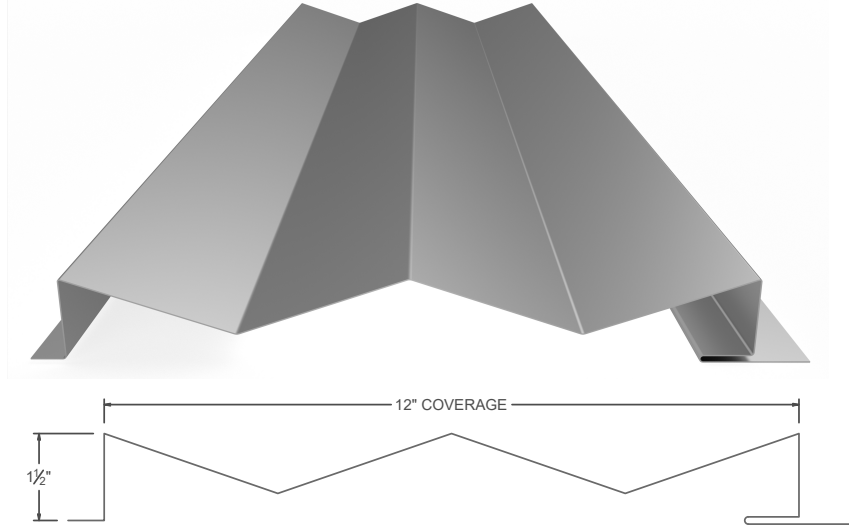





ICC-ESR EVALUATION REPORT #5045 with CBC-CRC Supplement (coming 2024)



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 W	WIDTH	24 GA STEEL	22 GA STEEL	.032" ALUM	.040" ALUM
THICKNESS		0.0236"	0.0285"	0.032"	0.040"
WEIGHT/LINFT	12"	1.535 LBS	1.853 LBS	0.727 LBS	0.909 LBS
WEIGHT/LSQFT	12"	1.535 LBS	1.853 LBS	0.727 LBS	0.909 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 696-0017T-24A-B	
Force Engineering 696-0017T-24C-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'
12	24	50	1.54	0.0746	0.0722	0.0869	0.0664	0.0688	0.0751	135.3	123.3	111.2	99.2	85.2	75.1	63.1	51.0	39.0
12	22	50	1.82	0.0942	0.0904	0.1126	0.0812	0.0850	0.0906	135.3	123.3	111.2	99.2	85.2	75.1	63.1	51.0	39.0
12	20	33	2.21	0.1370	0.1280	0.1687	0.1060	0.1150	0.1212	135.3	123.3	111.2	99.2	85.2	75.1	63.1	51.0	39.0

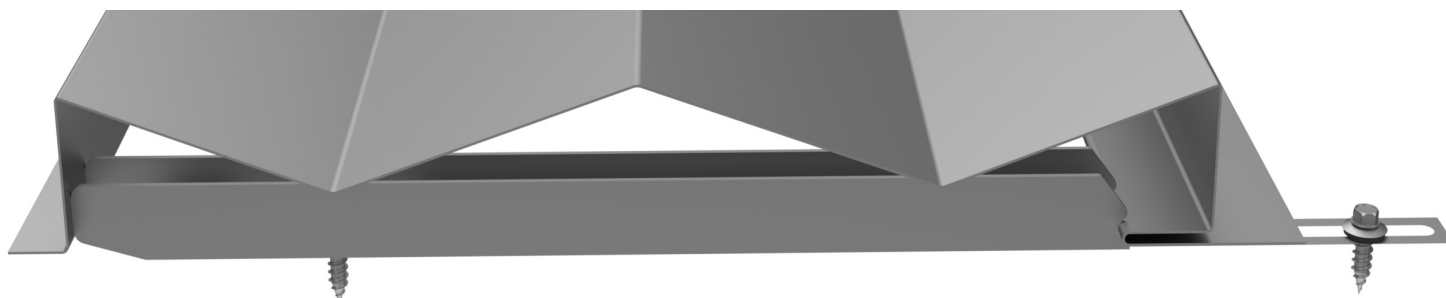
1. Theoretical section properties for steel panels have been calculated per AISI S100 specification for the design of cold-formed steel structural members.
2. Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
3. Allowable uniform loads are based on the ultimate uniform load (per ASTM E1592-05 testing) divided by a 2.00 factor-of-safety.
4. Allowable uniform loads do not consider panel weight (dead load) or clip-to-substrate (structure) fastener connection strength.
5. Panel substrate (structure) may include: open-framing, plywood/OSB, or metal deck.
6. Deflection limit consideration for positive (downward) loading is limited to a deflection ratio of L/180 of the span..where “L” is the span.
7. Allowable uniform loads cannot be increased by 1/3.

