Structural Standing Seam Product Guide

HELPFUL INFORMATION ON PANELS, TRIMS, GUTTERS AND ACCESSORIES



Central Seam Plus®

Field seamed



Central-Loc®

Snaps together





Central Span[™] Field seamed

We promise to improve your business by accurately providing quality products right when you need them. Every time.

Visit our website for more product information, testing, installation guides, energy ratings, warranties, photo gallery, roofing visualizer, and more.

centralstatesmfg.com

Information in this catalog may vary by plant location. Please call your salesperson to verify product availability.

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NOTICE: The application and detail drawings in this manual are strictly for illustration purposes and may not be applicable to all building designs or product installations. Projects should conform to local building codes. Central States Manufacturing is not responsible for the performance of the material if it is not installed correctly.

Information contained in this booklet was in effect at the time of publication and is subject to change without notice.

WARRANTIES



Warranties are available in paper format and downloadable from our website. After the job is complete, fill out a warranty with your contractor/installer details and the Central States order number. Give the warranty to the building owner to keep for their records. Optional warranty registration is available online.

Learn more at centralstatesmfg.com/warranties

ENGINEERING

CENTRAL-LOC®

IMPORTANT - READ THIS FIRST

Application and design details are for illustration purposes only, and may not be appropriate for all environmental conditions or building designs. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices.



Central-Loc is a snap together system. Use of a mechanical seaming tool on the Central-Loc system will void all warranties.

In order to design, quote or order a Central-Loc roof system, you must determine which system you need, based on building width and insulation requirements.

LOW FIXED SYSTEM

Double slope buildings 200' wide or less and single slope buildings 100' wide or less, with or without a 3/8" thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

HIGH FIXED SYSTEM

Double slope buildings 200' wide or less and single slope buildings 100' wide or less, with 3/8", 5/8", or 1" thermal spacers. See Insulation/Thermal Spacer Selection Chart below.

Fixed systems utilize fixed clips that do not allow the roof panels to float on the substructure. For this reason, use fixed systems only on pre-engineered metal buildings with purlins, subject to the building width restrictions outlined above. Do not use fixed systems on buildings with bar joist construction, wood decks or metal decks.

LOW FLOATING SYSTEM

Double slope buildings over 200' wide or single slope buildings over 150' wide, with or without 3/8" thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

HIGH FLOATING SYSTEM

Double slope buildings over 200' wide or single slope buildings over 150' wide, with 3/8", 5/8" or 1" thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

Thermal calculations should be performed for each project to ensure that the thermal movement of the roof is not greater than the floating clip's capacity. Various densities of blanket insulation may affect the installation and or the appearance of a metal roof system. The installer is responsible for selecting the proper clip and thermal spacer for their conditions and local codes.

Insulation Thickness	Low System	High System
No Insulation	3/8" Thermal Spacer	High System Not Recommended
3" Insulation	Thermal Spacer Not Recommended	1" Thermal Spacer Recommended
4" Insulation	Thermal Spacer Not Recommended	5/8" Thermal Spacer Recommended
6" Insulation	Low System Not Recommended	3/8" Thermal Spacer Recommended

INSULATION/THERMAL SPACER SELECTION CHART

NOTES:

As with all standing seam roof systems, sound attenuation (example: blanket insulation) is required between the panel and the substructure to prevent "roof rumble" during windy conditions. Some composite roof systems may require additional acoustical consideration to ensure that thermal vibration noises are isolated from the building interior. Contact your architect and/or engineer for proper acoustical design.

2. The following are examples of conditions that may cause condensation: (A) Projects where outside winter temperatures below 40°F are anticipated and where average winter interior relative humidity of 45% or greater is expected. (B) Building usages with high humidity interiors, such as indoor swimming pools, textile manufacturing operations, food paper or other wet-process industrial plants. (C) Construction elements that may release moisture after the roof is installed, such as interior concrete and masonry, plaster finishes and fuel burning heaters. Manufacturer is not responsible for determining if condensation will be an issue on any particular application.

THERMAL SPACER DISCLAIMER

The above thermal spacer chart is intended to be used as a general guideline only. Because of the various densities of insulation currently available, the manufacturer cannot guarantee that this chart will be accurate in all situations. Further, the manufacturer does not specifically require that the roofing contractor use thermal spacers with its Central-Loc roof system. However, please review the following information:

Although the manufacturer does not require a thermal spacer, the architect or building owner may.
In certain environments, the compression of the fiberglass insulation, without a thermal spacer, may create a thermal break which can cause

• In certain environments, the compression of the fiberglass insulation, without a thermal spacer, may create a thermal break which can cause condensation to form on the purlins/joists.

On uninsulated buildings, eliminating the thermal spacer: (1) may cause "roof rumble" and (2) you may encounter problems holding panel module.
When a high clip is used without a thermal spacer: (1) you may encounter problems holding panel module and (2) foot traffic on the panel ribs may result in bent clips.

Using a low clip with too much insulation or too thick a thermal spacer: (1) may cause "purlin read" (2) may cause difficulty in properly installing the panel side laps, and (3) you may encounter problems holding panel module.

ENGINEERING

CENTRAL SEAM PLUS® / CENTRAL SPAN™

IMPORTANT -READ THIS FIRST

Application and design details are for illustration purposes only, and may not be appropriate for all environmental conditions or building designs. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices.

The use of any field seaming machine other than that rented from our approved seamer listed on our website may damage the panels, void all warranties and will void all engineering data.



In order to design, quote or order a Central Seam Plus roof system, you must determine which system you need, based on building width and insulation requirements.

