

ICC-ES Evaluation Report

ESR-5046

Reissued November 2023 This report also contains:

- LABC Supplement

Subject to renewal November 2024 - CBC Supplement

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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:

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

For evaluation for compliance with codes adopted by <u>Los Angeles Department of Building and Safety</u> (<u>LADBS</u>), see <u>ESR-5046 LABC Supplement</u>.

For evaluation for compliance with codes adopted by California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see <u>ESR-5046 CBC Supplement</u>.

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 TMP metal roofing panels are used as roof coverings over solid or closely fitted decking and spaced supports.

3.0 DESCRIPTION

3.1 General:

The TMP metal roofing panels are cold-formed from steel and/or aluminum conforming to the product specifications, galvalume or zinc coatings, and base-metal thicknesses noted in Table 1. The clips used to

attach the standing seam metal roof panels to the supporting roof structure are made from materials conforming to the product specifications and base metal thicknesses noted in <u>Table 2</u>. See <u>Figures 1</u> and <u>2</u> for panel and clip details, respectively.

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 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 minimum No. 22 gauge [0.030 inch thick (0.76 mm)] steel complying with IBC Section 2210.1.1.2.

3.3 Underlayment and Flashing:

Underlayment must be in accordance with IBC Section 1507.4.5 or IRC Section R905.10.5, as applicable. Where specified in <u>Table 6</u>, the underlayment is Versashield® Fire-Resistant Roof Deck Protection (ESR-2053) or Polystick XFR (ESR-1697). Flashing must be in accordance with IBC Section 1503.2 or IRC Section R903.2, as applicable.

3.4 Impact Resistance:

The MS 200 steel roof panels described in this report meet the requirements of 2021 IBC Section 1504.8 (2018 IBC Section 1504.7) for impact resistance when installed on roofs with a slope less than 2:12 (16.7 percent slope).

4.0 DESIGN AND INSTALLATION

4.1 Installation:

Installation of the TMP metal roof panels must be in accordance with this report, IBC Section 1507.4, or IRC Section R905.10, 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 can be installed in roof slopes greater than 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.

4.2 Uniform Gravity Loads:

When panels are installed over solid or closely fitted deck sheathing, the capacity is limited to the capacity of the sheathing.

When panels are installed on spaced supports as shown in <u>Table 5</u>, the panels are capable of withstanding the allowable uniform gravity loads and the minimum concentrated live load of 300 lbf (1.33 kN) per IBC Table 1607.1 as indicated in <u>Table 5</u>. The supporting structure must be designed to resist the applicable forces.

4.3 Wind Uplift Resistance:

The allowable wind uplift pressures of the panels are provided in Table 4.

4.4 Fire Classification:

When installed as specified in <u>Table 6</u>, the metal roof panels are components of roof assemblies classified as Class A or B in accordance with ASTM E108 or UL790.

5.0 CONDITIONS OF USE:

The Taylor Metal 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 as listed in <u>Table 4</u>.
- 5.4 The allowable wind uplift pressures listed in <u>Table 4</u> 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.
- 5.5 Calculations demonstrating that the required wind resistance is less than the allowable wind resistance must be submitted to the code official.
- 5.6 See <u>Table 1</u> for panel manufacturing location. The manufacturing is 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.

7.0 IDENTIFICATION

- 7.1 The panels are identified with a label bearing the product name, the material type, the manufacturer's name (dba: Taylor Metal Products), and the evaluation report number (ESR-5046).
- **7.2** 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—MANUFACTURING FACILITIES

MANUFACTURING FACILITY

TMP-Riverside 4880 Felspar Street Riverside, California 92509



TABLE 2—TAYLOR METAL ROOF PANEL SPECIFICATIONS

PANEL		MATERIAL		MIN. BASE METAL THICKNESS	
FANEL	Specification	Specification Classification		(inch)	
/ersa Span 2"-14"-16"-18" Widths	ASTM A792	SS Grade 50	AZ 50- Painted AZ55-Unpainted	0.0224 (24 gauge) 0.0281 (22 gauge)	
	ASTM B209	3003-H14	N/A	0.032	
MS-150 12"-16"-18" Widths	ASTM A792	SS Grade 50	AZ 50- Painted AZ55-Unpainted	0.018 (26 gauge) 0.0224 (24 gauge) 0.0281 (22 gauge)	
	ASTM B209	3003-H14	N/A	0.032 0.040	
MS-200 12"-14"-16"-18" Widths	ASTM A792	SS Grade 50	AZ 50- Painted AZ55-Unpainted	0.0224 (24 gauge) 0.0281 (22 gauge)	
	ASTM B209	3003-H14	N/A	0.032 0.040	
PBR	ASTM A792	SS Grade 50 SS Grade 80 (26 gauge only)	AZ 50- Painted AZ55-Unpainted	0.018 (26 gauge) 0.0224 (24 gauge) 0.0281 (22 gauge)	
36" Width	ASTM B209	3003-H14	N/A	0.032	
HR-34 34" Width	ASTM A792	SS Grade 50 SS Grade 80 (26 gauge only) SS Grade 33 (20 gauge only)	AZ 50- Painted AZ55-Unpainted	0.018 (26 gauge) 0.0224 (24 gauge) 0.0281 (22 gauge) 0.0341 (20 gauge)	
	ASTM B209	3003-H14	N/A	0.032 0.040	
Classic 7/8 Corrugated 37.33" Width	ASTM A792	SS Grade 50 SS Grade 80 (26 gauge only)	AZ 50- Painted AZ55-Unpainted	0.018 (26 gauge) 0.0224 (24 gauge) 0.0281 (22 gauge)	
	ASTM B209	3003-H14	N/A	0.032	
BR-36	ASTM A792	SS Grade 50 SS Grade 33 (20 gauge only)	AZ 50- Painted AZ55-Unpainted	0.0224 (24 gauge) 0.0281 (22 gauge) 0.0341 (20 gauge)	
36" Width	ASTM B209	3003-H14	N/A	0.032 0.040	

For SI: 1 inch = 25.4 mm.

TABLE 3—TAYLOR METAL ROOF PANEL CLIP SPECIFICATIONS

O. ID		MIN. BASE STEEL		
CLIP	Specification	Classification	Coating	THICKNESS (inch)
Versa Span Snap Lock Manufactured by SFS, Clip Master, and AMSI	Galvanized Steel	18 ga. steel ASTM A653 Grade 50	G90	0.046
MS150 Fixed Clip Manufactured by SFS, Clip Master, and AMSI MS 150 Floating Clip Manufactured by SFS, Clip Master, and AMSI	Galvanized Steel	22 ga. steel (fixed) 18/22 ga. (floating) ASTM A653 Grade 50	G90	0.046 (BASE)- 0.028 (FIXED AND TOP)
MS200 Fixed Clip Manufactured by SFS, Clip Master, and AMSI	Galvanized Steel	22 ga. steel ASTM A653 Grade 50	G90	0.028
2" Float Engineered Panel Floating Clip Manufactured by SFS	Galvanized Steel	16 ga. Base/22 ga. Top- steel ASTM A653 Grade 50	G90	0.0575 (BASE)- 0.028 (TOP)

For SI: 1 inch = 25.4 mm.

