Code Compliance Research Report
CCRR-0531

Issue Date: 02-19-2024
Revision Date: 02-11-2025
Renewal Date: 02-28-2026

DIVISION: 07 00 00 – Thermal and Moisture Protection
Section: 07 41 13 – Metal Roofing Panels

REPORT HOLDER:
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REPORT SUBJECT:
Morin MorZip, SLR, SWL and Symmetry Metal Roofing Panels

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

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

NOTE: This report references the most recent editions of the codes cited. Section numbers in earlier editions may differ.

1.2 The MorZip, SLR, SWL and Symmetry roofing panels have been evaluated for the following properties (see Table 1):

- Physical properties
- Wind resistance
- Fire classification

1.3 The MoZzip, SLR, SWL and Symmetry roofing panels have been evaluated for the following uses (see Table 1):

- Metal roof panels in accordance with IBC Section 1507.4 and IRC Section R905.10

2.0 STATEMENT OF COMPLIANCE

The MorZip, SLR, SWL and Symmetry roofing panels comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

3.0 DESCRIPTION

3.1 MorZip, SLR, SWL and Symmetry Roofing Panels: The roofing panels are made of steel sheet, 55% aluminum-zinc alloy-coated structural steel (SS), Grade 40 or 50, Class 1, conforming to ASTM A792; or aluminum, Type 3003-H14/3004-H34, conforming to ASTM B209. See the span tables and figures at the end of this report for thicknesses and profiles.

3.2 Panel Clips: The panels clips are illustrated in Tables 2 through 5. MorZip clips are 20 ga. steel, SLR clips are 22 ga. steel, SWL clips are 18 ga. steel, and Symmetry clips are 16 ga. steel. The clips are formed from G90 galvanized steel conforming to ASTM A792.

3.3 Fasteners: Fasteners shall be self-drilling, self-tapping corrosion-resistant screws. Screw size and specification are determined by the design.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Wind Resistance: When installed as described in this report, the panels have an allowable wind resistance as denoted in the Span Tables at the end of this report.

4.2 Fire Classification: The metal panels are Class A roof assemblies when installed in accordance with Exception 2 in IBC Section 1505.2 or Exception 2 in IRC Section R902.1. For use over combustible roof decks, tests in accordance with ASTM E108 or UL 790 must be provided to the satisfaction of the Authority Having Jurisdiction.

5.0 INSTALLATION

5.1 General:

The MorZip, SLR, SWL and Symmetry roofing panels must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

The panels must be with seams running eave to ridge. The roof deck and framing members must be specified by design and must be justified by engineering analysis. The panels must be attached to framing using the applicable system clip at the spacing indicated for the panel spans in Tables 2 through 5 at the end of this report. The type of fastener and the number of fasteners used per clip must be designed and calculations by a registered design professional must be provided to the building official.

Underlayment complying with, and installed in accordance with, IBC Section 1507.1.1 or IRC Section R905.1.1, as applicable, is required.

Flashing must be in accordance with IBC Section 1503.2 and IRC Section R903.2.

Minimum roof slope is 1/4:12.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 Structural calculations demonstrating that applied loads are less than the allowable loads must be submitted to the local building official for approval.

6.3 The approval of the structural substrate to which the panels are attached is beyond the scope of this report.

6.4 A licensed design professional shall analyze the fasteners for pullout for use with the specified roof deck and framing. The framing shall be verified by the structural plans examiner.

6.5 The allowable wind uplift resistance shown in the tables at the end of this report is for the metal panels only. The roof deck and framing to which the panels are attached must be designed for components and cladding in accordance with IBC Section 1609 and IRC Section R301.2.1.

6.6 The panels are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM E1592.

7.2 Intertek Listing Report "Morin MorZip, SLR, SWL and Symmetry Series Metal Roofing Panels," on the Intertek Directory of Building Products.

8.0 IDENTIFICATION

The MorZip, SLR, SWL and Symmetry roofing panels are identified with the manufacturer's name (Morin Corporation), the product name, job or lot number, the Intertek Mark as shown below, the Intertek Control Number and the Code Compliance Research Report number (CCRR-0531).

