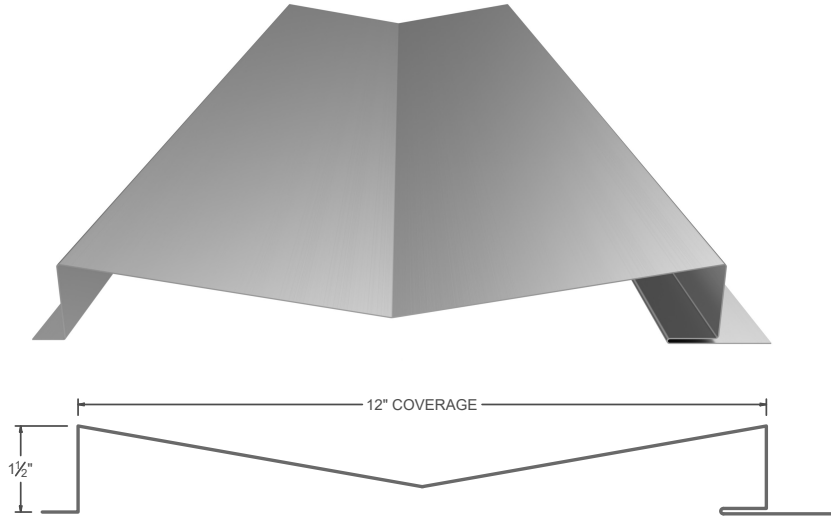




ICC
EVALUATION
SERVICE®


ICC-ESR EVALUATION REPORT #5045 with CBC-CRC Supplement (coming 2024)



KEY FEATURES

- 24 and 22 Tru-Gauge™
- .032" & .040" Aluminum
- 20 and 18 gauge, .050" and .063" Aluminum available (Please Inquire)
- Custom lengths 2' to 20'10"
- 2' Shortcut capability (Fee applicable)
- Concealed Fasteners: fasteners cannot leak
- High-wind clips are available
- Versatile in wall and soffit applications
- "Oil Canning" is an inherent characteristic of roof and wall products, and not a defect, which is not a cause for panel rejection.

TESTING

-  ICC-ESR #5045 with CBC-CRC Supplement (coming 2024)
- ASTM E1592 - Structural uniform static air pressure
- ASTM E1680 - Air infiltration (roof)
- ASTM E1646 - Water infiltration (roof)
- ASTM E331 - Water infiltration (wall)
- ASTM E283 - Air infiltration (wall)
- ASTM A653/A924 - G90 Galvanized
- ASTM A792 - Zinalume/Galvalume AZ-50/55
- ASTM B209 - Aluminum Substrate

WEIGHT CHART (Values based on 1-1/2")

Chevron V	WIDTH	24 GA STEEL	22 GA STEEL	.032" ALUM	.040" ALUM
THICKNESS		0.0236"	0.0285"	0.032"	0.040"
WEIGHT/LINFT	12"	1.495 LBS	1.806 LBS	0.709 LBS	0.886 LBS
WEIGHT/LSQFT	12"	1.495 LBS	1.806 LBS	0.709 LBS	0.886 LBS

ASTM E 1680/E283 Air Penetration	ASTM E 1646/E331 Water Penetration
12 PSF < 0.01 CFM/ft²-PASS	20.5 PSF - Pass
Force Engineering 696-0026T-23E-H	
Force Engineering 696-0026T-23A-D	
STRUCTURAL TESTING ASTM E 1592	

