**	**78.8**	**63.8**	**52.7**	44.3	24.9
12	22	50	1.875	0.1645	0.1401	0.1157	0.0804	0.1048	0.0827	**440.0**	**330.8**	**229.7**	**168.8**	**129.2**	**102.1**	**82.7**	**68.4**	**57.4**	32.3
12	0.032"	19	0.700	0.1770	0.1770	0.1245	0.1770	0.1770	0.4904	**50.5**	40.4	33.6	28.8	25.2	22.4	20.2			
12	0.040"	19	0.855	0.2170	0.2170	0.1531	0.2170	0.2170	0.6016	**76.4**	**61.1**	**50.9**	43.6	38.2	33.9	30.6	27.5	23.1	
16	24	50	1.36	0.1020	0.0855	0.0682	0.0451	0.0616	0.0480	**208.6**	**166.9**	**133.3**	**98.0**	**75.0**	**59.3**	**48.0**	39.7	33.3	
16	22	50	1.71	0.1323	0.1120	0.0825	0.0609	0.0816	0.0623	**330.0**	**249.2**	**173.1**	**127.1**	**97.3**	**76.9**	**62.3**	**51.5**	43.3	24.3
16	0.032"	19	0.640	0.1420	0.1420	0.0961	0.1420	0.1420	0.4760	37.7	30.2	25.2	21.6						
16	0.040"	19	0.780	0.1750	0.1750	0.1180	0.1750	0.1750	0.5830	**57.3**	45.8	38.2	32.7	28.6	25.5	22.9			
18	24	50	1.28	0.0920	0.0769	0.0605	0.0400	0.0551	0.0426	**185.5**	**148.4**	**118.3**	**86.9**	**66.6**	**52.6**	42.6	35.2	29.6	NA
18	22	50	1.61	0.1200	0.1009	0.0798	0.0540	0.0731	0.0553	**293.2**	**221.2**	**153.6**	**112.9**	**86.4**	**68.3**	**55.3**	45.7	38.4	21.6
18	0.032"	19	0.620	0.1290	0.1290	0.0859	0.1290	0.1290	0.4700	33.6	26.9	22.4							
18	0.040"	19	0.760	0.1590	0.1590	0.1060	0.1590	0.1590	0.5740	**50.9**	40.7	33.9	29.1	25.5	22.6	20.4			

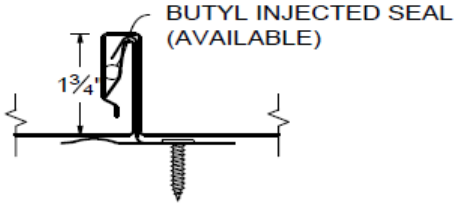


Roofing Panel Profile





Versa-Span Snap-Lock Clip



Typical Installation

FIGURE 11—VERSA-SPAN PANEL

BR-36 Panel Profile and Fastening Schedules - 5 Fasteners per Panel

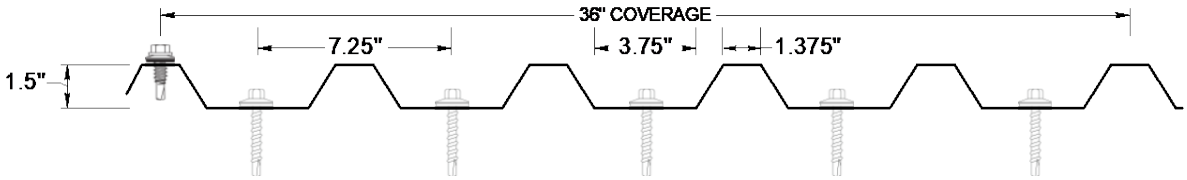
NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5	4'	4.5'	5'
36	24	50	1.18	0.1170	0.1070	0.1010	0.0840	0.0936	0.1180	200.0	179.2	158.3	137.5	116.7	95.8	75.0
36	22	50	1.46	0.1470	0.1350	0.1300	0.1070	0.1190	0.1480	200.0	180.0	160.0	140.0	120.0	100.0	80.0
36	20	33	1.76	0.1970	0.1830	0.1950	0.1470	0.1620	0.2080	170.0	153.1	136.2	119.3	102.3	85.4	68.5
36	18	33	2.11	0.2600	0.2474	0.2770	0.2167	0.2293	0.3083	170.0	153.1	136.2	119.3	102.3	85.4	68.5
36	0.032"	19	0.52	0.1867	0.1867	0.2000	0.1867	0.1867	0.3250	135.0	122.7	110.3	98.0	85.7	73.3	61.0
36	0.040"	19	0.65	0.2330	0.2330	0.2490	0.2330	0.2330	0.4037	171.0	150.8	130.7	110.5	90.3	70.2	50.0
36	0.050"	19	0.78	0.3093	0.3093	0.5000	0.3093	0.3093	0.4263	171.0	150.8	130.7	110.5	90.3	70.2	50.0
5 - #12 Hex head screws with rubber washers Sidelap screws @ 12" o.c.																