9.0 OTHER CODES

This section is not applicable.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

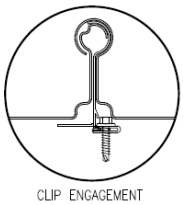
Property	2024 IBC	2024 IRC
Physical properties	1507.4	R905.10
Wind resistance	1504.4.2	R905.10.5
Fire classification	1505	R902.1

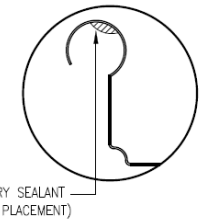
Section numbers in earlier editions of the codes may differ.

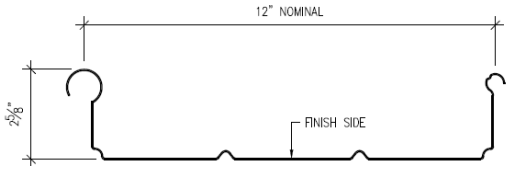
Notes for the Span Tables and Drawings (Tables 2 through 5) on the following pages:

1. Values shown are uniformly distributed negative loads for multiple span conditions (≥3 spans)
2. Values do not include consideration of sub-framing or fasteners, to be determined by qualified personnel
3. All pressures values reflect a safety factor of 2.0 (Ultimate load/2.0)
4. Ultimate loads determined from ASTM E1592 testing which is limited to the assembly of Metal panel, applicable clip and fastener system, does not include – flashing, sealants, sub-framing, metal studs, or insulation
5. Requires use of applicable system Clip
6. * Indicates tested material (all other values are interpolated)
7. For project specific calculations, please contact Morin Technical Services at 800-640-9501

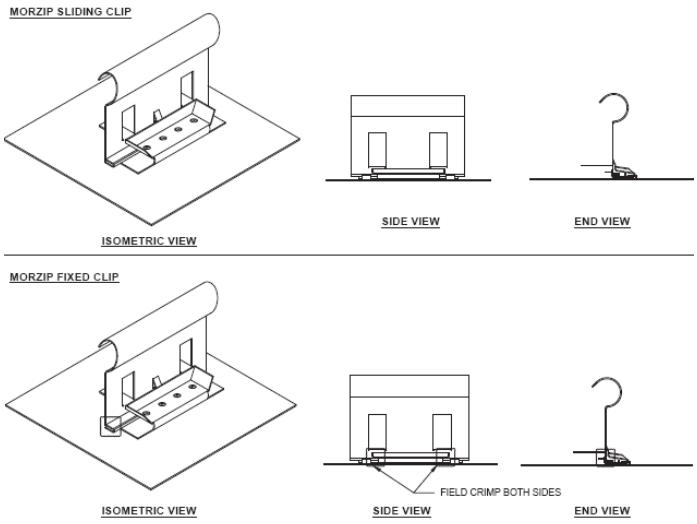
TABLE 2 – MORZIP SERIES PANELS – ILLUSTRATIONS, ALLOWABLE LOADS AND SPANS







MorZip Panel Profile: MZ-12-2 shown (similar for MZ-16-2 and MZ-18-2)



Morzip Series Clip

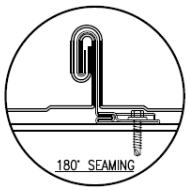
Panel Type: **MorZip**
Material Type: **Aluminum**
Deflection Limit: **L/180**
Clip Type: **MorZip clip**

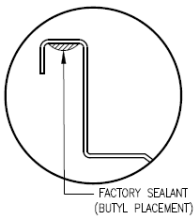
Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	0.040*	67.8	60.3	56.6	52.8	49.1	45.4	41.6	37.9	34.2	30.4
	0.050*	133.5	111.5	100.5	89.5	78.5	67.5	56.5	45.5	34.5	23.5
16	0.040*	42.7	39.2	37.4	35.6	33.8	32.0	30.2	28.5	26.7	24.9
	0.050*	61.9	55.2	51.8	48.5	45.1	41.7	38.4	35.0	31.6	28.3
18	0.040*	28.8	27.1	26.2	25.4	24.5	23.6	22.8	21.9	21.0	20.2
	0.050	44.0	41.2	39.8	38.4	37.0	35.6	34.2	32.8	31.4	30.0