TABLE 4—ALLOWABLE WIND UPLIFT PRESSURES

TAYLOR METAL ROOF PANEL	SUPPORT FASTENING PATTERN		PANEL SPAN ² (inch)	ALLOWABLE UPLIFT PRESSURE (psf)
77.000	Min. 30 mil steel		12	46.8
	deck -or-		18	42.4
Tee 55 750 725 152 152 152 1	Min. 15/32-inch-	Versa Span Snap Lock fastened to supporting	24	38.1
16" wide Versa Span (0.032"	thick plywood -or-	structure with two (2) No. 10 phillip pancake self-	30	33.8
Aluminum)	Min. 56 mil steel	drilling screws	36	29.4
	purlins (open		42	25.1
	framing)		48	20.8
	Min. 30 mil steel	×	12	54.6
	deck -or-		18	48.5
SPECIAL AND LINES - SPECIAL AND	Min. 15/32-inch-	Versa Span Snap Lock fastened to supporting	24	42.4
18" wide Versa Span (0.032"	thick plywood -or-	structure with two (2) No. 10 phillip pancake self-	30	36.4
Aluminum)	Min. 56 mil steel	drilling screws	36	30.3
	purlins (open		42	24.2
	framing)		48	18.2
	Min. 30 mil steel		12	83.2
	deck -or-		18	73.6
	Min. 15/32-inch-	Versa Span Snap Lock fastened to supporting	24	64.1
16" wide Versa Span (24 ga.	thick plywood -or-	ood -or- iil steel open structure with two (2) No. 10 phillip pancake self- drilling screws	30	54.6
steel)	Min. 56 mil steel		36	45.0
	purlins (open		42	35.5
	framing)		48	26.0
	Min. 30 mil steel	*	12	93.6
	deck -or-	Versa Span Snap Lock fastened to supporting	18	87.1
	Min. 15/32-inch-		24	78.0
16" wide Versa Span (22 ga.	thick plywood -or-	structure with two (2) No. 10 phillip pancake self-	30	68.9
steel)	Min. 56 mil steel	drilling screws	36	59.8
	purlins (open		42	50.7
	framing)		48	41.6
	Min. 30 mil steel	語 27	12	67.6
	deck -or-		18	59.8
	Min. 15/32-inch-	Versa Span Snap Lock fastened to supporting	24	52.0
18" wide Versa Span (24 ga.	thick plywood -or-	structure with two (2) No. 10 phillip pancake self-	30	44.2
steel)	Min. 56 mil steel	drilling screws	36	36.4
	purlins (open	anning serons	42	28.6
	framing)		48	20.8
	Min. 30 mil steel		12	90.1
	deck -or-		18	79.8
	Min. 15/32-inch-	Versa Span Snap Lock fastened to supporting	24	69.6
18" wide Versa Span (22 ga.	thick plywood -or-	structure with two (2) No. 10 phillip pancake self-	30	59.3
steel)	Min. 56 mil steel	drilling screws	36	49.1
	purlins (open	animing out on the	42	38.8
	framing)		48	286

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN ¹	PANEL SPAN ² (inch)	ALLOWABLE UPLIFT PRESSURE (psf)
	Min. 30 mil steel		12	36.4
	deck -or-		18	32.5
16.75" wide MS150-90 degree	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	28.6
seam (0.032" and 0.040"	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	24.7
aluminum)	Min. 56 mil steel	screwis	36	20.8
	purlins (open		42	16.9
	framing)		48	13.0
	Min. 30 mil steel		12	13.0
	deck -or-		18	12.1
16.75" wide MS150-90 degree	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	11.3
seam (24 ga. steel)	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	10.4
55a (2 · ga. 5155.)	Min. 56 mil steel	screwis	36	9.5
	purlins (open		42	8.7
	framing)	6	48	7.8
	Min. 30 mil steel		12	57.3
	deck -or-		18	50.4
16.75" wide MS150-90 degree	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	43.4
seam (22 ga. steel)	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	36.5
seam (22 ga. steel)	Min. 56 mil steel	screwis	36	29.5
	purlins (open		42	22.6
	framing)		48	15.6
	Min. 30 mil steel		12	111.9
12.625" wide MS150-180	deck -or-		18	100.1
	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	88.4
degree seem (0.032" and	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	76.7
0.040" aluminum)	Min. 56 mil steel		36	65.0
,	purlins (open		42	53.3
	framing)		48	41.6
	Min. 30 mil steel		12	137.9
	deck -or-		18	124.0
12.625" wide MS150-180 degree/double lock seam (24 ga. steel)	Min. 15/32-inch- thick plywood -or-	Min. 15/32-inch- TMP MS 150 Clip fastened to supporting structure	24	110.2
			30	96.3
			36	82.4
			42	68.6
	framing)		48	54.7
			12	182.2
	thick plywood -or- with two			
40%			18	161.8
12" wide MS150-180		TMP MS 150 Clip fastened to supporting structure		141.4
degree/double lock seam (22		vith two (2) No. 10 pancake head self-drilling	30	121.1
ga. steel)	Min. 56 mil steel	screwis	36	100.7
	purlins (open		42	80.3
	framing)		48	59.9
	Min. 30 mil steel		12	119.7
PORTOCOLOGIC VIVI DOLENADO NUESTA	deck -or-		18	107.1
16.625" wide MS150-180	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	94.5
degree/double lock seam (24	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	81.9
ga. steel)	Min. 56 mil steel	screwis	36	69.4
	purlins (open		42	56.8
	framing)		48	44.2
	Min. 30 mil steel		12	145.7
	deck -or-		18	128.8
16.625" wide MS150-180	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	111.9
degree/double lock seam (22	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	95.0
ga. steel)	Min. 56 mil steel	screwis	36	78.0
	purlins (open		42	61.1
	framing)		48	44.2
	Min. 30 mil steel		12	83.3
	deck -or-		18	73.7
18" wide MS150-180	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	64.2
degree/double lock seam	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	54.6
(0.032"and 0.040" aluminum)	Min. 56 mil steel	screwis	36	45.1
35	purlins (open		42	35.5
	framing)		48	26.0
	Min. 30 mil steel		12	109.3
	deck -or-		18	97.1
18" wide MS150-180	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	85.0
degree/double lock seam (24	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	72.8
ga. steel)	Min. 56 mil steel	screwis	36	60.7
3	purlins (open		42	48.5
	framing)		48	36.4
		15		