LOW FLOATING SYSTEM

Double slope buildings over 200' wide or single slope buildings over 100' wide, with or without 3/8" thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

HIGH FLOATING SYSTEM

Double slope buildings over 200' wide or single slope buildings over 100' wide, with 3/8", 5/8" or 1" thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

Thermal calculations should be performed for each project to ensure that the thermal movement of the roof is not greater than the floating clip's capacity. Various densities of blanket insulation may affect the installation and or the appearance of a metal roof system. The installer is responsible for selecting the proper clip and thermal spacer for their conditions and local codes.

II.	INSULATION/THERMAL SPACER SELECTION CHART										
Panel Type	Insulation Thicknes	s Low System	High System								
Central Seam Plus / Central Span	No Insulation	3%" Thermal Spacer	High System Not Recommended								
Central Seam Plus / Central Span	3" Insulation	Thermal Spacer Not Recommended	1" Thermal Spacer Recommended								
Central Seam Plus / Central Span	4" Insulation	Thermal Spacer Not Recommended	5/8" Thermal Spacer Recommended								
Central Seam Plus / Central Span	6" Insulation	Low System Not Recommended	3/8" Thermal Spacer Recommended								
Central Seam Plus / Central Span	8" Insulation	Low System Not Recommended	Thermal Spacer Not Recommended								
Central Seam Plus only	10" Insulation	Low System Not Recommended	High System Not Recommended								
Central Seam Plus only	12" Insulation	Low System Not Recommended	High System Not Recommended								

NOTES:

- As with all standing seam roof systems, sound attenuation (example: blanket insulation) is required between the panel 1 and the substructure to prevent "roof rumble" during windy conditions. Some composite roof systems may require additional acoustical consideration to ensure that thermal vibration noises are isolated from the building interior. Contact your architect and/or engineer for proper acoustical design
- 2 The following are examples of conditions that may cause condensation: (A) Projects where outside winter temperatures below 40°F are anticipated and where average winter interior relative humidity of 45% or greater is expected. (B) Building usages with high humidity interiors, such as indoor swimming pools, textile manufacturing operations, food paper or other wet-process industrial plants. (C) Construction elements that may release moisture after the roof is installed, such as interior concrete and masonry, plaster finishes and fuel burning heaters. Manufacturer is not responsible for determining if condensation will be an issue on any particular application.

THERMAL SPACER DISCLAIMER

The above thermal spacer chart is intended to be used as a general guideline only. Because of the various densities of insulation currently available, the manufacturer cannot guarantee that this chart will be accurate in all situations. Further, the manufacturer does not specifically require that the roofing contractor use thermal spacers with its Central Seam Plus roof system. However, please review the following information:

Although the manufacturer does not require a thermal spacer, the architect or building owner may.

[•] In certain environments, the compression of the fiberglass insulation, without a thermal spacer, may create a thermal break which can cause condensation to form on the purlins/joists.

[•] On uninsulated buildings, eliminating the thermal spacer: (1) may cause "roof rumble" and (2) you may encounter problems holding panel module. • When a high clip is used without a thermal spacer: (1) you may encounter problems holding panel module and (2) foot traffic on the panel ribs may result in bent clips.

[•] Using a low clip with too much insulation or too thick a thermal spacer: (1) may cause "purlin read" (2) may cause difficulty in properly installing the panel side laps, and (3) you may encounter problems holding panel module

CENTRAL-LOC®

Central-Loc is a snap-together trapezoidal roofing system available in 24" standard coverage and an optional 18" panel. Its floating clips allow for thermal roof expansion and contraction during extreme temperature changes. A factory applied sealant insures a weather-tight and secure lap. This panel can be used for both new construction and retrofit. Central-Loc is manufactured from Galvalume[®] which offers two to four times the corrosion resistance of galvanized steel.

- Weather-tight 3" high standing seam with concealed clips and fasteners.
- Factory applied hot melt seam and clip sealant .
- Large selection of clip sizes to accommodate various types of construction and insulation thicknesses.
- Panels can be pre-punched, combined with self-engaging backup plates for ease of installation.
- No field seaming.
- Reversible end-for-end panels so each side of the roof can be installed simultaneously.
- Panels are factory notched for ease of installation at the endlap.
- Comprehensive step-by-step erection manuals.



PANEL CODES

PANEL PROFILE
Central-Loc [®]
Central-Loc [®]
Central-Loc [®]
Central-Loc [®]

TYPE 18" Coverage 18" Coverage, Punched 24" Coverage 24" Coverage, Punched CDE CL184(color) CL184(color)P CL244(color) CL244(color)P

SECTION PROPERTIES - CENTRAL-LOC

CENTRAL-LOC® PANEL, 24 GA., 50 KSI

Panel Width	Thickness (inches)	Weight (psf)	Shear Strength	To (F	p in Compressi Positive Bendin	on g)	Bottom in Compression (Negative Bending)			
(inches)			(Va kips/ft)	lxx	Sxx	Ma	lxx	Sxx	Ma	
				in⁴/ft	in³/ft	in.kips/ft	in⁴/ft	in³/ft	in.kips/ft	
24	0.0225	1.164	1.16	0.3035	0.1253	3.750	0.1390	0.0881	2.636	
18	0.0225	1.245	1.57	0.3653	0.1607	4.809	0.1867	0.1177	3.522	

Section properties and allowables are calculated in accordance with North America Specification for the Design of Cold-Formed Steel Structural Members (2012 & 2016 Edition). +/- is for deflection determination. S +/- is for bending determination. M_a is allowable bending moment. V_a is allowable shear strength of panel web elements. All values are for one foot of panel width. Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness.