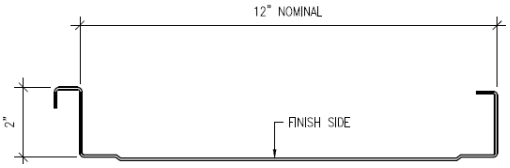
Panel Type: **MorZip**
Material Type: **Galvalume**
Deflection Limit: **L/180**
Clip Type: **MorZip Clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	20ga*	138.9	119.4	109.7	99.9	90.2	80.4	70.7	60.9	51.2	41.5
	22ga*	91.5	80.6	75.1	69.6	64.2	58.7	53.3	47.8	42.3	36.9
	24ga*	68.1	60.6	56.9	53.2	49.4	45.7	41.9	38.2	34.5	30.7
16	20ga*	84.5	77.7	74.3	70.9	67.5	64.1	60.7	57.4	52.3	47.9
	22ga*	81.4	71.4	66.4	61.4	56.5	51.5	46.5	41.5	33.1	30.6
	24ga	78.4	65.2	58.6	52.0	45.5	38.9	32.3	25.7	19.1	12.5
18	20ga*	79.1	73.0	69.9	66.9	63.8	60.7	57.7	54.5	51.5	48.5
	22ga*	36.4	34.7	33.8	33.0	32.1	31.2	30.4	29.5	28.6	27.8
	24ga*	23.4	23.0	22.8	22.6	22.5	22.3	22.1	21.9	21.7	21.5

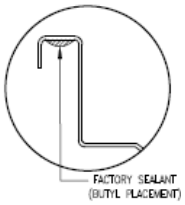
TABLE 3 – SLR SERIES PANELS - ILLUSTRATIONS, ALLOWABLE LOADS AND SPANS

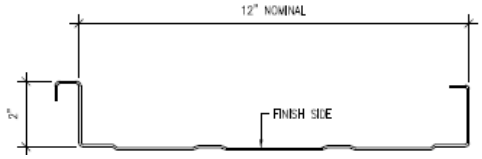




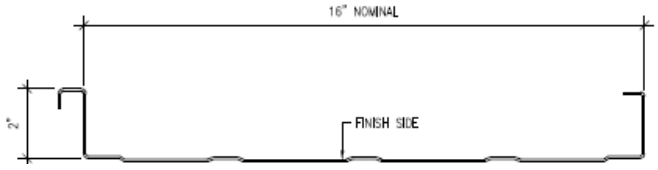


SLR-12-0 (similar for SLR-16-0)

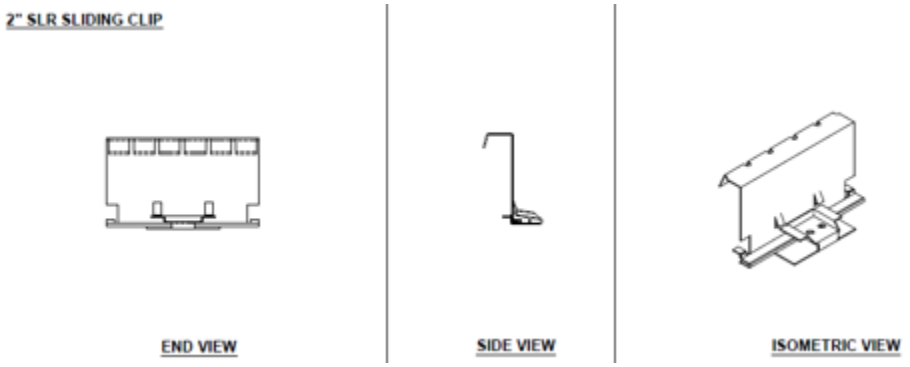




SLR-12-2 (similar for SLR-16-2 and SLR-18-2)



SLR-16-3 (similar for SLR-18-3)



SLR Series Clips

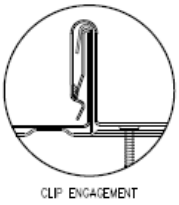
Panel Type: **SLR**
Material Type: **Aluminum**
Deflection Limit: **L/180**
Clip Type: **SLR clip**