TAYLOR METAL ROOF SUPPORT FASTER PANEL		FASTENING PATTERN ¹	PANEL SPAN ² (inch)	ALLOWABLE UPLIF PRESSURE (psf)
	Min. 30 mil steel		12	124.9
(75) 70, 500705 757	deck -or-	202 W 100 W 1	18	111.5
18" wide MS150-180	Min. 15/32-inch-	TMP MS 150 Clip fastened to supporting structure	24	98.0
degree/double lock seam (22	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	84.6
ga. steel)	Min. 56 mil steel	screwis	36	71.1
	purlins (open		42	57.7
	framing)		48	44.2
	Min. 30 mil steel		12	36.4
	deck -or-		18	32.5
18" wide MS200-90	Min. 15/32-inch-	TMP MS 200 Clip fastened to supporting structure	24	28.6
degree/single lock seam	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	24.7
(0.032" aluminum)	Min. 56 mil steel	screw	36	20.8
	purlins (open		42	16.9
	framing)		48	13.0
	Min. 30 mil steel		12	46.9
	deck -or-		18	42.6
18" wide MS200-90	Min. 15/32-inch-	TMP MS 200 Clip fastened to supporting structure	24	38.2
degree/single lock seam	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	33.4
(0.040" aluminum)	Min. 56 mil steel	screw	36	29.5
	purlins (open		42	25.2
	framing)		48	20.8
	Min. 30 mil steel		12	59.9
WARRANT WARRANT TO THE PARTY OF	deck -or-		18	53.4
18" wide MS200-90	Min. 15/32-inch-	TMP MS 200 Clip fastened to supporting structure	24	46.9
degree/single lock seam (24	thick plywood -or-	with two (2) No. 10 pancake head self-drilling	30	40.4
ga. steel)	Min. 56 mil steel	screw	36	33.8
5777	purlins (open		42	27.3
	framing)		48	20.8
	Min. 30 mil steel		12	98.9
18" wide MS200-90 legree/single lock seam single lock seam (22 ga. steel)	deck -or-	TMP MS 200 Clip fastened to supporting structure with two (2) No. 10 pancake head self-drilling screw	18	88.1
	Min. 15/32-inch- thick plywood -or- Min. 56 mil steel		24	77.2
			30	66.4
			36	55.5
ioni coaiii (22 gai cico.)	purlins (open		42	44.7
	framing)		48	33.8
	7.497		12	161.3
	Min. 30 mil steel deck -or-	2" float engineered panel clip connected to supporting structure with two (2) No. 14 screws	18	147.6
			24	134.0
16" wide MS200-180			30	120.3
degree/double lock seam (24	Min. 15/32-inch- thick plywood -or-		36	106.7
ga. steel)	Min. 56 mil steel		42	93.0
ga. steer)	purlins (open			- AND THE REST OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN
	framing)		48	79.4
	iraining)		54	67.7
			60	52.1
			12	163.9
	Min. 30 mil steel		18	150.9
ASSESSED AND SERVICES AND ADMINISTRATION OF THE PARTY OF	deck -or-		24	137.9
16" wide MS200-180	Min. 15/32-inch-	2" float engineered panel clip connected to	30	124.9
degree/double lock seam (22	thick plywood -or-	supporting structure with two (2) No. 14 screws	36	111.9
ga. steel)	Min. 56 mil steel		42	98.9
	purlins (open		48	85.9
	framing)		54	72.9
			60	59.9
			12	83.3
	Min. 30 mil steel		18	77.4
	deck -or-		24	71.5
18" wide MS200-180	Min. 15/32-inch-	2" float angingered panel alin as a sate of the	30	65.7
degree/double lock seam	thick plywood -or-	2" float engineered panel clip connected to supporting structure with two (2) No. 14 screws	36	59.8
(0.032" aluminum)	Min. 56 mil steel	Supporting structure with two (2) No. 14 screws	42	54.0
	purlins (open		48	48.1
	framing)		54	42.3
			60	36.4
			12	109.3
	Min. 30 mil steel		18	101.1
	deck -or-		24	93.0
18" wide MS200-180	Min. 15/32-inch-	PERSONAL PROPERTY OF THE PROPE	30	84.9
degree/double lock seam (24	thick plywood -or-	2" float engineered panel clip connected to	36	76.7
ga. steel)	Min. 56 mil steel	supporting structure with two (2) No. 14 screws	42	68.6
ga. sieci)	purlins (open		42	60.5
	framing)			
	manning)		54	52.3
			60	44.2

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN ¹	PANEL SPAN ² (inch)	ALLOWABLE UPLI PRESSURE (psf
			12	156.1
	Min. 30 mil steel		18	143.4
	deck -or-		24	130.7
18" wide MS200-180	Min. 15/32-inch-		30	118.0
	thick plywood -or-	2" float engineered panel clip connected to	36	105.4
degree/double lock seam (22		supporting structure with two (2) No. 14 screws		
ga. steel)	Min. 56 mil steel		42	92.7
	purlins (open		48	80.0
	framing)		54	67.3
	320		60	54.7
			24	187.5
	Min. 30 mil steel			
	deck -or-	Minimum six (6) No. 14 hex-head self-drilling	30	165.5
26"ida DDD (0.020"	Min. 15/32-inch-	screws across the panel width at all supports	36	143.3
36" wide PBR (0.032"	thick plywood -or-	33 3057	42	121.3
aluminum)	Min. 56 mil steel	Sidelap fasteners are No. 14 hex-head self-drilling	48	99.2
	purlins (open	screws at 12" o.c.	54	77.1
		Sciews at 12 o.c.		
	framing)		60	55.0
	Min. 30 mil steel		24	100.0
	deck -or-	Minimum six (6) No. 14 hex-head self-drilling	30	92.5
	Min. 15/32-inch-	screws across the panel width at all supports	36	85.0
001 id- DDD (00t1)		screws across the pariet width at all supports	7.57	
36" wide PBR (26 ga. steel)	thick plywood -or-		42	77.5
	Min. 56 mil steel	Sidelap fasteners are No. 14 hex-head self-drilling	48	70.0
	purlins (open	screws at 12" o.c.	54	62.5
	framing)		60	55.0
			24	175.0
	Min. 30 mil steel			
	deck -or-	Minimum six (6) No. 14 hex-head self-drilling	30	156.7
	Min. 15/32-inch-	screws across the panel width at all supports	36	138.3
36" wide PBR (24 ga. steel)	thick plywood -or-		42	120.0
oo mao . D (2 . ga. o.co.)	Min. 56 mil steel	Sidelap fasteners are No. 14 hex-head self-drilling	48	101.7
			The state of the s	Total Control
	purlins (open	screws at 12" o.c.	54	83.3
	framing)		60	65.0
	Min. 30 mil steel		24	200.0
	deck -or-	Minimum six (6) No. 14 hex-head self-drilling	30	178.3
				The state of the s
	Min. 15/32-inch-	screws across the panel width at all supports	36	156.7
36" wide PBR (22 ga. steel)	thick plywood -or-	Sidelap fasteners are No. 14 hex-head self-drilling screws at 12" o.c.	42	135.0
	Min. 56 mil steel		48	113.3
	purlins (open		54	91.7
	framing)	333333333	60	70.0
	manning)		00	70.0
	Min. 30 mil steel			
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling	24	112.5
			30	100.8
34" wide HR-34 (0.032"	Min. 15/32-inch-	screws across the panel width at all supports	36	89.7
aluminum)	thick plywood -or-		42	78.5
aidiffilidiff)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling		
	purlins (open	screws at 12" o.c.	48	67.3
	framing)		54	56.2
	manning)		60	45.0
	Min 20 mil stool		24	100.0
	Min. 30 mil steel	1000 1000 1000 1000 1000		
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling	30	90.0
34" wide HR-34 (0.040"	Min. 15/32-inch-	screws across the panel width at all supports	36	80.0
	thick plywood -or-		42	70.0
aluminum)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	60.0
	purlins (open	screws at 12" o.c.	54	50.0
	framing)			
			60	40.0
	Min. 30 mil steel		24	87.5
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling	30	80.4
	Min. 15/32-inch-	screws across the panel width at all supports	36	73.3
4" wide HR-34 (26 ga. steel)	thick plywood -or-	25.2.1.5 doi:000 til.5 parior matri at all supports	42	66.3
- wide i ii (-34 (20 ga. steel)		Sidolon footonoro oro No. 12 hay head salf dailling		
	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	59.2
	purlins (open	screws at 12" o.c.	54	52.1
	framing)		60	45.0
	Min. 30 mil steel		24	100.0
		Minimum throo (2) No. 12 how head solf deiling	30	90.8
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling		-
	Min. 15/32-inch-	screws across the panel width at all supports	36	81.7
4" wide HR-34 (24 ga. steel)	thick plywood -or-		42	72.5
* * *	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	63.3
	purlins (open	screws at 12" o.c.	54	54.2
	framing)			The state of the s
			60	45.0
			24	100.0
	Min. 30 mil steel	Minimum Hann (2) No. 40 to 15 to 15 to 15	20	90.8
		Minimum three (3) No. 12 hex-head self-drilling	30	50.0
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling		
4" wide HP-24 /22 co. etcch	deck -or- Min. 15/32-inch-	Minimum three (3) No. 12 hex-head self-drilling screws across the panel width at all supports	36	81.7
4" wide HR-34 (22 ga. steel)	deck -or- Min. 15/32-inch- thick plywood -or-	screws across the panel width at all supports	36 42	81.7 72.5
4" wide HR-34 (22 ga. steel)	deck -or- Min. 15/32-inch- thick plywood -or- Min. 56 mil steel	screws across the panel width at all supports Sidelap fasteners are No. 12 hex-head self-drilling	36 42 48	81.7 72.5 63.3
4" wide HR-34 (22 ga. steel)	deck -or- Min. 15/32-inch- thick plywood -or-	screws across the panel width at all supports	36 42	81.7 72.5