THEORETICAL ALLOWABLE LIVE & WIND LOADS

SINGLE SPAN CONDITION

		24" wide, 50 ksi				18" wide, 50 ksi			
Span (feet)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	
2.5	399.9	399.9	399.9	281.2	513.0	513.0	513.0	375.7	
2.75	330.5	330.5	330.5	232.4	424.0	424.0	424.0	310.5	
3	277.7	277.7	277.7	195.3	356.2	356.2	356.2	260.9	
3.25	236.7	236.7	236.7	166.4	303.5	303.5	303.5	222.3	
3.5	204.1	204.1	204.1	143.5	261.7	261.7	261.7	191.7	
4	156.2	156.2	156.2	109.8	200.4	200.4	200.4	146.8	
4.5	123.4	123.4	123.4	86.8	158.3	158.3	158.3	116.0	
5	100.0	100.0	100.0	70.3	128.2	128.2	128.2	93.9	
5.5	82.6	82.6	82.6	58.1	106.0	106.0	106.0	77.6	

TWO SPAN CONDITION

		24" wide,	, 50 ksi		18" wide, 50 ksi			
Span (feet)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)
2.5	263.0	263.0	263.0	352.2	351.8	351.8	351.8	456.7
2.75	219.7	219.7	219.7	296.9	293.9	293.9	293.9	384.4
3	186.2	186.2	186.2	253.4	249.0	249.0	249.0	327.7
3.25	159.7	159.7	159.7	218.7	213.6	213.6	213.6	282.5
3.5	138.5	138.5	138.5	190.5	185.2	185.2	185.2	245.8
4	106.9	106.9	106.9	148.1	142.9	142.9	142.9	190.9
4.5	84.9	84.9	84.9	118.3	113.5	113.5	113.5	152.3
5	69.1	69.1	69.1	96.6	92.3	92.3	92.3	124.2
5.5	57.3	57.3	57.3	80.3	76.5	76.5	76.5	103.2

THREE OR MORE SPAN CONDITION

		24" wide,	, 50 ksi		18" wide, 50 ksi			
Span (feet)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)
2.5	301.6	301.6	301.6	398.5	403.6	403.6	403.6	517.9
2.75	252.7	252.7	252.7	337.4	338.0	338.0	338.0	437.7
3	214.6	214.6	214.6	289.0	287.0	287.0	287.0	374.4
3.25	184.4	184.4	184.4	250.0	246.6	246.6	246.6	323.5
3.5	160.1	160.1	160.1	218.3	214.1	214.1	214.1	282.2
4	123.8	123.8	123.8	170.4	165.5	165.5	165.5	219.9
4.5	98.5	98.5	98.5	136.4	131.7	131.7	131.7	175.9
5	80.2	80.2	80.2	111.6	107.2	107.2	107.2	143.8
5.5	66.5	66.5	66.5	92.9	89.0	89.0	89.0	119.6

Allowable load based on stress LL(S) is the smallest load due to bending, shear and combined bending and shear. Allowable live load LL(D) based on deflection is the smaller load due to stress and deflection limit. Allowable wind loads WL based on stress have not been increased by 33.33 % for wind uplift. These loads are for panel strength. Allowable loads do not include web crippling, support/attachment conditions or load testing. Frames, purlins, clips, fasteners and all supports must be designed to resist all loads imposed on the panel. For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel.

CENTRAL SEAM PLUS®

Central Seam Plus is a field seamed trapezoidal roofing system available in 24" standard coverage and an optional 18" panel. Its floating clips allow for thermal roof expansion and contraction during extreme temperature changes. A factory applied sealant insures a weather-tight and secure lap. This panel can be used for both new construction and retrofit. Central Seam Plus is manufactured from Galvalume[®] which offers two to four times the corrosion resistance of galvanized steel.

- Factory applied hot melt seam and clip sealant .
- Large selection of clip sizes to accommodate various types of construction and insulation thicknesses.
- A standard clip allows for a total of 1 3/8" of thermal movement in either direction, and is constructed from 14 gauge material. The clip provides a 3/8" or 1 3/8" clearance at the purlin to reduce water ponding on low pitch roofs. Constructed from 12 gauge material, this clip is an integral part of maintaining panel module.
- Panels can be pre-punched, combined with self-engaging backup plates for ease of installation.
- Reversible end-for-end panels so each side of the roof can be installed simultaneously.
- Panels are factory notched for ease of installation at the endlap.
- · Comprehensive step-by-step erection manuals.



PANEL CODES

PANEL PROFILE Central Seam Plus® Central Seam Plus® Central Seam Plus® Central Seam Plus®

TYPE 18" Coverage 18" Coverage, Punched 24" Coverage 24" Coverage, Punched CS184(color) CS184(color)P CS244(color) CS244(color)P



Seamer rental information available on our website

SECTION PROPERTIES - CENTRAL SEAM PLUS

CENTRAL SEAM PLUS® PANEL, 24 GA., 50 KSI

Panel Width	Thickness (inches)	Weight (psf)	Shear Strength	ShearTop in CompressionStrength(Positive Bending)				Bottom in Compression (Negative Bending)		
(inches)			(Va kips/ft)	lxx	Sxx	Ma	lxx	Sxx	Ma	
				in⁴/ft	in³/ft	in.kips/ft	in⁴/ft	in³/ft	in.kips/ft	
24	0.0225	1.166	1.21	0.3240	0.1292	3.230	0.1630	0.1033	3.093	
18	0.0225	1.248	1.61	0.3920	0.1665	4.163	0.2187	0.1380	4.131	

Section properties and allowables are calculated in accordance with North America Specification for the Design of Cold-Formed Steel Structural Members (2012 & 2016 Edition). +/- is for deflection determination. S +/- is for bending determination. M_a is allowable bending moment. V_a is allowable shear strength of panel web elements. All values are for one foot of panel width. Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness.