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
36	24	50	1.18	0.1170	0.1070	0.1010	0.0840	0.0936	0.1180	**490.0**	**392.0**	**280.6**	**206.1**	**157.8**	**124.7**	**101.0**	**83.5**	**70.1**	39.5
36	22	50	1.46	0.1470	0.1350	0.1300	0.1070	0.1190	0.1480	**676.8**	**520.0**	**361.1**	**265.3**	**203.1**	**160.5**	**130.0**	**107.4**	**90.3**	**50.8**
36	20	33	1.76	0.1970	0.1830	0.1950	0.1470	0.1620	0.2080	**656.8**	**514.8**	**357.5**	**262.7**	**201.1**	**158.9**	**128.7**	**106.4**	**89.4**	**50.3**
36	18	33	2.11	0.2600	0.2474	0.2770	0.2167	0.2293	0.3083	**1086.4**	**731.3**	**507.8**	**373.1**	**285.7**	**225.7**	**182.8**	**151.1**	**127.0**	**71.4**
36	0.032"	19	0.52	0.1867	0.1867	0.2000	0.1867	0.1867	0.3250	**106.7**	**68.3**	47.4	34.8	26.7	21.1				
36	0.040"	19	0.65	0.2330	0.2330	0.2490	0.2330	0.2330	0.4037	**128.2**	**102.6**	**73.8**	**54.2**	41.5	32.8	26.6	22.0		
36	0.050"	19	0.78	0.3093	0.3093	0.5000	0.3093	0.3093	0.4263	**200.0**	**160.0**	**114.4**	**84.1**	**64.4**	**50.9**	41.2	34.1	28.6	



Roofing Panel Profile and Typical Installation

FIGURE 12—BR-36 PANEL WITH 5 FASTENERS PER PANEL

BR-36 Panel Profile and Fastening Schedules - 3 Fasteners per Panel

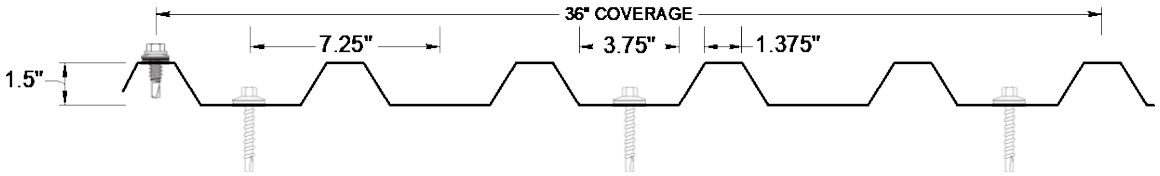
NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5	4'	4.5'	5'
36	24	50	1.18	0.1170	0.1070	0.1010	0.0840	0.0936	0.1180	137.5	122.1	106.7	91.3	75.8	60.4	45.0
36	22	50	1.46	0.1470	0.1350	0.1300	0.1070	0.1190	0.1480	100.0	90.0	80.0	70.0	60.0	50.0	40.0
36	20	33	1.76	0.1970	0.1830	0.1950	0.1470	0.1620	0.2080	100.0	89.8	79.7	69.5	59.3	49.2	39.0
36	18	33	2.11	0.2600	0.2474	0.2770	0.2167	0.2293	0.3083	100.0	89.8	79.7	69.5	59.3	49.2	39.0
36	0.032"	19	0.52	0.1867	0.1867	0.2000	0.1867	0.1867	0.3250	55.0	51.7	48.3	45.0	41.7	38.3	35.0
36	0.040"	19	0.65	0.2330	0.2330	0.2490	0.2330	0.2330	0.4037	75.0	69.2	63.3	57.5	51.7	45.8	40.0
36	0.050"	19	0.78	0.3093	0.3093	0.5000	0.3093	0.3093	0.4263	75.0	69.2	63.3	57.5	51.7	45.8	40.0
3 - #12 Hex head screws with rubber washers Sidelap screws @ 12" o.c.																