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN1	PANEL SPAN ² (inch)	ALLOWABLE UPLIFT PRESSURE (psf)
	Min. 30 mil steel		24	105.0
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling	30	95.8
	Min. 15/32-inch-	screws across the panel width at all supports	36	86.7
34" wide HR-34 (20 ga. steel)	thick plywood -or-	**************************************	42	77.5
	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	68.3
	purlins (open	screws at 12" o.c.	54	59.2
	framing)		60	50.0
			24	120.0
	Min. 30 mil steel	Minimum five (5) No. 40 have band and drilling	30	108.3
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling		100,000,000
34" wide HR-34 (0.032"	Min. 15/32-inch-	screws across the panel width at all supports	36	96.7
aluminum)	thick plywood -or-		42	85.0
alaning,	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	73.3
	purlins (open	screws at 12" o.c.	54	61.7
	framing)		60	50.0
	Min. 30 mil steel		24	200.0
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	177.1
	Min. 15/32-inch-	screws across the panel width at all supports	36	154.2
34" wide HR-34 (0.040"	thick plywood -or-	Solews doloss the parter width at all supports	42	131.1
aluminum)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	108.3
		screws at 12" o.c.	100000	
	purlins (open	screws at 12 o.c.	54	85.4
	framing)		60	62.5
	Min. 30 mil steel		24	175.0
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	157.5
	Min. 15/32-inch-	screws across the panel width at all supports	36	140.0
34" wide HR-34 (26 ga. steel)	thick plywood -or-	Sidelap fasteners are No. 12 hex-head self-drilling	42	122.5
5. Mac (111 07 (20 ga. 3061)	Min. 56 mil steel		48	105.0
	purlins (open	screws at 12" o.c.		
		Sciews at 12 o.c.	54	87.5
	framing)		60	70.0
	Min. 30 mil steel		24	200.0
34" wide HR-34 (24 ga. steel)	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	180.0
	Min. 15/32-inch-	15/32-inch- screws across the panel width at all supports	36	160.0
	thick plywood -or-		42	140.0
0+ Wide (111 0+ (2+ ga. 5100))			48	120.0
		Screws at 12 o.c.	54	100.0
	framing)	A	60	80.0
	Min. 30 mil steel	Separation to the second to the second to	24	200.0
	deck -or- Min. 15/32-inch- thick plywood -or- Min. 56 mil steel	Minimum five (5) No. 12 hex-head self-drilling screws across the panel width at all supports Sidelap fasteners are No. 12 hex-head self-drilling	30	178.3
			36	156.7
34" wide HR-34 (22 ga. steel)			42	135.0
, , ,			48	113.3
	purlins (open	screws at 12" o.c.	54	91.7
	framing)	3010110 41. 12 0.01	60	70.0
	Min. 30 mil steel		24	200.0
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	179.2
	Min. 15/32-inch-	screws across the panel width at all supports	36	158.3
34" wide HR-34 (20 ga. steel)	thick plywood -or-		42	137.5
	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	116.7
	purlins (open	screws at 12" o.c.	54	95.8
	framing)		60	75.0
			24	55.0
	Min. 30 mil steel	Manual Control No. 10 Person Programme		
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	50.8
37.33" wide Classic 7/8	Min. 15/32-inch-	screws across the panel width at all supports	36	46.7
Corrugated (0.032" aluminum)	thick plywood -or-	2500 EN T 20 MEA	42	42.5
Confugator (0.002 aluminum)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	38.3
	purlins (open	screws at 12" o.c.	54	34.2
	framing)	L 1	60	30.0
	Min. 30 mil steel		24	110.0
	deck -or-	Minimum five (5) No. 12 how head salf deilling	30	100.4
		Minimum five (5) No. 12 hex-head self-drilling	36	90.8
37.33" wide Classic 7/8	Min. 15/32-inch-	screws across the panel width at all supports		300000000000000000000000000000000000000
Corrugated (26 ga. steel)	thick plywood -or-	Oldsten festeren en Ne 40 to to 1 16 to 111	42	81.3
3	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	71.7
	purlins (open	screws at 12" o.c.	54	62.1
	framing)		60	52.5
	Min. 30 mil steel		24	117.5
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	108.3
		screws across the panel width at all supports	36	99.2
37.33" wide Classic 7/8	Min. 15/32-inch-	screws across the pariet width at all supports		
Corrugated (24 ga. steel)	thick plywood -or-	0.1.1.1.4	42	90.0
Corrugated (24 ga. steel)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	80.8
	purlins (open framing)	screws at 12" o.c.	54 60	71.7

PANEL	SUPPORT	FASTENING PATTERN1	PANEL SPAN ² (inch)	ALLOWABLE UPLIF PRESSURE (psf)
	Min. 30 mil steel		24	150.0
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	135.4
07.00" :1.01 : 7/0	Min. 15/32-inch-	screws across the panel width at all supports	36	120.8
37.33" wide Classic 7/8	thick plywood -or-		42	106.3
Corrugated (22 ga. steel)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	91.7
	purlins (open	screws at 12" o.c.	54	77.1
	framing)		60	62.5
			24	175.0
	Min. 30 mil steel	Minimum course (7) No. 40 hour hand note drilling	30	155.0
	deck -or-	Minimum seven (7) No. 12 hex-head self-drilling	36	135.0
37.33" wide Classic 7/8	Min. 15/32-inch-	screws across the panel width at all supports		
Corrugated (0.032" aluminum)	thick plywood -or-	Cidalan fastanan ana Na 40 ban band anti-dillina	42	115.0
CONTRACT COMP INVESTMENT AND A STOCK OF THE STANDARD STOCK OF THE	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	95.0
	purlins (open	screws at 12" o.c.	54	75.0
	framing)		60	55.0
	Min. 30 mil steel		24	162.5
	deck -or-	Minimum seven (7) No. 12 hex-head self-drilling	30	162.5
	Min. 15/32-inch-	screws across the panel width at all supports	36	162.5
37.33" wide Classic 7/8	thick plywood -or-		42	162.5
Corrugated (26 ga. steel)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	162.5
	purlins (open	screws at 12" o.c.	54	162.5
	framing)		60	The state of the s
				162.5
	Min. 30 mil steel	THE PROPERTY STATES OF THE PROPERTY OF	24	162.5
	deck -or-	Minimum seven (7) No. 12 hex-head self-drilling	30	108.3
37.33" wide Classic 7/8	Min. 15/32-inch-	screws across the panel width at all supports	36	99.2
Corrugated (24 ga. steel)	rated (24 ga. steel) thick plywood -or-	42	90.0	
Corrugateu (24 ga. steer)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling screws at 12" o.c.	48	80.8
	purlins (open		54	71.7
	framing)		60	75.0
	Min 20 mil stant		24	175.0
37.33" wide Classic 7/8 Corrugated (22 ga. steel)	A CONTRACTOR OF THE PROPERTY O	in. 30 mil steel	30	135.4
	deck -or-	Minimum seven (7) No. 12 hex-head self-drilling		- Introduction
	thick plywood -or-	screws across the panel width at all supports	36	120.8
		Sidelap fasteners are No. 12 hex-head self-drilling screws at 12" o.c.	42	106.3
	Min. 56 mil steel		48	91.7
	purlins (open framing)		54	77.1
			60	75.0
			24	55.0
	Min. 30 mil steel		30	51.7
	Min. 15/32-inch- thick plywood -or-	Minimum three (3) No. 12 hex-head self-drilling	36	48.3
36" wide BR-36 (0.032"		screws across the panel width at all supports	42	45.0
aluminum)		Sidelap fasteners are No. 12 hex-head self-drilling		
alaminamy	Min. 56 mil steel		48	41.7
	purlins (open	screws at 12" o.c.	54	38.3
	framing)		60	35.0
	37		24	75.0
	Min. 30 mil steel	Minimum three (3) No. 12 hex-head self-drilling screws across the panel width at all supports		- I was the same a
	deck -or-		30	69.2
	Min. 15/32-inch-		36	63.3
36" wide BR-36 (0.040"	thick plywood -or-	screws across the parter width at all supports	42	57.5
aluminum)	Min. 56 mil steel	Sidolan factonors are No. 12 hav head colf drilling	48	51.7
100000 to 100000 AV		Sidelap fasteners are No. 12 hex-head self-drilling	54	45.8
	purlins (open framing)	screws at 12" o.c.	60	40.0
	Min 20 mil steel		24	137.5
	Min. 30 mil steel	Minimum three (2) No. 12 how head self drilling	30	122.1
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling		
00"!d- DD 00 (04	Min. 15/32-inch-	screws across the panel width at all supports	36	106.7
36" wide BR-36 (24 ga. steel)	thick plywood -or-	Oldsten festenson N. 401	42	91.3
	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	75.8
	purlins (open	screws at 12" o.c.	54	60.4
	framing)		60	45.0
	Min. 30 mil steel		24	100.0
	deck -or-	Minimum three (3) No. 12 hex-head self-drilling	30	90.0
	Min. 15/32-inch-	screws across the panel width at all supports	36	80.0
36" wide BR-36 (22 ga. steel)	thick plywood -or-	Screws across the pariet within at all supports	42	70.0
wide bit-50 (zz ga. sieel)	Min. 56 mil steel	Sidelan factoners are No. 12 have head salf drilling	48	60.0
		Sidelap fasteners are No. 12 hex-head self-drilling	54	-
	purlins (open	screws at 12" o.c.	A CANADA	50.0
	framing)	9	60	40.0
	Min 30 mil steel		24	100.0
	Min. 30 mil steel deck -or-	Minimum three (3) No. 12 hey-head self-drilling	30	89.8
		Minimum three (3) No. 12 hex-head self-drilling screws across the panel width at all supports		
			36	79.7
36" wide RP 36 /20 so stock	Min. 15/32-inch-		36	79.7
36" wide BR-36 (20 ga. steel)	Min. 15/32-inch- thick plywood -or-	screws across the panel width at all supports	42	69.5
36" wide BR-36 (20 ga. steel)	Min. 15/32-inch-			The state of the s