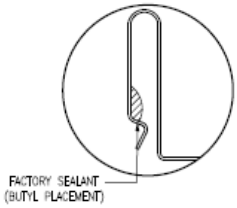
Panel Width	Panel Thickness	Allowable Uplift Pressures, psf								
		Panel Span, ft								
in.	in.	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	0.032	91.3	85.3	79.3	73.4	67.4	61.4	55.4	49.4	43.4
	0.040	128.7	116.4	104.1	91.9	79.6	67.3	55.1	42.7	30.4
16	0.032*	70.5	64.4	58.2	52.1	45.9	39.8	33.6	27.5	21.3
	0.040*	95.8	86.4	77.0	67.6	58.2	48.8	39.4	30.0	20.6
18	0.032*	60.1	53.9	47.6	41.4	35.2	28.9	22.7	16.4	10.2
	0.040*	62.9	57.7	52.5	47.3	42.0	36.8	31.6	26.4	21.2

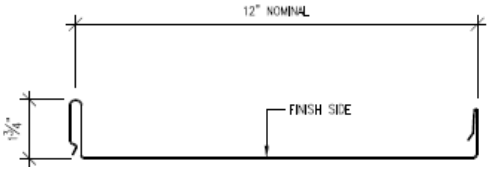
Panel Type: **SLR**
Material Type: **Galvalume**
Deflection Limit: **L/180**
Clip Type: **SLR clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf								
		Panel Span, ft								
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	24ga*	81.2	76.3	73.8	71.3	68.8	66.3	63.9	61.4	58.9	56.4
	22ga	131.2	117.9	111.3	104.6	98.0	91.3	84.7	78.0	71.4	64.7
	20ga*	181.2	159.5	148.7	137.9	127.1	116.3	106	94.6	83.8	73.0
16	24ga*	107.4	88.5	79.1	69.6	60.2	50.7	41.3	31.8	22.4	-
	22ga*	120.2	102.7	94.0	85.2	76.5	67.7	59.0	50.2	41.5	32.7
	20ga	133.1	117.0	108.9	100.9	92.8	84.7	76.7	68.6	60.5	52.5
18	24ga*	92.3	83.9	75.5	67.1	58.7	50.2	41.8	33.4	25.0	16.6
	22ga*	127.4	115.4	103.4	91.4	79.4	67.4	55.4	43.4	31.4	19.4
	20ga	162.1	146.9	131.3	115.7	100.2	84.6	69.0	53.4	37.8	22.2

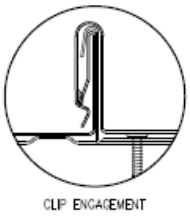
TABLE 4 – SWL SERIES PANELS - ILLUSTRATIONS, ALLOWABLE LOADS AND SPANS

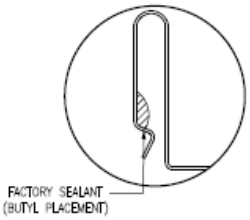


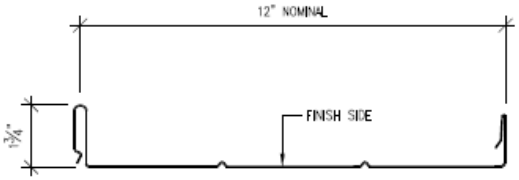




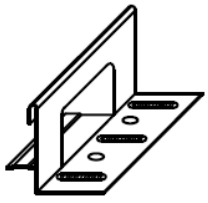
SWL-12-0 (similar for SWL-16-0)







SWL-12-2 (similar for SWL-16-2 and SWL-18-2)



SWL CLIP

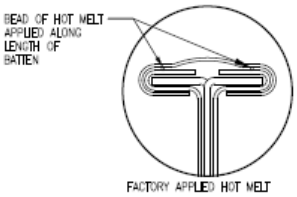
Panel Type: SWL
Material Type: Aluminum
Deflection Limit: L/180
Clip Type: SWL Clip