THEORETICAL ALLOWABLE LIVE & WIND LOADS

SINGLE SPAN CONDITION

		24" wide,	50 ksi		18" wide, 50 ksi			
Span (feet)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)
2.50	344.5	344.5	344.5	329.9	444.1	444.1	444.1	440.7
2.75	284.7	284.7	284.7	272.7	367.0	367.0	367.0	364.2
3.00	239.2	239.2	239.2	229.1	308.4	308.4	308.4	306.0
3.25	203.8	203.8	203.8	195.2	262.8	262.8	262.8	260.8
3.50	175.8	175.8	175.8	168.3	226.6	226.6	226.6	224.8
4.00	134.6	134.6	134.6	128.9	173.5	173.5	173.5	172.1
4.50	106.3	106.3	106.3	101.8	137.1	137.1	137.1	136.0
5.00	86.1	86.1	86.1	82.5	111.0	111.0	111.0	110.2
5.50	71.2	71.2	71.2	68.2	91.8	91.8	91.8	91.0

TWO SPAN CONDITION

		24" wide,	, 50 ksi		18" wide, 50 ksi			
Span (feet)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)
2.50	303.5	303.5	303.5	314.7	405.3	405.3	405.3	407.9
2.75	254.2	254.2	254.2	263.9	339.5	339.5	339.5	341.8
3.00	215.9	215.9	215.9	224.3	288.3	288.3	288.3	290.3
3.25	185.5	185.5	185.5	192.8	247.7	247.7	247.7	249.5
3.50	161.0	161.0	161.0	167.5	215.1	215.1	215.1	216.6
4.00	124.5	124.5	124.5	129.6	166.3	166.3	166.3	167.5
4.50	99.1	99.1	99.1	103.2	132.3	132.3	132.3	133.3
5.00	80.7	80.7	80.7	84.1	107.7	107.7	107.7	108.5
5.50	66.9	66.9	66.9	69.8	89.4	89.4	89.4	90.0

THREE OR MORE SPAN CONDITION

		24" wide,	, 50 ksi		18" wide, 50 ksi			
Span (feet)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)	LL (S)(psf)	LL (D) L/180(psf)	LL (D) L/240(psf)	WL(psf)
2.50	346.7	346.7	346.7	359.0	463.0	463.0	463.0	465.9
2.75	291.4	291.4	291.4	302.0	389.1	389.1	389.1	391.6
3.00	248.1	248.1	248.1	257.4	331.2	331.2	331.2	333.4
3.25	213.6	213.6	213.6	221.8	285.2	285.2	285.2	287.1
3.50	185.7	185.7	185.7	193.0	248.0	248.0	248.0	249.7
4.00	144.0	144.0	144.0	149.8	192.3	192.3	192.3	193.7
4.50	114.8	114.8	114.8	119.5	153.3	153.3	153.3	154.4
5.00	93.6	93.6	93.6	97.5	125.0	125.0	125.0	125.9
5.50	77.7	77.7	77.7	81.0	103.8	103.8	103.8	104.6

Allowable load based on stress LL(D) is the smallest load due to bending, shear and combined bending and shear. Allowable live load LL(D) based on deflection is the smaller load due to stress and deflection limit. Allowable wind loads WL based on stress have not been increased by 33.33 % for wind uplift. These loads are for panel strength. Allowable loads do not include web crippling, support/attachment conditions or load testing. Frames, purlins, clips, fasteners and all supports must be designed to resist all loads imposed on the panel. For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel.

CENTRAL SPAN[™]

The Central Span[™] panel has a traditional flat pan, vertical rib appearance, often preferred by traditional architects for superior appearance and performance. Central Span[™] roofs meet the requirements for a wide range of roof slopes, shapes, loads, weather and related conditions. It has many of the features required for architecturally shaped roofs.

- 2" Vertical Mechanically Seamed Structural Roof Panel.
- 16" panel coverage.
- Minor striations in the flat.
- Clip has a full 3" of Thermal Movement.
- 90° or 180° seam.
- Roof Slopes 1/4:12 and greater.
- Factory applied sealant.
- One of the highest uplift ratings in the industry.



PANEL CODES

PANEL PROFILE	ТҮРЕ	CODE
Central Span™	Standard	SP164(color)
Central Span™	Swedged	SP164(color)SW
Central Span™	No Striations*	SP164(color)NS
Central Span™	No Striations, Swedged*	SP164(color)SWNS

*NOTE: Striation waver must be signed before producing any order without striations. Panels with no striations may exhibit oil canning in the flat area of the panels. This is common to the industry and does not affect the integrity of the panel and is not a reason for rejection.

SECTION PROPERTIES - CENTRAL SPAN

16" WIDE, CENTRAL SPAN™ PANEL

Gauge	Thickness (inches)	Weight (psf)	Yield Stress (ksi)	Allowable Shear	To (F	p in Compressi Positive Bendin	ion g)	Bottom in Compression (Negative Bending)			
				(kips/ft)	lxx	Sxx	Ma	lxx	Sxx	Ma	
					in4/ft	in3/ft	in.kips/ft	in4/ft	in3/ft	in.kips/ft	
24	0.0221	1.254	50.0	0.79	0.1943	0.1113	3.333	0.0900	0.0762	2.282	

Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2001 Edition & 2004 Supplement). I +/- is for deflection determination. S +/- is for bending determination & Ma is allowable bending moment. Ma is allowable bending moment and Va is allowable shear. All values are for one foot of panel width. Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness. Allowable intermediate bearing at 2.5" = 0.357 kips/ft. Allowable end bearing at 2.5" = 0.126 kips/ft.

THEORETICAL ALLOWABLE LIVE & WIND LOADS

ALLOWABLE LIVE LOADS - All loads in pounds per square foot.