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
36	24	50	1.18	0.1170	0.1070	0.1010	0.0840	0.0936	0.1180	**490.0**	**392.0**	**280.6**	**206.1**	**157.8**	**124.7**	**101.0**	**83.5**	**70.1**	39.5
36	22	50	1.46	0.1470	0.1350	0.1300	0.1070	0.1190	0.1480	**676.8**	**520.0**	**361.1**	**265.3**	**203.1**	**160.5**	**130.0**	**107.4**	**90.3**	**50.8**
36	20	33	1.76	0.1970	0.1830	0.1950	0.1470	0.1620	0.2080	**656.8**	**514.8**	**357.5**	**262.7**	**201.1**	**158.9**	**128.7**	**106.4**	**89.4**	**50.3**
36	18	33	2.11	0.2600	0.2474	0.2770	0.2167	0.2293	0.3083	**1086.4**	**731.3**	**507.8**	**373.1**	**285.7**	**225.7**	**182.8**	**151.1**	**127.0**	**71.4**
36	0.032"	19	0.52	0.1867	0.1867	0.2000	0.1867	0.1867	0.3250	**106.7**	**68.3**	47.4	34.8	26.7	21.1				
36	0.040"	19	0.65	0.2330	0.2330	0.2490	0.2330	0.2330	0.4037	**128.2**	**102.6**	**73.8**	**54.2**	41.5	32.8	26.6	22.0		
36	0.050"	19	0.78	0.3093	0.3093	0.5000	0.3093	0.3093	0.4263	**200.0**	**160.0**	**114.4**	**84.1**	**64.4**	**50.9**	41.2	34.1	28.6	



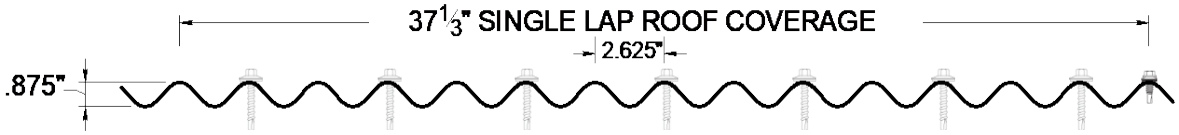
Roofing Panel Profile and Typical Installation

FIGURE 13—BR-36 PANEL WITH 3 FASTENERS PER PANEL

Classic Corrugated Panel Profile and Fastening Schedules - 7 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS Minimum support width of 2.5 inches																	
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf							
				Top in Compression			Bottom in Compression			Negative Load							
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5	4'	4.5'	5'
37.33	26	80	1.02	0.0250	0.0250	0.0570	0.0250	0.0250	0.0570	162.5	162.5	162.5	162.5	162.5	162.5	162.5
37.33	24	50	1.33	0.0240	0.0240	0.0777	0.0240	0.0240	0.0777	162.5	108.3	99.2	90.0	80.8	71.7	75.0
37.33	22	50	1.73	0.0400	0.0400	0.0914	0.0400	0.0400	0.0914	175.0	159.2	143.3	127.5	111.7	95.8	80.0
37.33	0.032"	19	0.451	0.0450	0.0450	0.1030	0.0450	0.0450	0.1030	175.0	155.0	135.0	115.0	95.0	75.0	55.0
7 - #12 Hex head screws with washers Sidelap screws @ 12" o.c.																	

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS																		
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Positive Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'
37.33	26	80	1.02	0.0250	0.0250	0.0570	0.0250	0.0250	0.0570	**356.3**	**228.0**	**158.3**	**116.3**	**89.1**	**70.4**	**57.0**		
37.33	24	50	1.33	0.0240	0.0240	0.0777	0.0240	0.0240	0.0777	**485.6**	**310.8**	**215.8**	**158.6**	**121.4**	**95.9**	**77.7**	**64.2**	**54.0**
37.33	22	50	1.73	0.0400	0.0400	0.0914	0.0400	0.0400	0.0914	**571.3**	**365.6**	**253.9**	**186.5**	**142.8**	**112.8**	**91.4**	**75.5**	**63.5**
37.33	0.032"	19	0.451	0.0450	0.0450	0.1030	0.0450	0.0450	0.1030	**244.6**	**156.6**	**108.7**	**79.9**	**61.2**	**48.3**			



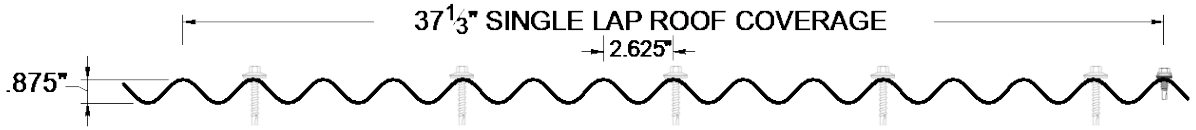
Roofing Panel Profile and Typical Installation

FIGURE 14—CLASSIC CORRUGATED PANEL WITH 7 FASTENERS PER PANEL

Classic Corrugated Panel Profile and Fastening Schedules - 5 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS Minimum support width of 2.5 inches																	
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf							
				Top in Compression			Bottom in Compression			Negative Load							
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5	4'	4.5'	5'
37.33	26	80	1.02	0.0250	0.0250	0.0570	0.0250	0.0250	0.0570	162.5	162.5	162.5	162.5	162.5	162.5	162.5
37.33	24	50	1.33	0.0240	0.0240	0.0777	0.0240	0.0240	0.0777	162.5	108.3	99.2	90.0	80.8	71.7	75.0
37.33	22	50	1.73	0.0400	0.0400	0.0914	0.0400	0.0400	0.0914	175.0	159.2	143.3	127.5	111.7	95.8	80.0
37.33	0.032"	19	0.451	0.0450	0.0450	0.1030	0.0450	0.0450	0.1030	175.0	155.0	135.0	115.0	95.0	75.0	55.0
5 - #12 Hex head screws with washers Sidelap screws @ 12" o.c.																	