POSITIVE LOAD CHART WITH HIGH WIND CLIP ATTACHMENT

Width, in. Gauge Yield ksi Weight psf				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psi 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	1.54	0.0746	0.0722	0.0869	0.0664	0.0688	0.0751	105.5	52.7	35.2	26.4	21.1	17.6	15.1	13.2	11.7	10.6
12	22	50	1.82	0.0942	0.0904	0.1126	0.0812	0.0850	0.0906	130.9	65.5	43.6	32.7	26.2	21.8	18.7	16.4	14.6	13.1
12	20	33	2.21	0.1370	0.1280	0.1687	0.1060	0.1150	0.1212	133.6	68.8	44.6	33.4	26.7	22.3	19.09	16.7	14.9	13.4

1. Theoretical section properties for steel panels have been calculated per AISI S100 specification for the design of cold-formed steel structural members.
2. Allowable load is calculated in accordance with AISI S100 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers a 3 or more equal span condition.
3. Allowable load does not address panel weight, fasteners, connection strength or support material.
4. Allowable load includes web crippling.
5. Load/Span values are based on theoretical computations and not load testing.
6. Deflection is not considered.
7. Allowable loads do not include a 1/3 stress increase for wind.
8. When panels are installed over solid or closely fitted sheathing, the capacity is limited to the capacity of the underlying sheathing.

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

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	2'	2.5'	3'	3.5'	4'	4.5'	5'
12	24	50	1.54	0.0746	0.0722	0.0869	0.0664	0.0688	0.0751	130.1	119.7	109.3	98.9	88.5	78.1	67.7
12	22	50	1.82	0.0942	0.0904	0.1126	0.0812	0.0850	0.0906	130.1	119.7	109.3	98.9	88.5	78.1	67.7
12	20	33	2.21	0.1370	0.1280	0.1687	0.1060	0.1150	0.1212	130.1	119.7	109.3	98.9	88.5	78.1	67.7

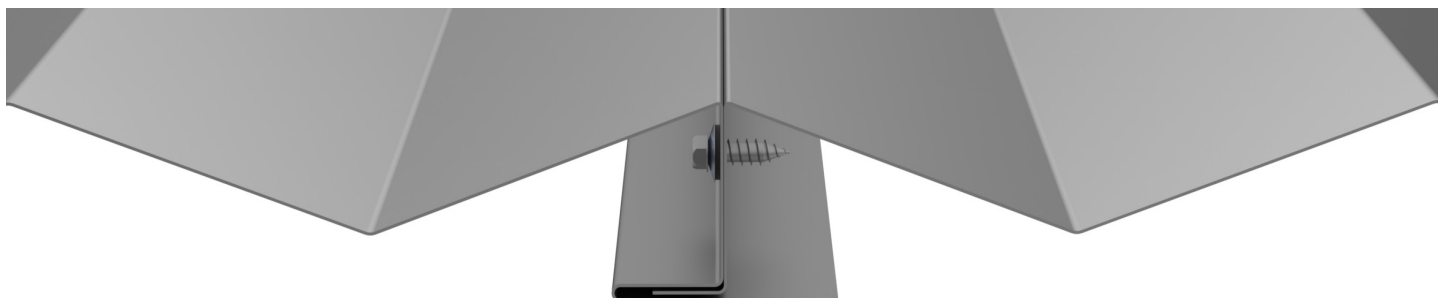
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2. Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
3. Charted Load/Span values above are based on allowable stress design (ASD)...load resistance factor design (LRFD) technique not recommended for charted values.
4. Allowable uniform loads are based on the ultimate uniform load (per ASTM E1592-05 testing) divided by a 2.00 factor-of-safety.
5. Allowable uniform loads do not consider panel weight (dead load) or clip-to-substrate (structure) fastener connection strength.
6. Panel substrate (structure) may include: open-framing, plywood/OSB, or metal deck.
6. Deflection limit consideration for positive (downward) loading is limited to a deflection ration of L/180 of the span..where "L" is the span.
7. Allowable uniform loads cannot be increased by 1/3.

POSITIVE LOAD CHART WITH STITCH SCREW ATTACHMENT

Width, in. Gauge Yield ksi Weight psf				SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psi 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'
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Rev. Date 08-24