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN ¹	PANEL SPAN ² (inch)	ALLOWABLE UPLIFT PRESSURE (psf)
122200000000	Min 20 mil stant		24	135.0
	Min. 30 mil steel deck -or-	Minimum five (E) No. 12 how head self-drilling	30	122.7
	Min. 15/32-inch-	Minimum five (5) No. 12 hex-head self-drilling screws across the panel width at all supports	36	110.3
36" wide BR-36 (0.032"	thick plywood -or-	screws across the pariet width at all supports	42	98.0
aluminum)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	85.7
	purlins (open	screws at 12" o.c.	54	73.3
	framing)		60	61.0
			24	171.0
	Min. 30 mil steel	Minimum five (5) No. 40 have based as if deliting	30	150.8
	deck -or- Min. 15/32-inch-	Minimum five (5) No. 12 hex-head self-drilling	36	130.7
36" wide BR-36 (0.040"	thick plywood -or-	screws across the panel width at all supports	42	110.5
aluminum)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	90.3
	purlins (open	screws at 12" o.c.	54	70.2
	framing)	3010W3 dt 12 0.0.	60	50.0
	Min. 30 mil steel		24	200.0
	deck -or- Min. 15/32-inch- thick plywood -or- Min. 56 mil steel purlins (open framing)	Minimum five (5) No. 12 hex-head self-drilling screws across the panel width at all supports Sidelap fasteners are No. 12 hex-head self-drilling screws at 12" o.c.	30	179.2
			36	158.3
36" wide BR-36 (24 ga. steel)			42	137.5
00 Wide Bit 00 (2+ ga. 5000)			48	116.7
			54	95.8
			60	75.0
	Min. 30 mil steel deck -or-	Minimum five (5) No. 12 hex-head self-drilling screws across the panel width at all supports	24	200.0
			30	180.0
	Min. 15/32-inch-		36	160.0
36" wide BR-36 (22 ga. steel)	thick plywood -or-	(a SOCIAL PROPERTY AND AVERAGE	42	140.0
	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	120.0
	purlins (open	screws at 12" o.c.	54	100.0
	framing)		60	80.0
	Min. 30 mil steel		24	170
	deck -or-	Minimum five (5) No. 12 hex-head self-drilling	30	153.1
	Min. 15/32-inch-	screws across the panel width at all supports	36	136.2
36" wide BR-36 (20 ga. steel)	thick plywood -or-	Solews across the pariet width at all supports	42	119.3
Bit oo (20 ga. steel)	Min. 56 mil steel	Sidelap fasteners are No. 12 hex-head self-drilling	48	102.3
	purlins (open	screws at 12" o.c.	54	85.4
	framing)		60	68.5

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kPa.

TABLE 5- ALLOWABLE UNIFORM GRAVITY LOADS FOR METAL ROOF PANELS INSTALLED ON SPACED SUPPORTS^{1,2}

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN	MAXIMUM SUPPORT SPACING (inches)	ALLOWABLE UNIFORM LOAD (psf)
40" - 14 - 14 0 (0.000"	Min O.F. in ab suida		24	37.7
16" wide Versa Span (0.032"	Min 2.5-inch wide	See Table 4	30	30.2
Aluminum)	support ³		36	25.2
40" wide \/ (0.000"	Min 2.5-inch wide	AND DETERMINE	24	33.6
18" wide Versa Span (0.032"		See Table 4	30	26.9
Aluminum)	support ³	Barrer March	36	22.4
Î	Ī		24	208.6
	Min 2.5-inch wide support ³	See <u>Table 4</u>	30	166.9
			36	133.3
16" wide Versa Span (24 ga. steel)			42	98.0
те поставания дел			48	75.0
			54	59.3
			60	48.0
			24	440.0
			30	330.8
			36	229.7
	Min O.F. in about da		42	168.8
16" wide Versa Span (22 ga. steel)	Min 2.5-inch wide	See Table 4	48	129.2
	support ³		54	102.1
			60	82.7
			66	68.4
			72	57.4

¹Tabulated values do not consider panel clip connection to supporting structure, which must be determined by registered design professional. Tabulated values do not consider pry effect applied to the fastener by the clip base, which must be performed by registered design professional.

²The panel span for the Versa Span, MS150 and MS200 standing seam metal roof panels represent the maximum clip spacing along the seam. The panel span for the PBR, HR-34, Classic Corrugated 7/8 and BR-36 metal roof panels represent the maximum support member spacing.