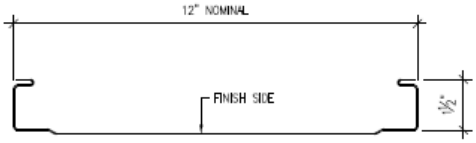
Panel Width	Panel Thickness	Allowable Uplift Pressures, psf							
		Panel Span, ft							
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0
8	0.040*	36.7	33.4	31.7	30.1	28.4	26.7	25.1	23.4
12	0.040*	26.0	24.3	23.5	22.6	21.8	20.9	20.1	19.2
16	0.032*	28.9	24.6	22.4	20.3	18.1	16.0	13.8	11.6
	0.040*	36.8	32.7	30.7	28.6	26.6	24.5	22.5	20.5

Panel Type: SWL
Material Type: Galvalume
Deflection Limit: L/180
Clip Type: SWL clip

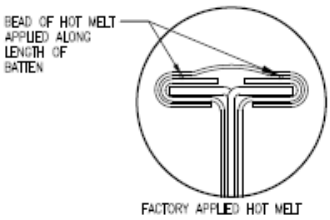
Panel Width	Panel Thickness	Allowable Uplift Pressures, psf							
		Panel Span, ft							
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0
12	22ga	57.8	52.4	49.7	47.0	44.3	41.5	38.8	36.1
16	22ga*	55.4	50.2	47.6	45.0	42.4	39.8	37.1	34.5
	24ga*	39.6	35.3	33.1	31.0	28.8	26.6	24.5	22.3
18	22ga	55.8	49.4	46.2	43.0	39.7	36.5	33.3	30.1

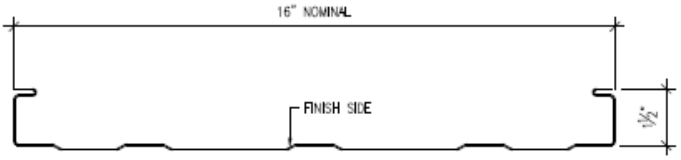
TABLE 5 – SYMMETRY SERIES PANELS – ILLUSTRATIONS, ALLOWABLE LOADS AND SPANS



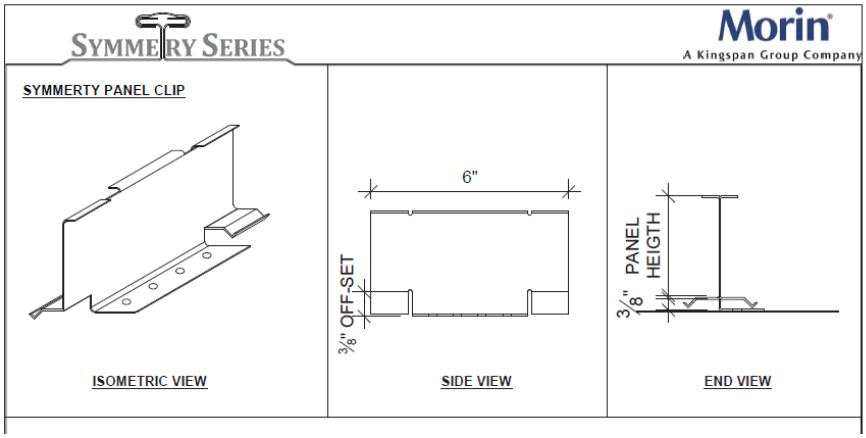


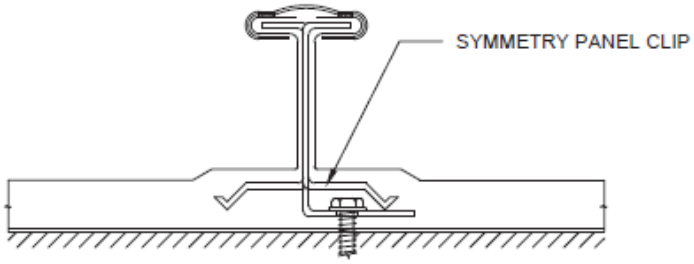
SYM1.5-12-0 (similar for SYM1.5-16-0, SYM 2.0-12-0, SYM2.5-12-0, SYM2.5-16-0, SYM3.0-12-0 and SYM3.0-16-0)