Gauge	Span				Span (ft)					
Guuge	Condition		2	2.5	3	3.5	4	4.5	5	6
	55	Stress	555.5	355.5	246.9	181.4	138.9	109.7	88.9	61.7
	55	L/180	2122.4	1086.6	628.8	396.0	265.3	186.3	135.8	78.6
24	DC.	Stress	325.9	219.3	156.9	117.4	91.1	72.6	59.2	41.4
27	DS	L/180	5108.1	2615.4	1513.5	953.1	638.5	448.4	326.9	189.2
	тс	Stress	366.7	249.4	179.6	135.1	105.0	83.9	68.5	48.1
	IS I	L/180	4005.1	2050.6	1186.7	747.3	500.6	351.6	256.3	148.3

Allowable load based on stress is the smallest load due to bending, shear and combined bending and shear. Allowable load based on deflection limit cannot exceed allowable load based on stress. These loads are for panel strength. Frames, purlins, clips, fasteners and all supports must be designed to resist all loads imposed on the panel. Allowable uplift loads based on stress have not been increased by 33.33 % for wind uplift. Allowable loads for deflection are based on deflection limitation of span/180. For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel. SS = Simple span, DS = Double Span and TS = Three or more spans

ALLOWABLE WIND UPLIFT LOADS - 24 Gauge Material (Fy = 50 ksi). All loads in pounds per square foot.

	90° Se	am		180° Seam						
Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load	Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load			
2.0	232.3	136.4	140.8	2.0	326.1	191.2	197.6			
2.5		113.2	116.9	2.5		157.6	163.0			
3.0		94.3	97.3	3.0		131.3	135.8			
3.5		80.9	83.5	3.5		112.6	116.5			
4.0		70.8	73.1	4.0		98.5	101.9			
4.5		62.9	64.9	4.5		87.6	90.6			
5.0	96.5	56.6	58.5	5.0	134.7	78.8	81.6			

The above tabulated loads are generated from certified ASTM E-1592 testing. Intermediate design loads are interpolated from ultimate test loads. Design loads contain a safety factor of calculated per AISI. COE design load contains a 1.65 safety factor per COE 07416 Specification. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel. Allowable wind uplift loads have not been increased by 33% as allowed by some codes when wind load controls. This material is subject to change with out notice. Contact Central States for most current values.

DELIVERY

Deliveries will be made using a 65' tractor/trailer weighing approximately 80,000 lbs. It is imperative that all delivery locations be accessible by a vehicle of this size. Our drivers have the authority to refuse delivery to any location they see as unsafe or inaccessible. The customer is responsible for any charges incurred if truck is detained for any reason. The customer is responsible for unloading all trucks. Any damage that occurs at this point is the customer's responsibility. There must be equipment available to unload the truck.

CARE AND HANDLING

STAGE

Galvalume[®] steel panels have a good service life when exposed to normal weather conditions; however, to protect the appearance of panels and trims from damage, there are a few simple precautions that can be taken. The steel panels are subject to stain when water sits upon, or becomes trapped between the sheets. If the Galvalume® panels are to be stored for any period of time, they should be stored only in a dry place, preferably under a roof. Stand panels on end and fan them out at the bottom to provide air circulation and moisture run off. If space does not allow this, the panels should be separated, blocked off of the floor at least 12 inches to allow air flow, and stored at an incline to encourage drainage. The panels should then be covered, yet still have good air flow through the sheets to prevent condensation. Do not use a plastic cover, as this may cause the panels to sweat or condensation to occur.

STORAGE

Failure to follow these steps may result in wet storage stains and premature rusting. The manufacturers warranty will be void at this time, and the manufacturer will not be responsible.

HANDLING

When unloading panels, extreme caution must be employed. Care needs to be used when unloading panels with a forklift. Panel edges and underside paint may become damaged if the forklift driver does not use caution. Once at the job site, care must be taken in order to protect the painted surface. When unbundling the panels, never drag them across the surface of one another. This may cause scratches across the underneath panels. It is recommended that the panels be "rolled" off the top of the bundle to prevent scratching. Never lift panels by the ends, instead lift the panels longitudinally and carry vertically.

Panel edges are very sharp, therefore, safety equipment should be worn by all workers handling the material.

CUTTING

A portable field shear is the ideal method for cutting panels. Nibblers or a power shear may also be used. Although we do not recommend it, if you decide to cut with a saw, it is very important that the panels be turned upside down during cutting so that hot shavings do not come in contact with the painted surface. Make sure all adjacent panels are covered so that shavings are not imbedded in these panels. If metal shavings become imbedded in the paint surface, they will quickly rust. To avoid this, panels should be thoroughly wiped of all filings on both sides of the panel. Failure to comply with the recommended cutting procedures releases the manufacturer of any responsibility.

CARE AND HANDLING

Shavings created by saw cutting or drilling may cause the panel to rust and will void warranties in affected areas.



DRILLING

Panels should not be drilled while stacked. This will cause shavings that will become imbedded in the paint surface.

See installation manuals for more details.



UL APPROVAL

CENTRAL-LOC®

Construction number	Panel Width (Inches)	Gauge	Clip Туре	Clip Spacing	Substrate	UL-2218 Impact Resistance	UL-263 Fire Rating	UL-580 Rating
165	24	24 min.	В	5'-0"	Open Framing	Class 4	Class A	Class 90
180B	24	24 min.	A	5'-0''	Composite	Class 4	Class A	Class 90
205	24	24 min.	A	5'-0''	Open Framing	Class 4	Class A	Class 90
205A	24	24 min.	В	5'-0''	Open Framing	Class 4	Class A	Class 90
286	24	24 min.	С	5'-0''	Plywood	Class 4	Class A	Class 90
308B	24	24 min.	A	5'-0''	Composite	Class 4	Class A	Class 90
534	24	24 min.	В	5'-0 1⁄4"	Open Framing	Class 4	Class A	Class 90
535	24	24 min.	A	5'-0 1⁄4"	Open Framing	Class 4	Class A	Class 90
536	24	24 min.	В	5'-0"	Composite	Class 4	Class A	Class 90
537	24	24 min.	В	5'-0 ¼"	Composite	Class 4	Class A	Class 90
541	24	26 min.	В	5'-0''	Plywood	Class 4	Class A	Class 90

Clip Type: A (Fixed or Floating); B (Floating); C (Utility).