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS																		
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Positive Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'
37.33	26	80	1.02	0.0250	0.0250	0.0570	0.0250	0.0250	0.0570	**356.3**	**228.0**	**158.3**	**116.3**	**89.1**	**70.4**	**57.0**		
37.33	24	50	1.33	0.0240	0.0240	0.0777	0.0240	0.0240	0.0777	**485.6**	**310.8**	**215.8**	**158.6**	**121.4**	**95.9**	**77.7**	**64.2**	**54.0**
37.33	22	50	1.73	0.0400	0.0400	0.0914	0.0400	0.0400	0.0914	**571.3**	**365.6**	**253.9**	**186.5**	**142.8**	**112.8**	**91.4**	**75.5**	**63.5**
37.33	0.032"	19	0.451	0.0450	0.0450	0.1030	0.0450	0.0450	0.1030	**244.6**	**156.6**	**108.7**	**79.9**	**61.2**	**48.3**			



Roofing Panel Profile and Typical Installation

FIGURE 15—CLASSIC CORRUGATED PANEL WITH 5 FASTENERS PER PANEL

GR-7 Panel Profile and Fastening Schedules - 6 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

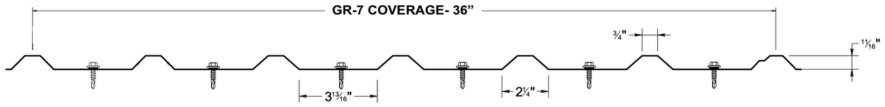
Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Negative Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'	4.5'	5'
36	26	80	0.833	0.0150	0.0133	0.0304	0.0090	0.0107	0.0260	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
36	24	50	1.06	0.0197	0.0178	0.0395	0.0133	0.0151	0.0348	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
36	22	50	1.25	0.0233	0.0215	0.0467	0.0170	0.0188	0.0422	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
36	20	33	1.53	0.0300	0.0281	0.0567	0.0233	0.0252	0.0542	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
36	18	33	2.00	0.0367	0.0367	0.0731	0.0367	0.0367	0.0719	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
6 - #10 Hex head screws with washers Sidelap screws @ 12" o.c.																		

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Positive Load						
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	3'	4'	5'	6'	7'
36	26	80	0.833	0.0150	0.0133	0.0304	0.0090	0.0107	0.0260	**660.0**	**165.0**	**73.3**	41.3	26.4		
36	24	50	1.06	0.0197	0.0178	0.0395	0.0133	0.0151	0.0348	**870.0**	**217.5**	**96.7**	**54.4**	34.8	24.2	
36	22	50	1.25	0.0233	0.0215	0.0467	0.0170	0.0188	0.0422	**1055.0**	**263.8**	**117.2**	**65.9**	42.2	29.3	21.53
36	20	33	1.53	0.0300	0.0281	0.0567	0.0233	0.0252	0.0542	**903.3**	**225.8**	**100.4**	**56.5**	36.1	25.1	
36	18	33	2.00	0.0367	0.0367	0.0731	0.0367	0.0367	0.0719	**1198.3**	**299.6**	**133.2**	**74.9**	**47.9**	33.3	24.46
36	0.032"	19	0.53	0.0267	0.0267	0.0527	0.0267	0.0267	0.1350	**123.4**	30.9					
36	0.040"	19	0.67	0.0330	0.0330	0.0653	0.0330	0.0330	0.1660	**191.6**	47.9	21.3				
36	0.050"	19	0.85	0.0400	0.0400	0.0807	0.0400	0.0400	0.2020	**295.9**	**74.0**	32.9				

LAP DETAIL



Roofing Panel Profile and Typical Installation

FIGURE 16—GR-7 PANEL WITH 6 FASTENERS PER PANEL

HR-34 Panel Profile and Fastening Schedules - 5 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