SYM1.5-16-3 (similar for SYM1.5-18-3, SYM2.0-16-3, SYM2.0-18-3, SYM2.5-16-3, SYM2.5-18-3, SYM3.0-16-3, SYM3.0-18-3)





Panel Type: **Symmetry**
Seam Hght: **1.5"**
Material Type: **Aluminum**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	0.040*	138.3	121.4	112.9	104.4	95.9	87.5	79.0	70.5	62.0	53.6
	0.050*	99.5	92.7	89.3	85.9	82.4	79.0	75.6	72.2	68.8	65.4
16	0.040	65.5	61.7	59.8	57.9	56.0	54.1	52.3	50.4	48.5	46.6
	0.050	98.8	90.5	86.3	82.2	78.0	73.8	69.7	65.5	61.3	57.2
18	0.040*	61.9	58.1	56.2	54.4	52.5	50.6	48.7	46.9	45.0	43.1
	0.050*	97.9	88.2	83.3	78.5	73.6	68.7	63.9	59.0	54.1	49.3

Panel Type: **Symmetry**
Seam Hght: **1.5"**
Material Type: **Galvalume**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	20ga*	172.6	152.8	142.9	133.0	123.0	113.1	103.2	93.3	83.4	73.5
	22ga	133.6	118.1	110.4	102.6	94.9	87.2	79.4	71.7	64.0	56.2
	24ga*	94.5	83.4	77.9	72.3	66.8	61.2	55.7	50.1	44.6	39.0
16	20ga	141.8	123.7	114.7	105.7	96.7	87.7	78.7	69.6	60.6	51.6
	22ga	100.3	88.6	82.8	76.9	71.1	65.2	59.4	53.5	47.7	41.8
	24ga	59.0	53.6	50.9	48.2	45.5	42.8	40.1	37.4	34.7	32.0
18	20ga*	126.5	109.3	100.7	92.1	83.5	74.9	66.3	57.7	49.1	40.5
	22ga	83.7	73.9	69.0	64.1	59.2	54.2	49.3	44.4	39.5	34.6
	24ga*	41.2	38.6	37.4	36.1	34.8	33.6	32.3	31.0	29.8	28.5

Panel Type: **Symmetry**
Seam Hght: **2.0"**
Material Type: **Aluminum**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	0.040	46.1	48.4	49.5	50.6	51.7	52.9	54.0	55.1	56.2	57.4
	0.050	109.0	100.0	95.5	91.1	86.6	82.1	77.6	73.1	68.6	64.1
16	0.040	75.6	69.0	65.7	62.4	59.1	55.8	52.5	49.2	45.9	42.6
	0.050	104.4	95.2	90.6	86.0	81.4	76.8	72.2	67.6	63.0	58.4
18	0.040	62.2	57.4	55.0	52.6	50.2	47.8	45.4	43.0	40.7	38.3
	0.050	95.1	85.5	80.7	75.9	71.1	66.3	61.5	56.7	51.9	47.1

Panel Type: **Symmetry**
Seam Hght: **2.0"**
Material Type: **Galvalume**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	20ga	176.0	156.2	146.2	136.3	126.4	116.4	106.5	96.6	86.7	76.7
	22ga	131.6	117.4	110.2	103.1	96.0	88.8	81.7	74.6	67.4	60.3
	24ga	87.3	78.6	74.2	69.9	65.5	61.2	56.9	52.5	48.2	43.8
16	20ga	139.0	122.2	113.9	105.5	97.1	88.8	80.4	72.0	63.7	55.3
	22ga	97.4	86.8	81.5	76.2	70.9	65.6	60.3	55.1	49.8	44.5
	24ga	55.3	50.9	48.8	46.6	44.4	42.2	40.1	37.9	35.7	33.6
18	20ga	120.4	105.2	97.6	90.1	82.5	74.9	67.3	59.7	52.2	44.6
	22ga	80.2	71.5	67.1	62.8	58.4	54.0	49.7	45.3	40.9	36.6
	24ga	40.1	37.8	36.6	35.5	34.3	33.1	32.0	30.8	29.7	28.5