CENTRAL SEAM PLUS

Construction number	Panel Width (Inches)	Gauge	Clip Type	Clip Spacing	Substrate	UL-2218 Impact Resistance	UL-263 Fire Rating	UL-580 Rating
165	24	24 min.	В	5'-0	Open Framing	Class 4	Class A	Class 90
180C	24	24 min.	В	5'-0"	Composite	Class 4	Class A	Class 90
287	24	24 min.	В	5'-0"	Open Framing	Class 4	Class A	Class 90
308A	24	24 min.	В	5'-0"	Composite	Class 4	Class A	Class 90
450	24	24 min.	В	5'-0"	Open Framing	Class 4	Class A	Class 90
538	24	24 min.	В	5'-0 ¼"	Open Framing	Class 4	Class A	Class 90
539	24	24 min.	В	5'-0"	Composite	Class 4	Class A	Class 90
540	24	24 min.	В	5'-0''	Composite	Class 4	Class A	Class 90

Clip Type: A (Fixed or Floating); B (Floating); C (Utility).

NOTES:

1. Wind uplift test procedures are in accordance with Underwriters Laboratories Standard UL-580 under "Tests For Uplift Resistance of Roof Assemblies."

- A detailed installation method is available for each Construction Number above and can be found in the UL Roofing Materials and Systems Directory. The panels must be installed in a certain manner to achieve the published results.
- 3. The panel qualifies for a Class A fire rating in compliance with Underwriters Laboratories Standard UL-263.
- 4. The panel system is listed under the following Fire Resistance Design Numbers: P224, P225, P227, P230, P233, P237, P265, P268, P508, P510, P512, P701, P711, P715, P717, P720, P722, P724, P726, P731, P736, P801, P803, P814, P815, P819, P821, P823. Refer to the UL Fire Resistance Directory for specific construction methods and hourly ratings.
- 5. Construction Number 450 includes the use of a domed skylight.

ICBO APPROVAL

The ICBO Evaluation Service, Inc., has approved the details, engineering, calculations, computer printouts and product data. This information has been found to comply with 1997 UBC Code and is listed in evaluation report number ER-5409. A copy of this report is available on request.

FLORIDA BUILDING CODE PRODUCT APPROVAL

Roofing System details and engineering load tables have been examined by the State of Florida and comply with Florida Building Code Product Approval Number FL 14016.2.

CONVERTING PITCH TO DEGREE

Use these charts to calculate degrees when designing custom trim. Please specify pitch when ordering.





1:12 PITCH	2:12 PITCH	3:12 PITCH	4:12 PITCH	5:12 PITCH	6:12 PITCH	7:12 PITCH	8:12 PITCH	9:12 PITCH	10:12 PITCH	11:12 РІТСН	12:12 РІТСН
94°	99°	104°	108°	112°	116°	120°	123°	126°	129°	132°	135°
173°	167°	160°	154°	148°	143°	138°	134°	130°	126°	123°	120°
170°	161°	152°	143°	135°	127°	120°	113°	106°	100°	95°	90°

30°

SINGLE SLOPE PITCHES

Fascia, Eave, Endwall, Tie-In, Gutter

DOUBLE SLOPE PITCHES Hip, Valley

RIDGE CAP

	LOWER ROOF PITCH (INCHES OF RISE OVER 12" OF RUN)											
I	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12	13:12	14:12		
	PITCH	PITCH	PITCH	PITCH	PITCH	РІТСН	РІТСН	PITCH	PITCH	PITCH		

Find the box that intersects your lower and upper roof pitches.

If the intersection lands in the gray area, select a Lower Transition trim.

Upper Transition Trim



Lower Transition Trim



						-			-			-	-	-					
		1:12 PITCH	2:12 PITCH	3:12 PITCH	4:12 PITCH	5:12 PITCH	6:12 PITCH	7:12 PITCH	8:12 PITCH	9:12 PITCH	10:12 PITCH	11:12 РІТСН	12:12 PITCH	13:12 PITCH	14:12 PITCH	15:12 РІТСН	16:12 РІТСН	17:12 РІТСН	18:12 PITCH
(7	1:12 PITCH		175°	171°	166°	162°	158°	155°	151°	148°	145°	142°	140°	137°	135°	133°	132°	130°	128°
OF RUI	2:12 PITCH	175°		175°	171°	167°	163°	159°	156°	153°	150°	147°	144°	142°	140°	138°	136°	135°	133°
ER 12"	3:12 PITCH	171°	175°		176°	171°	167°	164°	160°	157°	154°	152°	149°	147°	145°	143°	141°	139°	138°
SE OVE	4:12 PITCH	166°	171°	176°		176°	172°	168°	165°	162°	159°	156°	153°	151°	149°	147°	145°	144°	142°
S OF RI	5:12 PITCH	162°	167°	171°	176°		176°	172°	169°	166°	163°	160°	158°	155°	153°	151°	149°	148°	146°
INCHE	6:12 PITCH	158°	163°	167°	172°	176°		176°	173°	170°	167°	164°	162°	159°	157°	155°	153°	152°	150°
TCH	7:12 PITCH	155°	159°	164°	168°	172°	176°		177°	173°	170°	168°	165°	163°	161°	159°	157°	155°	154°
OF PI	8:12 PITCH	151°	156°	160°	165°	169°	173°	177°		177°	174°	171°	169°	166°	164°	162°	161°	159°	157°
R RO	9:12 PITCH	148°	153°	157°	162°	166°	170°	173°	177°		177°	174°	172°	170°	167°	166°	164°	162°	161°
JPPEI	10:12 PITCH	145°	150°	154°	159°	163°	167°	170°	174°	177°		177°	175°	173°	170°	168°	167°	165°	163°
	11:12 PITCH	142°	147°	152°	156°	160°	164°	168°	171°	174°	177°		178°	175°	173°	171°	169°	168°	166°
	12:12 PITCH	140°	144°	149°	153°	158°	162°	165°	169°	172°	175°	178°		178°	176°	174°	172°	170°	169°

HOW TO ORDER TRIM

STEP 1:

In CentralLink[™], start by entering the Item ID. Item ID is made of the **TRIM CODE**, a **GAUGE CODE**, and a **COLOR CODE**.