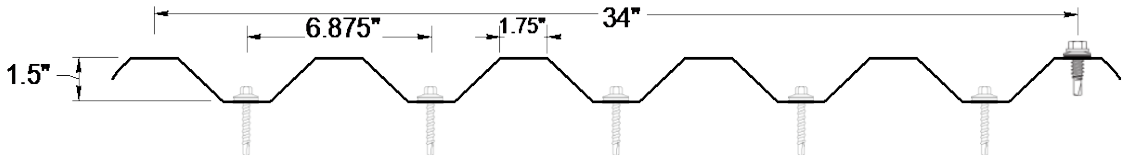
Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5	4'	4.5'	5'
34	26	80	0.96	0.0702	0.0694	0.0699	0.0675	0.0683	0.0830	175.0	157.5	140.0	122.5	105.0	87.5	70.0
34	24	50	1.18	0.1060	0.1067	0.1233	0.1085	0.1078	0.1337	200.0	180.0	160.0	140.0	120.0	100.0	80.0
34	22	50	1.46	0.1307	0.1317	0.1539	0.1343	0.1333	0.1681	200.0	178.3	156.7	135.0	113.3	91.7	70.0
34	20	33	1.76	0.1767	0.1777	0.2140	0.1802	0.1792	0.2200	200.0	179.2	158.3	137.5	116.7	95.8	75.0
34	0.032"	19	0.52	0.1690	0.1690	0.2390	0.1690	0.1690	0.2070	120.0	108.3	96.7	85.0	73.3	61.7	50.0
34	0.040"	19	0.65	0.2120	0.2120	0.2970	0.2120	0.2120	0.2570	200.0	177.1	154.2	131.3	108.3	85.4	62.5

5 - #12 Hex head screws with washers
Sidelap screws @ 12" o.c.

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf										
				Top in Compression			Bottom in Compression			Positive Load										
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	2.5'	3.5'	4'	5'	6'	7'	8'	9'	10'
34	26	80	0.96	0.0702	0.0694	0.0699	0.0675	0.0683	0.0830	**469.1**	**234.6**	**187.6**	**134.0**	**117.3**	**93.8**	**77.7**	**57.1**	43.7	34.5	28.0
34	24	50	1.18	0.1060	0.1067	0.1233	0.1085	0.1078	0.1337	**723.6**	**243.6**	**194.9**	**139.2**	**121.8**	**97.5**	**81.2**	**62.9**	**48.2**	38.1	30.8
34	22	50	1.46	0.1307	0.1317	0.1539	0.1343	0.1333	0.1681	**636.4**	**318.2**	**254.6**	**181.8**	**159.1**	**127.3**	**106.1**	**78.5**	**60.1**	47.5	38.5
34	20	33	1.76	0.1767	0.1777	0.2140	0.1802	0.1792	0.2200	**814.6**	**380.0**	**304.0**	**217.1**	**190.0**	**142.7**	**99.1**	**72.8**	**55.7**	44.3	35.7
34	0.032"	19	0.52	0.1690	0.1690	0.2390	0.1690	0.1690	0.2070	**126.4**	**63.2**	**50.6**	36.1	31.6	25.3	21.1				
34	0.040"	19	0.65	0.2120	0.2120	0.2970	0.2120	0.2120	0.2570	**197.3**	**98.6**	**78.9**	**56.4**	**49.3**	39.5	32.9	28.2	24.7	21.9	



Roofing Panel Profile and Typical Installation

FIGURE 17—HR-34 PANEL WITH 5 FASTENERS PER PANEL

HR-34 Panel Profile and Fastening Schedules - 3 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

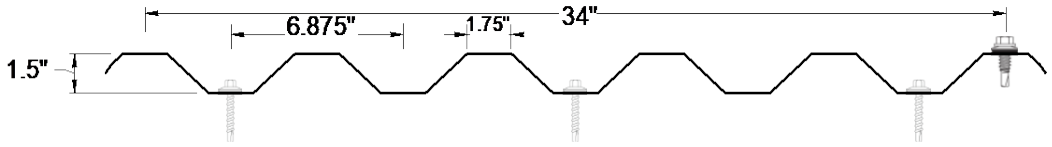
Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5	4'	4.5'	5'
34	26	80	0.96	0.0702	0.0694	0.0699	0.0675	0.0683	0.0830	87.5	80.4	73.3	66.3	59.2	52.1	45.0
34	24	50	1.18	0.1060	0.1067	0.1233	0.1085	0.1078	0.1337	100.0	90.8	81.7	72.5	63.3	54.2	45.0
34	22	50	1.46	0.1307	0.1317	0.1539	0.1343	0.1333	0.1681	100.0	90.8	81.7	72.5	63.3	54.2	45.0
34	20	33	1.76	0.1767	0.1777	0.2140	0.1802	0.1792	0.2200	105.O	9S.8	86.7	77.5	68.3	59.2	50.0
34	0.032"	19	0.52	0.1690	0.1690	0.2390	0.1690	0.1690	0.2070	112.5	100.8	89.7	78.5	67.3	56.2	45.0
34	0.040"	19	0.65	0.2120	0.2120	0.2970	0.2120	0.2120	0.2570	100.0	90.0	80.0	70.0	60.0	50.0	40.0

3 - #12 Hex head screws with washers
Sidelap screws @ 12" o.c.