NEGATIVE LOAD CHART WITH HIGH WIND CLIP ATTACHMENT

Width, in. Gauge Yield ksi Weight psf				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)								
				Top in Compression			Bottom in Compression			Negative Load								
				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	1.49	0.0577	0.0599	0.0610	0.0654	0.0631	0.0761	156.1	141.5	126.8	112.2	97.6	82.9	68.3	53.6	39.0
12	22	50	1.76	0.0715	0.0734	0.0778	0.0782	0.0763	0.0917	156.1	142.1	128.1	114.1	100.2	86.2	72.2	58.2	44.2
12	20	33	2.14	0.0909	0.0926	0.1027	0.0968	0.0950	0.1153	156.1	142.1	128.1	114.1	100.2	86.2	72.2	58.2	44.2
12	18	33	2.78	0.1240	0.1248	0.1482	0.1270	0.1261	0.1560	156.1	142.1	128.1	114.1	100.2	86.2	72.2	58.2	44.2

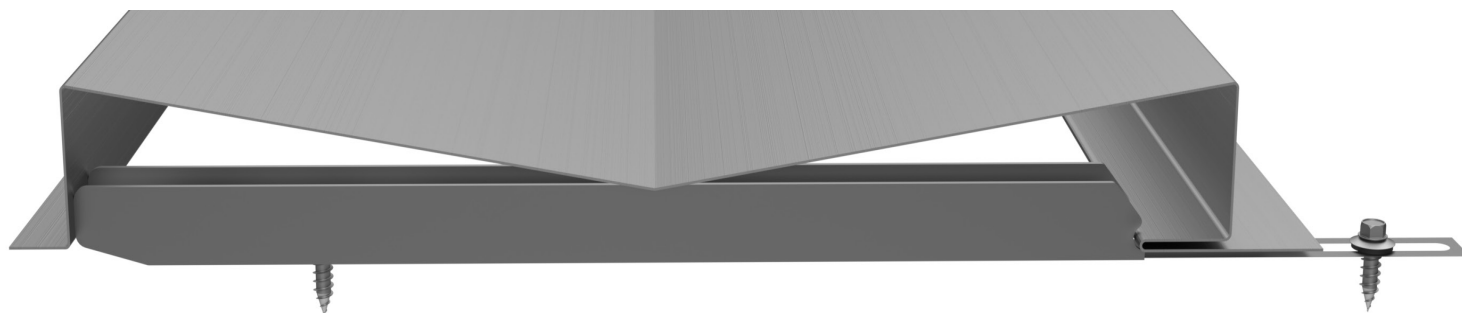
- Theoretical section properties for steel panels have been calculated per AISI S100 specification for the design of cold-formed steel structural members.
- Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
- Allowable uniform loads are based on the ultimate uniform load (per ASTM E1592-05 testing) divided by a 2.00 factor-of-safety.
- Allowable uniform loads do not consider panel weight (dead load) or clip-to-substrate (structure) fastener connection strength.
- Panel tested using 16GA. High wind clip.
- Deflection limit consideration for positive (downward) loading is limited to a deflection ratio of L/180 of the span..where “L” is the span.
- Allowable uniform loads cannot be increased by 1/3.
- Minimum recommended substrate (structure) recommendations:
 - Open-framing (i.e. purlins) - 16GA. (design thickness = 0.0566")
 - Plywood/OSB - 15/32" or thicker is recommended to assure an effective degree of fastener thread engagement.
 - Metal deck - 22GA. (design thickness = 0.0283")

POSITIVE LOAD CHART WITH HIGH WIND CLIP ATTACHMENT

Width, in. Gauge Yield ksi Weight psf				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)									
				Top in Compression			Bottom in Compression			Positive Load									
				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'
12	24	50	1.49	0.0577	0.0599	0.0610	0.0654	0.0631	0.0761	551.8	275.9	169.4	95.3	61.0	42.4	31.1	23.8	18.8	15.3
12	22	50	1.76	0.0715	0.0734	0.0778	0.0782	0.0763	0.0917	756.4	378.2	216.1	121.6	77.8	54.0	39.7	30.4	24.0	19.5
12	20	33	2.14	0.0909	0.0926	0.1027	0.0968	0.0950	0.1153	761.8	380.9	188.3	105.9	67.8	47.1	34.6	26.5	20.9	17.0
12	18	33	2.78	0.1240	0.1248	0.1482	0.1270	0.1261	0.1560	1315.5	611.3	271.7	152.8	97.8	67.9	49.9	38.2	30.2	24.5