TABLE 5- ALLOWABLE UNIFORM GRAVITY LOADS FOR METAL ROOF PANELS INSTALLED ON SPACED SUPPORTS 1,2 (continued)

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN	MAXIMUM SUPPORT SPACING (inches)	ALLOWABLE UNIFORM LOAD (psf)
			24	185.5
			30	148.4
	Min 2.5-inch wide		36	118.3
18" wide Versa Span (24 ga. Steel)	support ³	See Table 4	42	86.9
W 2867 A031 SS	support		48	66.6
1			54	52.6
46"id= MC450 (0.032" -li)	Min 2.5-inch wide		60	42.6
16" wide MS150 (0.032" aluminum) single and double lock	support ³	See <u>Table 4</u>	24	22.4
16" wide MS150 (0.040" aluminum)	Min 2.5-inch wide	See Table 4	24	34.6
single and double lock	support ³	OCC TABLE 4	30	22.2
		,	24	209.6
1			30	167.6
1			36	139.7
16" wide MS150 (24 ga. Steel)	Min 2.5-inch wide	to Calment and	42	119.7
single and double lock	support ³	See Table 4	48	104.8
59.5 45 4542.15 1551	опрол		54	93.1
			60	77.7
			66	64.2
			72	54.0
			24	303.2
			30	242.6
			36	202.1
4			42	173.3
16" wide MS150 (22 ga. Steel)	Min 2.5-inch wide support ³		48	147.0
single and double lock		See <u>Table 4</u>	54	116.2
Siligle and double lock			60	94.1
			66	77.8
			72	65.4
12" wide MS150 (0.032" aluminum)	Min 2.5-inch wide	See Table 4	24	39.3
single and double lock	support ³	See Table 4	30	25.5
			24	279.6
			30	223.6
			36	186.4
			42	159.7
12" wide MS150 (24 ga. Steel)	Min 2.5-inch wide	See Table 4	48	138.8
single and double lock	support ³		54	124.2
			60	106.8
			66	88.3
			72	74.2
		2	24	404.6
			30	323.6
1			36	269.7
1		n 2.5-inch wide See Table 4	42	225.3
12" wide MS150 (22 ga. Steel)	Min 2.5-inch wide		48	172.5
single and double lock	support ³	OCC TUDIC T	54	136.3
	- 100		60	110.4
			66	91.2
			72	76.7
1			24	125.5
			30	100.4
			36	83.6
18" wide MS150 (24 ga. Steel)	Min 2.5-inch wide		42	71.7
single and double lock	support ³	See <u>Table 4</u>	48	62.7
	Сирроп	12-2	54	55.8
	1	y.	60	50.2
			24	269.6
			30	215.6
			36	179.7
1			42	154.0
18" wide MS150 (22 ga. Steel)	Min 2.5-inch wide	O T-11-4	48	131.1
single and double lock	support ³	See Table 4	54	103.6
45	55000.755		60	83.9
)	66	69.3
			72	58.3

TABLE 5- ALLOWABLE UNIFORM GRAVITY LOADS FOR METAL ROOF PANELS INSTALLED ON SPACED SUPPORTS^{1,2} (continued)

METAL ROOF PANEL	ALLOWABLE UNIFORM LOAD (ps
S200 (0.032" aluminum) le and double lock	26.2
IS200(0.040" aluminum)	40.8
e and double lock	26.1
	184.1
	147.3
	122.7
	105.2
MS200 (24 ga. steel)	92.1
e and double lcok	81.8
No. and and an analysis of the second	73.6
	66.9
	61.4
	266.8
	213.5
	177.9
	152.5
MS200 (22 ga. steel)	133.4
	118.6
e and double lock	
	106.7
	89.3
	75.0
	207.3
	165.8
	138.2
	118.4
MS200 (24 ga. steel)	103.6
e and double lock	92.1
	82.9
	75.4
	69.1
	300.5
	240.4
	200.3
	171.7
MS200 (22 ga. steel)	150.2
e and double lock	133.5
e and double lock	120.2
	120.2
	84.7
	47.7
nn (0 000)	40.4
PBR (0.032" aluminum)	32.3
	26.9
	192.3
	153.8
	128.2
o DBD (26 ga stool)	109.9
e FBR (20 ga. steet)	96.1
	77.2
	62.6
	51.7
	191.4
	153.1
100	127.6
e PBR (24 ga_steel)	109.4
(2 · ga. 500)	86.4
	68.3
	55.3
	306.4
	245.1
	204.2
a DDD (24 as steel)	153.3
e PBR (24 ga. steel)	117.3
	92.7
	75.1
	62.1
	52.2
e PBR (26 ga. steel)	10 99 77 66 55 119 112 114 88 66 55 30 24 20 119 9

TABLE 5- ALLOWABLE UNIFORM GRAVITY LOADS FOR METAL ROOF PANELS INSTALLED ON SPACED SUPPORTS^{1,2} (continued)

34" wide HR-34 (0.032" aluminum) Mil 34" wide HR-34 (0.032" aluminum) Mil 34" wide HR-34 (26 ga. steel)	n 2.5-inch wide support ³ n 2.5-inch wide support ³ n 2.5-inch wide support ³	See <u>Table 4</u> See <u>Table 4</u> See <u>Table 4</u>	24 30 36 24 30 36 42 48 24 30 36 42 48 54 60 66 72 24	63.2 50.6 42.1 98.6 78.9 65.8 56.4 49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34" wide HR-34 (0.032" aluminum) Mil 34" wide HR-34 (0.032" aluminum) Mil 34" wide HR-34 (26 ga. steel)	n 2.5-inch wide support ³ n 2.5-inch wide support ³	See <u>Table 4</u>	36 24 30 36 42 48 24 30 36 42 48 54 60 66	42.1 98.6 78.9 65.8 56.4 49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34" wide HR-34 (0.032" aluminum) 34" wide HR-34 (26 ga. steel)	n 2.5-inch wide support ³ n 2.5-inch wide support ³		24 30 36 42 48 24 30 36 42 48 54 60 66 72	98.6 78.9 65.8 56.4 49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34" wide HR-34 (0.032" aluminum) 34" wide HR-34 (26 ga. steel)	n 2.5-inch wide support ³		30 36 42 48 24 30 36 42 48 54 60 66	78.9 65.8 56.4 49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3
34" wide HR-34 (0.032" aluminum) 34" wide HR-34 (26 ga. steel)	n 2.5-inch wide support ³		36 42 48 24 30 36 42 48 54 60 66 72	65.8 56.4 49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34" wide HR-34 (26 ga. steel)	n 2.5-inch wide support ³		42 48 24 30 36 42 48 54 60 66 72	56.4 49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34* wide HR-34 (26 ga. steel)	support ³	See <u>Table 4</u>	48 24 30 36 42 48 54 60 66 72	49.3 234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34* wide HR-34 (26 ga. steel)	support ³	See <u>Table 4</u>	24 30 36 42 48 54 60 66	234.6 187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34" wide HR-34 (26 ga. steel)	support ³	See <u>Table 4</u>	30 36 42 48 54 60 66 72	187.6 156.4 134.0 117.3 104.2 93.8 85.3 85.3
34" wide HR-34 (26 ga. steel)	support ³	See <u>Table 4</u>	36 42 48 54 60 66 72	156.4 134.0 117.3 104.2 93.8 85.3 85.3
34* wide HR-34 (26 ga. steel)	support ³	See <u>Table 4</u>	42 48 54 60 66 72	134.0 117.3 104.2 93.8 85.3 85.3
34* wide HR-34 (26 ga. steel)	support ³	See <u>Table 4</u>	48 54 60 66 72	117.3 104.2 93.8 85.3 85.3
Mi		CCC TUDIO 4	54 60 66 72	104.2 93.8 85.3 85.3
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide		60 66 72	93.8 85.3 85.3
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide		66 72	85.3 85.3
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide		72	85.3
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide			
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide			318.2
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide		30	254.6
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide		36	212.1
34" wide HR-34 (24 ga. steel)	n 2.5-inch wide		42	181.8
34" wide HR-34 (24 ga. steel)	L.O IIIOII WIGO	PER PROPERTY IN	48	159.1
	support ³	See Table 4	54	141.4
	Support		60	123.3
			66	101.9
			72	85.6
			96	48.2
			24	361.8
			30	289.5
			36	241.2
			42	206.8
Mi	n 2.5-inch wide		48	180.9
34" wide HR-34 (22 ga. steel)	support ³	See Table 4	54	152.2
			60	127.3
			66	115.7
			72	106.1
			96	60.1
			24	380.0
			30	304.0
			36	253.3
			42	217.1
Mir	n 2.5-inch wide	See <u>Table 4</u>	48	190.0
34" wide HR-34 (20 ga. steel)	support ³		54	168.9
to: 13350 341			60	142.7
			66	117.9
			72	99.1
			96	55.7
			24	244.6
	Min 2.5-inch wide support ³	See <u>Table 4</u>	30	156.6
37.33" wide Classic 7/8 Corrugated Min			36	108.7
(0.032" aluminum)			42	79.9
(U.UUZ GIGITIII GITT)			48	61.2
			52	48.3
			24	356.3
			30	228.0
DESCRIPTION OF THE PROPERTY OF THE PERSON	WENTER DI 1990	See <u>Table 4</u> See <u>Table 4</u>	36	158.3
	Min 2.5-inch wide support ³ Min 2.5-inch wide		42	116.3
(26 ga. steel)			48	89.1
			52	70.4
			60	57.0
			24	485.6
			30	310.8
			36	215.8
200000 10 25 5 20000 0 0 0			42	158.6
			48	121.4
(24 ga. steel)	support ³		52	95.9
			60	77.7
			66	64.2
			72	54.0