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf										
				Top in Compression			Bottom in Compression			Positive Load										
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	2.5'	3.5'	4'	5'	6'	7'	8'	9'	10'
34	26	80	0.96	0.0702	0.0694	0.0699	0.0675	0.0683	0.0830	**469.1**	**234.6**	**187.6**	**134.0**	**117.3**	**93.8**	**77.7**	**57.1**	43.7	34.5	28.0
34	24	50	1.18	0.1060	0.1067	0.1233	0.1085	0.1078	0.1337	**723.6**	**243.6**	**194.9**	**139.2**	**121.8**	**97.5**	**81.2**	**62.9**	**48.2**	38.1	30.8
34	22	50	1.46	0.1307	0.1317	0.1539	0.1343	0.1333	0.1681	**636.4**	**318.2**	**254.6**	**181.8**	**159.1**	**127.3**	**106.1**	**78.5**	**60.1**	47.5	38.5
34	20	33	1.76	0.1767	0.1777	0.2140	0.1802	0.1792	0.2200	**814.6**	**380.0**	**304.0**	**217.1**	**190.0**	**142.7**	**99.1**	**72.8**	**55.7**	44.3	35.7
34	0.032"	19	0.52	0.1690	0.1690	0.2390	0.1690	0.1690	0.2070	**126.4**	**63.2**	**50.6**	36.1	31.6	25.3	21.1				
34	0.040"	19	0.65	0.2120	0.2120	0.2970	0.2120	0.2120	0.2570	**197.3**	**98.6**	**78.9**	**56.4**	**49.3**	39.5	32.9	28.2	24.7	21.9	



Roofing Panel Profile and Typical Installation

FIGURE 18—HR-34 PANEL WITH 3 FASTENERS PER PANEL

Max Corr Panel Profile and Fastening Schedules - 7 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Negative Load								
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'	4.5'	5'
37-1/4	26	80	0.895	0.0251	0.0251	0.1004	0.0251	0.0251	0.1004	170.0	153.8	137.5	121.5	105.0	88.8	72.6	56.3	40.0
37-1/4	24	50	1.13	0.0336	0.0336	0.1344	0.0336	0.0336	0.1344	170.0	153.8	137.5	121.5	105.0	88.8	72.6	56.3	40.0
37-1/4	22	50	1.36	0.0397	0.0397	0.1588	0.0397	0.0397	0.1588	170.0	153.8	137.5	121.5	105.0	88.8	72.6	56.3	40.0
7 - #10 Hex head screws with washers Sidelap screws @ 12" o.c.																		

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'
37-1/4	26	80	0.895	0.0251	0.0251	0.1004	0.0251	0.0251	0.1004	**4016.0**	**1004.0**	**446.2**	**206.5**	**105.8**	**61.2**	38.5	25.8		
37-1/4	24	50	1.13	0.0336	0.0336	0.1344	0.0336	0.0336	0.1344	**3360.0**	**840.0**	**373.3**	**210.0**	**134.0**	**81.9**	**51.6**	34.6	24.3	
37-1/4	22	50	1.36	0.0397	0.0397	0.1588	0.0397	0.0397	0.1588	**3970.0**	**992.5**	**441.1**	**248.1**	**158.8**	**96.8**	**61.0**	40.8	28.7	20.9
37-1/4	0.032"	19	0.535	0.0119	0.0119	0.0508	0.0119	0.0119	0.0453	**102.0**	25.5								
37-1/4	0.040"	19	0.669	0.0148	0.0148	0.0621	0.0148	0.0148	0.0555	**170.3**	42.6								

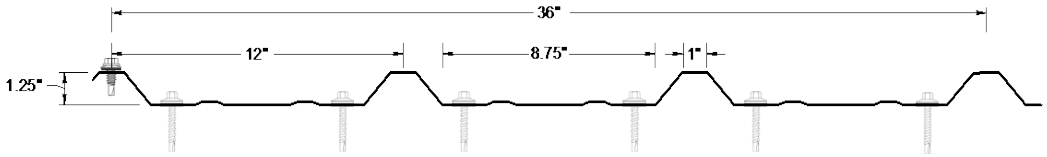
Roofing Panel Profile and Typical Installation

FIGURE 19—MAX CORR PANEL WITH 7 FASTENERS PER PANEL

PBR Panel Profile and Fastening Schedules - 6 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS Minimum support width of 2.5 inches																
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf						
				Top in Compression			Bottom in Compression			Negative Load						
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'
36	26	80	0.85	0.0453	0.0399	0.0448	0.0267	0.0321	0.0391	100.0	92.5	85.0	77.5	70.0	62.5	55.0
36	24	50	1.19	0.0633	0.0555	0.0639	0.0363	0.0441	0.0553	175.0	156.7	138.3	120.0	101.7	83.3	65.0
36	22	50	1.51	0.0867	0.0761	0.0989	0.0500	0.0606	0.0751	200.0	178.3	156.7	135.0	113.3	91.7	70.0
36	0.032"	19	0.52	0.0967	0.0967	0.0990	0.0967	0.0967	0.3023	187.5	165.5	143.3	121.3	99.2	77.1	55.0
6 - #12 Hex head screws with washers Sidelap screws @ 12" o.c.																