- Theoretical section properties for steel panels have been calculated per AISI S100 specification for the design of cold-formed steel structural members.
- Allowable load does not address panel weight, fasteners, connection strength or support material.
- Allowable load includes web crippling.
- Panel weight is not considered.
- Load/Span values are based on theoretical computations and not load testing.
- Deflection is not considered.
- Allowable loads do not include a 1/3 stress increase for wind.

PANEL ATTACHMENT



Fastener Notes:

- When possible, lap panels away from prevailing wind direction.
- Panel screws should be long enough to penetrate through the bottom of the plywood by 3/8".
- For dimensional lumber, panel screws should penetrate the lumber 1".
- All trim screws used for roof or wall applications should have EPDM sealing washers.
- Clean off working area each day to remove metal particles left from drilling fasteners. These particles, when exposed to moisture, will form rust between metal particles and the panel.

NEGATIVE LOAD CHART WITH STITCH SCREW ATTACHMENT

				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)						
Width, in.	Gauge	Yield ksi	Weight psf	Top in Compression			Bottom in Compression			Negative Load						
				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'
12	24	50	1.49	0.0577	0.0599	0.0610	0.0654	0.0631	0.0761	119.7	110.2	100.6	91.1	81.6	72.0	62.5
12	22	50	1.76	0.0715	0.0734	0.0778	0.0782	0.0763	0.0917	130.1	122.7	115.2	107.8	100.4	92.9	85.5
12	20	33	2.14	0.0909	0.0926	0.1027	0.0968	0.0950	0.1153	130.1	122.7	115.2	107.8	100.4	92.9	85.5
12	18	33	2.78	0.1240	0.1248	0.1482	0.1270	0.1261	0.1560	130.1	122.7	115.2	107.8	100.4	92.9	85.5

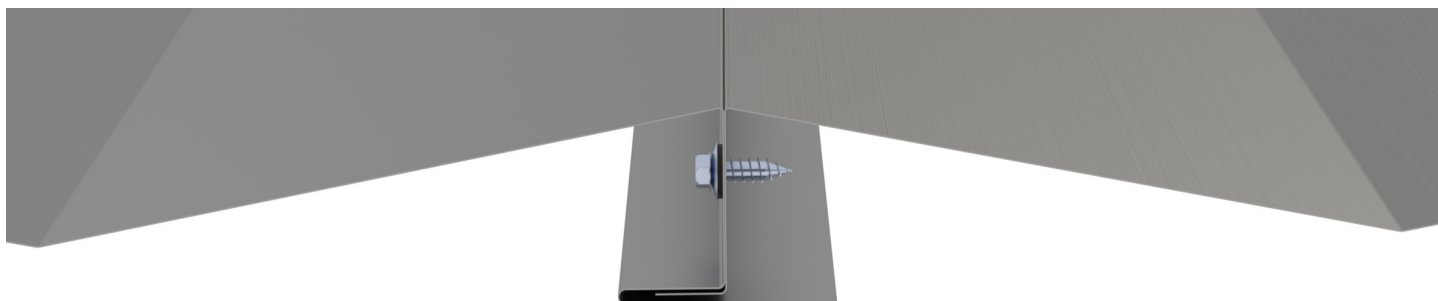
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POSITIVE LOAD CHART WITH STITCH SCREW ATTACHMENT

				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)									
Width, in.	Gauge	Yield ksi	Weight psf	Top in Compression			Bottom in Compression			Positive Load									
				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'
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12	18	33	2.78	0.1240	0.1248	0.1482	0.1270	0.1261	0.1560	1315.5	611.3	271.7	152.8	97.8	67.9	49.9	38.2	30.2	24.5

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