TABLE 5- ALLOWABLE UNIFORM GRAVITY LOADS FOR METAL ROOF PANELS INSTALLED ON SPACED SUPPORTS^{1,2} (continued)

TAYLOR METAL ROOF PANEL	SUPPORT	FASTENING PATTERN	MAXIMUM SUPPORT SPACING (inches)	ALLOWABLE UNIFORM LOAD (psf)
			24	571.3
		See <u>Table 4</u>	30	365.6
37.33" wide Classic 7/8 Corrugated (24 ga. steel)			36	253.9
	Min 2.5-inch wide support ³		42	186.5
			48	142.8
			52	112.8
			60	91.4
			66	75.5
			72	63.5
36" wide BR-36 (0.032"	-	See Table 4	24	106.7
aluminum) ²	Min 2.5-inch wide		30	68.3
	support ³	22.000.00	36	47.4
*	i i		24	128.2
36" wide BR-36 (0.040"	Min 2.5-inch wide	200000000000000000000000000000000000000	30	102.6
aluminum) ²	support ³	See Table 4	36	73.8
			42	54.2
			24	490
			30	392
			36	280.6
			42	206.1
00" 11 DD 00 (04 4 1)2	Min 2.5-inch wide		48	157.8
36" wide BR-36 (24 gage steel) ²	support ³	See <u>Table 4</u>	54	124.7
			60	101.0
			66	83.5
			72	70.1
i		See <u>Table 4</u>	24	676.8
			30	520.0
			36	361.1
	Min 2.5-inch wide support ³		42	265.3
201 11 22 22 (22 1 1)2			48	203.1
36" wide BR-36 (22 gage steel) ²			54	160.5
			60	130.0
			66	107.4
			72	90.3
			96	50.8
			24	656.0
			30	514.8
			36	357.5
			42	262.7
36" wide BB 36 (30 gags start)2	Min 2.5-inch wide support ³	Coo Toble 4	48	201.1
36" wide BR-36 (20 gage steel) ²		See Table 4	54	158.9
1	SICONIA (1995)		60	128.7
			66	106.4
			72	89.4
			96	50.3

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kPa.

TABLE 6-FIRE CLASSIFICATION ASSEMBLIES

ROOF CLASSIFICATION	SUBSTRATE	MAX. ROOF SLOPE	F ASSEMBLY DETAILS			
A Noncombustible		II. Parkari	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels		
	Unlimited -	Insulation:	Any UL Classified roofing insulation, except for foam plastic insulation, minimum 1-inch-thick			
A Noncombustible		le Unlimited	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels		
	Noncombustible		Unlimited	Noncombustible Unlimited	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		

¹Tabulated load values are based on panels uniformly loaded and installed on three or more equal span conditions.

²The tabulated spans are able to resist the concentrated roof live load of 300 lbf (1.33 kN) indicated in IBC Table 1607.1.

³The structural support must be designed to resist the applicable forces. When panels are installled over solid or closely fitted deck sheathing, the capacity is limited to the capacity of the underlying sheathing.

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TABLE 6-FIRE CLASSIFICATION ASSEMBLIES (continued)

ROOF CLASSIFICATION	SUBSTRATE	MAX. ROOF SLOPE		ASSEMBLY DETAILS
JE SEE SEATON			Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels
A Combust	Combustible	Combustible Unlimited	Barrier Board:	Georgia Pacific ¼ inch minimum DensDeck board or ¼ 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 ½ 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
			Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels
Α	Noncombustible	Unlimited	Insulation:	Min. 1-inch-thick Perlite (ASTM C728) or wood fiber (ASTM C208, Type II
1992 1	vivine changing on the PAULING CREATE, 157-72.	- Criminado	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
			Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels
A Noncombustible	Unlimited	Barrier Board:	Georgia Pacific ¼ inch minimum DensDeck board or ¼ 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 ½ 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
		bustible Unlimited	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels
A Combustib	Combustible		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
				Ply Sheet (option
		Combustible Unlimited	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 steel roof panels
A (reroofing) Comb	2000 CO 00 00 00 00 00 00 00 00 00 00 00 00 00		Existing Roof System:	Any Class A UL listed asphalt shingle
	Combustible		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
Α	Noncombustible	Unlimited	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 aluminum roof panels

TABLE 6-FIRE CLASSIFICATION ASSEMBLIES (continued)

ROOF CLASSIFICATION	SUBSTRATE	MAX. ROOF SLOPE		ASSEMBLY DETAILS
	A Combustible	Unlimited	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 aluminum roof panels
А			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
B Combus	0	Unlimited	Panels:	Versa Span, MS150, MS200, PBR, HR-34, Classic Corrugated 7/8 and BR-36 aluminum roof panels
	Combustible		Underlayment:	One layer Versashield Fire-resistant Roof Deck Protection mechanically fastened per ESR-2053

¹Wood 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.

³Polyglass USA Polystick XFR self-adhered underlayment is evaluated under ICC-ES evaluation report ESR-1697 and must be installed in accordance with that report.



PANEL PROFILES

12", 14", 16", 18" coverage options

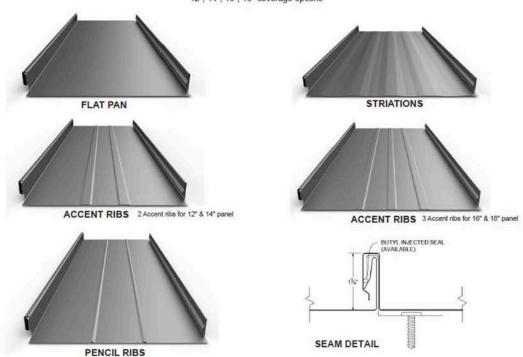


FIGURE 1- TAYLOR METAL PRODUCTS METAL ROOF PANELS

²GAF'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.