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS																				
PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf										
				Top in Compression			Bottom in Compression			Positive Load										
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	8'
36	26	80	0.85	0.0453	0.0399	0.0448	0.0267	0.0321	0.0391	**192.3**	**153.8**	**128.2**	**109.9**	**96.1**	**77.2**	**62.6**	**51.7**	43.4	24.4
36	24	50	1.19	0.0633	0.0555	0.0639	0.0363	0.0441	0.0553	**191.4**	**153.1**	**127.6**	**109.4**	**86.4**	**68.3**	**55.3**	45.7	38.4	21.6
36	22	50	1.51	0.0867	0.0761	0.0989	0.0500	0.0606	0.0751	**306.4**	**245.1**	**204.2**	**153.3**	**117.3**	**92.7**	**75.1**	**62.1**	**52.2**	29.3
36	0.032"	19	0.52	0.0967	0.0967	0.0990	0.0967	0.0967	0.3023	40.4	32.3	26.9	23.1	20.2					



Roofing Panel Profile and Typical Installation

FIGURE 20—PBR PANEL WITH 6 FASTENERS PER PANEL

TR-7.2 Panel Profile and Fastening Schedules - 5 Fasteners per Panel

NEGATIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

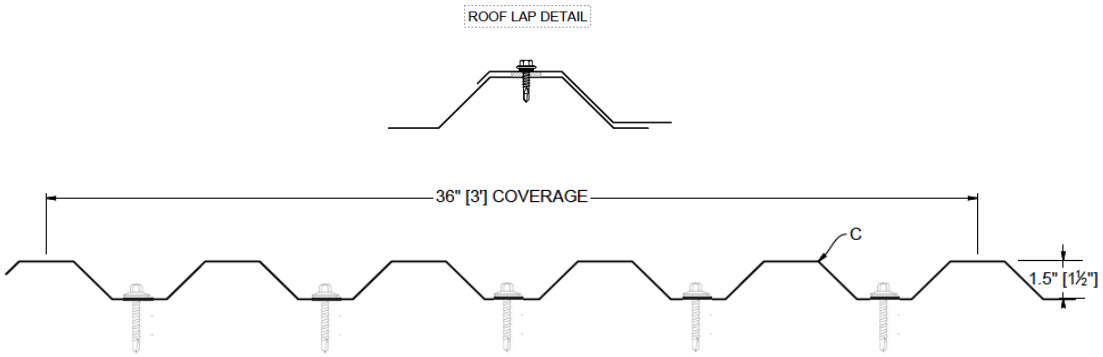
Minimum support width of 2.5 inches

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf								
				Top in Compression			Bottom in Compression			Negative Load								
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'	4.5'	5'
36	24	50	1.21	0.1100	0.1100	0.1297	0.1100	0.1100	0.1221	150.0	139.4	128.8	118.1	107.5	96.9	86.3	75.6	65.0
36	22	50	1.46	0.1400	0.1390	0.1663	0.1370	0.1380	0.1557	150.0	139.4	128.8	118.1	107.5	96.9	86.3	75.6	65.0
36	20	33	1.88	0.1870	0.1860	0.2380	0.1830	0.1840	0.2220	150.0	139.4	128.8	118.1	107.5	96.9	86.3	75.6	65.0
36	18	33	2.44	0.2600	0.2590	0.3350	0.2570	0.2580	0.3170	150.0	139.4	128.8	118.1	107.5	96.9	86.3	75.6	65.0
36	0.032"	19	0.58	0.1900	0.1900	0.2570	0.1900	0.1900	0.2430	110.0	99.4	88.8	78.1	67.5	56.9	46.3	35.6	25.0
36	0.040"	19	0.72	0.2370	0.2370	0.3180	0.2370	0.2370	0.3010	110.0	99.4	88.8	78.1	67.5	56.9	46.3	35.6	25.0
36	0.050"	19	0.91	0.2930	0.2930	0.3940	0.2930	0.2930	0.4450	110.0	99.4	88.8	78.1	67.5	56.9	46.3	35.6	25.0

#12 screws to supports - 5/16" hex head
Sidelap screws @ 12" o.c.