Panel Type: **Symmetry**
Seam Hght: **2.5"**
Material Type: **Aluminum**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	0.040	104.0	95.4	91.1	86.9	82.6	78.3	74.0	69.8	65.5	61.2
	0.050	118.3	107.3	101.8	96.3	90.7	85.2	79.7	74.2	68.7	63.2
16	0.040	76.1	69.5	66.2	62.9	59.6	56.2	52.9	49.6	46.3	43.0
	0.050	101.0	91.0	86.0	81.0	76.0	71.0	66.0	61.0	56.0	51.0
18	0.040	62.6	56.7	53.8	50.9	48.0	45.1	42.1	39.2	36.3	33.4
	0.050	92.3	82.9	78.1	73.4	68.6	63.9	59.2	54.4	49.7	44.9

Panel Type: **Symmetry**
Seam Hght: **2.5"**
Material Type: **Galvalume**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	20ga	179.4	159.5	149.6	139.7	129.7	119.8	109.8	99.9	89.9	80.0
	22ga	128.8	115.9	109.4	103.0	96.5	90.1	83.7	77.2	70.8	64.3
	24ga	65.5	64.1	63.4	62.6	61.9	61.2	60.5	59.8	59.1	58.3
16	20ga	107.6	97.9	93.0	88.2	83.3	78.4	73.6	68.7	63.9	59.0
	22ga	95.8	86.0	81.2	76.3	71.5	66.6	61.7	56.9	52.0	47.1
	24ga	56.9	51.2	48.4	45.5	42.7	39.8	37.0	34.2	31.3	28.5
18	20ga	114.5	101.3	94.7	88.1	81.5	74.9	68.3	61.7	55.1	48.5
	22ga	76.7	69.1	65.3	61.4	57.6	53.8	50.0	46.2	42.3	38.5
	24ga	38.8	36.7	35.7	34.7	33.6	32.6	31.6	30.6	29.5	28.5

Panel Type: **Symmetry**
Seam Hght: **3.0"**
Material Type: **Aluminum**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	0.040*	86.8	82.4	80.2	78.1	75.9	73.7	71.5	69.4	67.2	65.0
	0.050*	127.6	114.5	108.0	101.5	94.9	88.4	81.8	75.3	68.7	62.2
16	0.040	70.8	64.8	61.8	58.8	55.8	52.8	49.8	46.8	43.8	40.8
	0.050	99.1	88.8	83.6	78.5	73.3	68.2	63.1	57.9	52.8	47.6
18	0.040*	62.9	56.0	52.6	49.2	45.7	42.3	38.9	35.5	32.0	28.6
	0.050*	89.5	80.2	75.5	70.8	66.2	61.5	56.8	52.1	47.5	42.8

Panel Type: **Symmetry**
Seam Hght: **3.0"**
Material Type: **Galvalume**
Deflection Limit: **L/180**
Clip Type: **Symmetry clip**

Panel Width	Panel Thickness	Allowable Uplift Pressures, psf									
		Panel Span, ft									
in.	in.	1.0	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
12	20ga*	182.8	162.9	153.0	143.0	133.0	123.1	113.1	103.2	93.2	83.2
	22ga	127.8	115.9	110.0	104.0	98.1	92.1	86.2	80.3	74.3	68.4
	24ga*	72.8	68.9	67.0	65.1	63.1	61.2	59.3	57.4	55.4	53.5
16	20ga	133.3	119.2	112.1	105.1	98.0	90.9	83.9	76.8	69.7	62.7
	22ga	91.4	83.1	78.9	74.8	70.6	66.4	62.3	58.1	54.0	49.8
	24ga	49.5	47.0	45.7	44.5	43.2	41.9	40.7	39.4	38.2	36.9
18	20ga*	108.6	97.3	91.7	86.1	80.5	74.9	69.3	63.6	58.0	52.4
	22ga	73.2	66.7	63.4	60.1	56.9	53.6	50.3	47.0	43.8	40.5
	24ga*	37.9	36.0	35.1	34.2	33.2	32.3	31.3	30.4	29.4	28.5