The TRIM CODE can be found with each drawing next to the trim's name. The GAUGE CODE and COLOR CODES are found below.

EXAMPLE: Ridge Cap, 24 gauge, Autumn Enter Item ID SSRCP3 4 Lookup SSRCP34AU ÷ TRIM GAUGE CODE COLOR CODE Description 24, Autumn, Ridge Cap Floating **STEP 2:** Pieces Feet Inches 12 2 Then type the number of pieces you need 10 along with the length in feet and inches. CentralLink order screen

GAUGE CODES

GAUGE	CODE
24	4
26	6

COLOR CODES

FLUROPON [®]	PANEL GAUGE	TRIM GAUGE	CODE	SMP	TRIM GAUGE	CODE	
Ash	24	24	AS	Black	26	BK	\frown
Autumn	24	24	AU	Brilliant	26	BI	
Brite	24	24	BT	Brown	26	BR	
Bronze	24	24	BZ	Burgundy	26	BG	
Dark Bronze	24	24	DB	Burnished Slate	26	BS	26 ga. SMP trims
Evergreen	24	24	EV	Charcoal	26	CH	can be used with
Galvalume®	24	24	GL	Colony	26	CG	Galvalume panels.
Sand	24	24	SA	Copper Metallic*	26	CM	
Slate Gray	24	24	SG	Crimson	26	CR	Fluropon and SMP trims
Smoke	24	24	SM	Desert	26	DS	should not be used as
Terratone	24	24	TE	Forest	26	DG	fade at different rates.
Tudor	24	24	TU	Gallery	26	GB	
Verdigris	24	24	VE	Galvalume®	26	GL	
				Gray	26	GA	
				Hawaiian	26	HB	
				Hunter	26	GR	
				Light Stone	26	LS	
				Polar	26	PW	
* Copper Metallic is Fluro Galvalume® is a registere	pon®. d trademark o	of BIEC Interna	tional. Inc	Rustic	26	RR	
				Tan	26	TN	
				Taupe	26	TA	

RIDGE CAP FLOATING TRIM CODE -- SSRCP3 - Girth 15.5"



ROOF TRIMS

Unless otherwise noted, trims come in 24 or 26 gauge, and all angles are 90° or 45°. See page 16 for gauge and color codes.



CENTRAL STATES MANUFACTURING, INC. Effective 05/2022 · Information subject to change

ROOF TRIMS

Unless otherwise noted, trims come in 24 or 26 gauge, and all angles are 90° or 45°. See page 16 for gauge and color codes.

61/2

VALLEY - Specify pitch.

LOW VALLEY SSLVAL - Girth 38"



PAINT SPECIFY ANGLE 4 16'

SSHVAL - Girth 41.5'

HIGH VALLEY



HIGH VALLEY SPHVAL - Girth 36.75"

Central Span only.

2



Central-Loc and Central Seam Plus.

MISC. TRIMS

ZEE CLOSURE

SSZEE - Girth 5"





BOX PANEL CAP SSPC - Girth 8.5"



OFFSET PANEL CAP SSOPC - Girth 7.5"





COUNTERFLASH SSCF - Girth 4.5" ½″



SPRAKEZ - Girth 4.5" 1 1/4"

TERMINATION ZEE

-1 1⁄4" Central Span only. Decking and open purlin.

ALTERNATIVE COUNTERFLASH SSACF - Girth 4.5"



Specify pitch.

FLAT SHEET

- **FS4** 24 gauge. Girth 48.5"
- **FS6** 26 gauge. Girth 41.5625"



10 sheets or fewer will be packaged in a roll. Additional pallet charge on orders of 10 or more.

135 ์135° 45 Central-Loc and Central Seam Plus. Central Span only. CONTINUOUS CLEAT VARIABLE TERMINATION SSCC - Girth 3" **SSVT** - Girth 10.25" PAINT









Specify pitch.

GUTTERS

Unless otherwise noted, trims come in 24 or 26 gauge, and all angles are 90° or 45°. See page 16 for gauge and color codes.







18 gauge.

DOWNSPOUT CONNECTOR



GUTTER END CAP - Specify pitch. **SSGEN**- For sculptured gutters.



Left and right.

ACCESSORIES

EAVE PLATES

LOW EAVE PLATE CL7600 - 1 1/2" x 3/8" x 1 1/2"



CL7616 - 1 ½" x 1" x 1 ½'

1 1/2

HIGH EAVE PLATE

14 gauge red oxide. Length 8'. Weight 7.75 lbs. Mandatory - use with high clips.

HIGH CAPACITY LOW EAVE PLATE

SPLEPLATE - For %" standoff

11/2

Central Span only. 16 gauge Galvanized. Length 3".

HIGH CAPACITY HIGH EAVE PLATE

SPHEPLATE - For 1 %" standoff



Central Span only. 16 gauge Galvanized. Length 3".

14 gauge red oxide. Length 8'. Weight 7.75 lbs. Optional - use with low clips.

RAKE SUPPORT - All rake supports are 20' long, 14 gauge red oxide, 31 lbs. Longer lead times may apply.