POSITIVE LOAD - INSTALLATION OVER SPACED SUPPORTS

PANEL MODEL				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf									
				Top in Compression			Bottom in Compression			Positive Load									
Width, in	Gauge	Yield ksi	Weight psf	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	I_{xx} in^4/ft.	$I_{xx\ (eff)}$ in^4/ft.	S_{xx} in^3/ft	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'
36	24	50	1.21	0.1100	0.1100	0.1297	0.1100	0.1100	0.1221	**997.3**	**498.6**	**332.4**	**190.8**	**122.1**	**84.8**	**62.3**	47.7	37.7	30.5
36	22	50	1.46	0.1400	0.1390	0.1663	0.1370	0.1380	0.1557	**1340.9**	**670.5**	**434.5**	**243.3**	**155.7**	**108.1**	**79.44**	**60.8**	**48.1**	38.9
36	20	33	1.88	0.1870	0.1860	0.2380	0.1830	0.1840	0.2220	**1077.3**	**538.6**	**359.1**	**231.3**	**148.0**	**102.8**	**75.51**	**57.8**	45.7	37.0
36	18	33	2.44	0.2600	0.2590	0.3350	0.2570	0.2580	0.3170	**1860.9**	**930.5**	**587.0**	**330.2**	**211.3**	**146.8**	**107.8**	**82.55**	**65.2**	**52.8**
36	0.032"	19	0.58	0.1900	0.1900	0.2570	0.1900	0.1900	0.2430	**147.3**	**73.6**	**49.1**	36.8	29.5	24.6				
36	0.040"	19	0.72	0.2370	0.2370	0.3180	0.2370	0.2370	0.3010	**246.4**	**123.2**	**82.1**	**61.6**	**49.3**	41.1	30.56	23.4		
36	0.050"	19	0.91	0.2930	0.2930	0.3940	0.2930	0.2930	0.4450	**384.6**	**192.3**	**128.2**	**96.1**	**76.9**	**63.0**	46.3	35.45	28.0	22.7



Roofing Panel Profile and Typical Installation

FIGURE 21—TR-7.2 PANEL WITH 5 FASTENERS PER PANEL

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 41 13—Metal Roof Panels

REPORT HOLDER:

TAYLOR METAL INC. (dba TAYLOR METAL PRODUCTS)

EVALUATION SUBJECT:

TMP METAL ROOFING PANELS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the TMP metal roofing panels, described in ICC-ES evaluation report ESR-5046, have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2023 *City of Los Angeles Building Code (LABC)*
- 2023 *City of Los Angeles Residential Code (LARC)*

2.0 CONCLUSIONS

The TMP metal roofing panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-5046, comply with the LABC Chapter 15, and the LARC Chapter 9, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The TMP metal roofing panels described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-5046.
- The design, installation, conditions of use and identification of the TMP metal roofing panels are in accordance with the 2021 *International Building Code®* (IBC) and 2021 *International Residential Code®* (IRC) provisions, as applicable, noted in the evaluation report ESR-5046.
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- The TMP metal roofing panels must not be installed over existing wood shakes or wood shingles in accordance with LABC Section 1511.
- The installation of the TMP Metal roofing panels must comply with City of Los Angeles Information Bulletin P/BC 2023-16, “Dwellings in High Wind Velocity Areas (HWA)”.

This supplement expires concurrently with the evaluation report, reissued November 2024 and revised October 2025.

ICC-ES Evaluation Report

ESR-5046 CA Supplement

w/ DSA and OSHPD

Reissued November 2024

Revised October 2025

This report is subject to renewal November 2025.

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 41 13—Metal Roof Panels

REPORT HOLDER:

TAYLOR METAL INC. (dba TAYLOR METAL PRODUCTS)

EVALUATION SUBJECT:

TMP METAL ROOFING PANELS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the TMP metal roofing panels, described in ICC-ES evaluation report ESR-5046, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- *2025 and 2022 California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architects (DSA), see Sections 2.1.1 and 2.1.2 below.

- *2025 and 2022 California Residential Code* (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The TMP metal roofing panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-5046, may be used where the CBC requires a Class A roof covering complying with 2025 or 2022 CBC Section 1505.2, a Class B roof covering complying with 2025 or 2022 CBC Section 1505.3, or a Class C roof covering complying with 2025 or 2022 CBC Section 1505.4, provided the design and installation are in accordance with the 2024 and 2021 *International Building Code*® (IBC) provisions noted in the evaluation report, and the additional requirements of CBC Chapters 15, 16 and 17 as applicable.

The products have not been evaluated under CBC Chapter 7A for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

2.1.1 OSHPD: The TMP metal roofing panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-5046, comply with CBC Chapter 15 with applicable amendments [OSHPD 1, 1R, 2, 3, 4, 5 and 6], provided the design and installation are in accordance with the 2024 and 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements in CBC Chapters 16, 16A, 17 and 17A, as applicable.

2.1.2 DSA: The TMP metal roofing panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-5046, comply with CBC Chapter 15 with applicable amendments [DSA-SS, DSA-SS/CC], provided the design and installation are in accordance with the 2024 and 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements in CBC Chapters 16, 16A and 17A, as applicable.

2.2 CRC:

The TMP metal roofing panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-5046, may be used where the CRC requires a Class A, B or C roof covering complying with 2025 or 2022 CRC Section R902.1, provided the design and installation are in accordance with the 2024 and 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Section R905.10.

The products have not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

The products recognized in this supplement have not been evaluated for compliance with the *International Wildland–Urban Interface Code*®.

This supplement expires concurrently with the evaluation report, reissued November 2024 and revised October 2025.