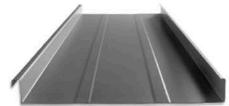


MS-150 TM MECHANICALLY SEAMED

PANEL PROFILES

12", 16", and 18" coverage options



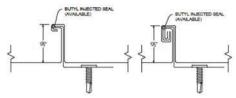


ACCENT RIBS 2 Accent ribs for 12" panel 3 Accent ribs for 16" & 18" panel



90° SEAM DETAIL



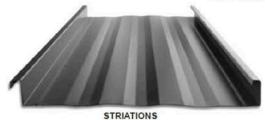




MS-200 TM MECHANICALLY SEAMED

PANEL PROFILES

12", 14", 16", and 18" coverage options





ACCENT RIBS 2 Accent ribs for 12" & 14" panels 3 Accent ribs for 16" & 18" panels



FLAT PAN

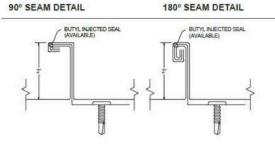
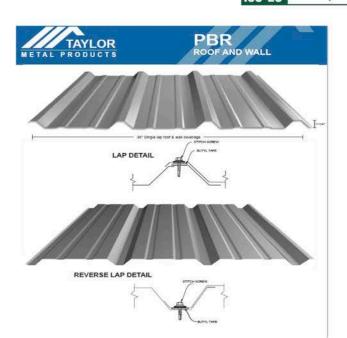
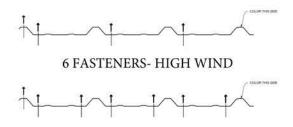


FIGURE 1- TAYLOR METAL PRODUCTS METAL ROOF PANELS (continued)



ROOFING/SIDING PANEL APPLICATION 3 FASTENERS



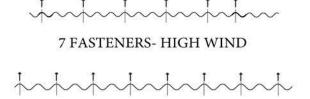
REVERSED SIDING PANEL APPLICATION





ROOF PANEL APPLICATION

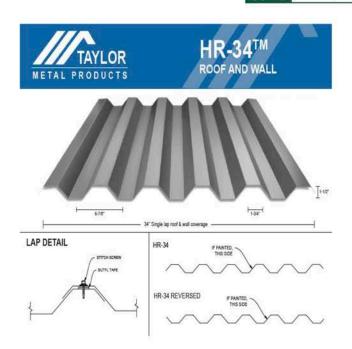
5 FASTENERS



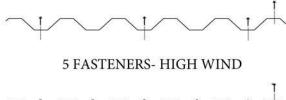
SIDING PANEL APPLICATION

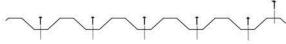


FIGURE 1- TAYLOR METAL PRODUCTS METAL ROOF PANELS (continued)



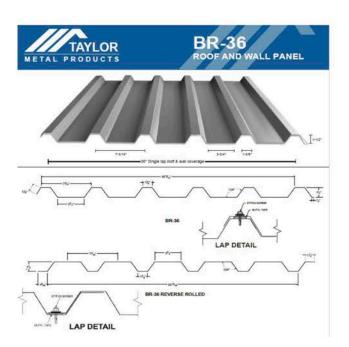
ROOFING/SIDING PANEL APPLICATION 3 FASTENERS



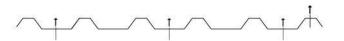


REVERSED SIDING PANEL APPLICATION





ROOFING/SIDING PANEL APPLICATION 3 FASTENERS



5 FASTENERS- HIGH WIND

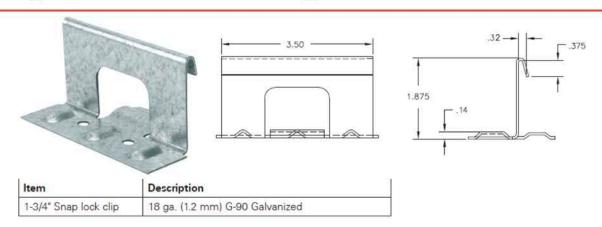


REVERSED SIDING PANEL APPLICATION



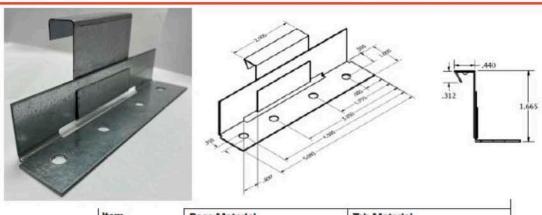
FIGURE 1- TAYLOR METAL PRODUCTS METAL ROOF PANELS (continued)

1-3/4" Versa-Span Snap Lock Panel Clip



Manufactured by: Clip Master SFS AMSI

1-1/2" MS-150 Floating Clips

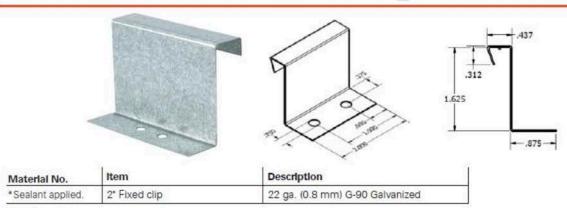


em	Base Material	Tab Material
1/2° Float clip	18 ga. (1.5 mm) G-90 Galvanized	22 ga. (0.8 mm) G-90 Galvanized
		m Base Material 1/2* Float clip 18 ga. (1.5 mm) G-90 Galvanized

Manufactured by: Clip Master AMSI

FIGURE 2- TAYLOR METAL PRODUCTS PANEL CLIPS FOR STANDING SEAM METAL ROOF PANELS

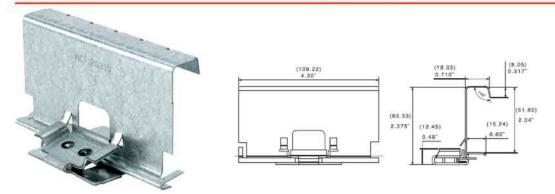
1-1/2" MS-150 Fixed Clip



Manufactured by: Clip Master SFS

AMSI

2" MS-200 Floating Clip



Material No. Item		Base Material	Tab Material
1184718*	2" Float clip	16 ga. (1.5 mm) G-90 Galvanized	22 ga. (0.8 mm) G-90 Galvanized

^{*}Sealant applied.

Manufactured by: SFS

FIGURE 2- TAYLOR METAL PRODUCTS PANEL CLIPS FOR STANDING SEAM METAL ROOF PANELS (continued)

2" MS-200 Fixed Clip



Manufactured by: Clip Master SFS AMSI

FIGURE 2- TAYLOR METAL PRODUCTS PANEL CLIPS FOR STANDING SEAM METAL ROOF PANELS (continued)



ICC-ES Evaluation Report

ESR-5046 LABC and LARC Supplement

Reissued November 2023

This report is subject to renewal November 2024.

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A Subsidiary of the International Code Council®

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 <u>ESR-5046</u>, 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:

- 2020 City of Los Angeles Building Code (LABC)
- 2020 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 2018 International Building Code® (IBC) provisions 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 2020-16, "Dwellings in High Wind Velocity Areas (HWA)".

This supplement expires concurrently with the evaluation report, reissued November 2023.





ICC-ES Evaluation Report

ESR-5046 CBC and CRC Supplement

Reissued November 2023

This report is subject to renewal November 2024.

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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:

■ 2022 and 2019 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 Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

■ 2022 and 2019 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 2022 or 2019 CBC Section 1505.1.1, a Class B roof covering complying with 2019 CBC Section 1505.1.2, or a Class C roof covering complying with 2022 CBC Section 1505.1.2 or 2019 CBC Section 1505.1.3, provided the design and installation are in accordance with the 2021 and 2018 International Building Code® (IBC) provisions noted in the evaluation report, and the additional requirements of CBC Chapters 16 and 17 as applicable.

- **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 and 5], provided the design and installation are in accordance with the 2021 and 2018 *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 2021 and 2018 *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 roof covering complying with 2022 or 2019 CRC Section R902.1.1, a Class B roof covering complying with 2019 CRC Section R902.1.2, or a Class C roof covering complying with 2022 CRC Section R902.1.2 or 2019 CRC Section R902.1.3, provided the design and installation are in accordance with the 2021 and 2018 International Residential Code® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Section R905.4.

This supplement expires concurrently with the evaluation report, reissued November 2023.