LOW RAKE SUPPORT CL7710-3%" x 2 1/2"



CL7720 - 4 3/8" x 1 1/2"

HIGH RAKE SUPPORT



UTILITY RAKE SUPPORT



UTILITY CLIP

LOW RAKE SUPPORT CL7712 - 2 3/8" x 3 1/2"



Use with low clips for Central Span.

Use with low clips for Central-Loc, Central Seam Plus. Use with high clips Use with high clips for Central Span.

CLIPS - Clip fasteners must be ordered separately. Longer lead times may apply.

LOW FIXED CLIP

CL200 - for Central-Loc



Height 3 %". Weight .13 lbs.

Height 3 %". Weight .56 lbs.

Height 2 3%". Weight .2 lbs.

LOW FLOATING CLIP

SPLCLIP - for Central Span

2" LOW SLIDING CLIP

CL2102 - for Central-Loc





HIGH FIXED CLIP

Height 4 %". Weight .24 lbs.

2" LOW SLIDING CLIP

CS2122 - for Central Seam Plus





Height 3 3%". Weight .56 lbs.

HIGH FLOATING CLIP

SPHCLIP - for Central Span

Height 3 %". Weight .28 lbs.



Height 4 %". Weight .68 lbs.

2" HIGH SLIDING CLIP CS2124 - for Central Seam Plus 1 ¾" movement in

each direction.



Height 4 3%". Weight .68 lbs.

20



CL208 - for Central-Loc



For use over solid substrate only. For fastener applications that do not require 3/8" clearance provided by the low and high clips.

1 3/8" movement in

each direction.

Height 3". Weight .12 lbs.

2" HIGH SLIDING CLIP



FASTENERS

Fastener color availability may vary by location, contact your sales consultant for details. Order fasteners in increments of 250 pieces.

rascence coror aranability may rary	sy location, contact your s	ares consultant	for actails, or act i	asteriers in mereinents of 250 precess		
ТҮРЕ	PART #	LENGTH	DIAMETER	HEAD	COLOR	#BAG
DRILLER	1FASTENER	1"	#14	5/16" HEX w/ 5/8" O.D. WASHER	all	250
	USES: Clip to purlin with up to	o 4" insulation thick	ness. Eave plate to eave	strut. Inside closure to eave plate or eave strut. Rake s	upport to purlin (fixed system	n only).
LONG LIFE DRILLER	1EFASTENER	1 1⁄4"	#14	5/16" HEX w/ SEALING WASHER	all	250
	USES: Panel to eave plate or e					
DRILLER	1FFASTENER	1 1⁄5"	#14	5%₅" HEX w/ 5%" O.D. WASHER	all	250
DINEEEN	USES: Clip to purlin with up to	un	250			
LONGLIEFLAPTEK	4FASTENER	76"	#1 <i>4</i>	5/4" HEX W/ SEALING WASHER	all	250
	USES: Ridge and other flashir	un	250			
	5EASTENER	1 1/4"	#11	5%~" HEX	الد	250
SHOOLDENTER	USES: Rake support to purlin.	Floating eave plate	to eave strut.		an	250
CLIP FASTENER TEK	114CI ΙΡΕΔ ST	1 1/4"	#1 <i>4</i>	3%" HFX	galvanized	250
CEIL INSTENENTEN	USES: Central Span - For pan	garvariizeu	250			
PANCAKE HEAD DRILLER	12FASTENER	1"	#10		galvanized	250
FANCARE HEAD DRIELER	USES: Support plate to purlin	galvariizeu	250			
	4447464444			- /2 - 20 - 1		
ZAC METAL/METAL	114ZACMIN USES: Attaching panel at eav	1 ¼" e and end lap.	#12	5/16" Hex	galvanized	250
POP RIVET	POP(color)		1⁄8"		all	100
	USES: Gutter strap to snow a					

ACCESSORIES

TAPE SEALER – Use to fill any voids at the minor ribs of panel for eave and valley conditions. *Sold by carton only.												
	PART #	RT # TYPE		THICKNESS	5 LENGTH	#PER CARTON	CARTON WT.					
	CL512A Minor Rib		1 %"	7⁄32"	4"	144 pc.*	10 lbs.					
CL512A	CL502A	Triple Bead	2 1⁄2"	3⁄16"	20'	6 rolls*	23 lbs.					
	CL504A	Tri-Bead	7⁄8"	3⁄16"	26'	8 rolls*	20 lbs.					
CL 5024												
CL302A	SPELT	Endlap	1 ¼"	5⁄32"	30'							
CL 504A	Central span only.											
CLUUAA												
SPELT												
SEALANT	DADT #	TYDE	COL									
		Tripple				#PER CARION						
	GEOC	Tripolyn	ier Clea	ar	10.3 02.	24	19 IDS.					
	GEOG	Tripolym	ier Gra	у 	10.3 OZ.	24	19 lbs.					
	GEOW Tripolymer		ner Wh	ite	10.3 oz.	24	19 lbs.					
	MIRS10(CO	call	for colors	10.3 oz.	12	11 lbs.						
	MRSTOCLI	EAR	clea	ar	10.3 oz.	12	11 lbs.					
	URETUBE		Wh	ite	10.1 oz.	36	31 lbs.					
THERMAL SPACER - Specify system. *Sold by carton only.												
LENGTH	PART #	MATERIAL		SIZE	LENGTH	QTY PER BOX	BOX WEIGHT					
	CL575	Polystyrene		I" X 3"	23 %"	192*	15 LBS.					
	CL576	Polystyrene	5	⁄8" X 3"	23 7⁄8"	304*	21 LBS.					
3"	CL577	Polystyrene	3	%" X 3"	23 7⁄8"	479*	29 LBS.					



Right. On Time. Every Time.

centralstatesmfg.com