COMPOSITE ROOF SYSTEM
WITH 16" LOC SEAM / LOC SEAM 360

1. PRODUCT NAME

   Composite Roof System for roof applications.

2. MANUFACTURER

   ARCHITECTURAL METAL SYSTEMS
   1150 State Docks Road
   Eufaula, Alabama 36027
   Phone: (334) 687-2032

3. PRODUCT DESCRIPTION

   These standing seam roof panels offer a flat profile, with minor striations and optional pencil ribs, for an attractive appearance on higher pitched roofs. Loc Seam panels are seamed electrically and Loc Seam 360 panels have full 360 degree rolled seams formed with an electrical seaming machine. Minimum roof slope for the Loc Seam/Loc Seam 360 roof panels is ¼ to 12.

   Basic Use: A roof covering system for new or retrofit construction. A specially designed roof system combines American's Loc Seam roof panel with a layer of rigid insulation board and a Multi-rib liner panel giving the interior a finished look with excellent insulating properties. Thermax rigid insulation is applied between the interior and exterior panels. A compressible blanket insulation (unfaced) 1" thickness before compression is located between the exterior panel and the rigid insulation (while optional, this insulation is highly recommended to minimize panel rumbling in high winds). An optional 3 mil (or equivalent) vinyl vapor barrier may be used between the liner panel and the rigid insulation.

   Materials: Loc Seam panels are available in 24 or 22 gage 50,000 psi in either G90 zinc-coated (galvanized) steel or aluminum-zinc alloy-coated (AZ50 or AZ55) steel. Pre-painted panels have Architectural Metal Systems' SmartKote (Kynar 500®) Finish.

   The Multi-rib liner has 15/16" ribs with major corrugations spaced on 6" centers. They offer 36" width coverage. Rigid insulation is Thermax® by Celotex Corporation, Types TF600, TF604, TF610 or Thermax Plus with a maximum thickness of 5-1/2" in a double layer or 4-1/2" in a single layer.

   The Loc Seam clip is a two part assembly. The tab portions are a nominal 2-3/8" in height and 3" in width, die formed 24 gage aluminum coated steel. The bases are die formed 18 gage zinc-coated (galvanized) steel. Expansion capability is 1-1/4".Bearing plates for the Loc Seam panel clips are 20 gage zinc-coated (galvanized) or aluminum-zinc alloy-coated steel.

   Loc Seam panel sidelaps have factory applied mastic, SikaLastomer-511 or equal. Its composition is 85% solids by weight. Service temperature range is -60ºF to + 220ºF.

   Endlaps, roof flashing laps, ridges and eave closures are sealed with tape mastic, Sika Sika-Tape TC-95 or equal. The material is non-staining, non-corrosive, non-toxic and non-volatile. Composition is 100% solid isobutylene tripolymer tape. Service temperature is -60ºF to +212ºF. Eaves, endlaps, ridge and eave closures are sealed with non-skinning butyl caulk, SikaLastomer-511 or equal. Its composition is 85% solids by weight. Service temperature range is -60°F to + 220ºF. All gutter and downspout joints, and roof accessories are sealed with polyurethane caulk, Sika SikaFlex 219LM or equal. It meets or exceeds Federal Specification TT-S-00230C, Type II, Class A.

   All fasteners for panel to secondary framing and panel to panel will be one of the following EPDM washer head screws.

   A. Premium roof fasteners shall be No. 14 x 1" self-drilling carbon steel screws with a molded zinc alloy hex washer head. Premium roof fasteners will be on all warranted roofs and all pre-finished roofs.

   B. Standard roof fasteners shall be No. 14 x 1" self-drilling carbon steel screws with an integral hex washer head. Standard roof fasteners shall have a corrosive resistant coating over zinc plating. Standard roof fasteners shall be on unwarranted aluminum-zinc, alloy-coated roofs only. Loc Seam panel clips are attached to the purlins with self-drilling carbon steel screws No. 12 hex head, cadmium or zinc plated. The screw length is determined by the thickness of the rigid insulation. Multi-rib panels are attached to the secondary framing members by self-drilling carbon steel screws, No. 12 x 1-1/4" hex head, cadmium or zinc plated. Panel sidelaps are stitched with self-drilling carbon steel screws, No. 14 x 7/8" cadmium or zinc plated.

4. TECHNICAL DATA

   The Loc Seam 360 panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The Loc Seam 360 roof panel has been Factory Mutual and Miami-Dade County approved and also tested in accordance with Wind Uplift ASTM E1592 and CEGS 07416. This panel has been tested in accordance with Air Infiltration, ASTM E1680 and Water Penetration, ASTM E1646. This panel has been approved for SREF (SSTD-97) Impact Testing. This panel has received a Class A fire rating when tested in accordance with test procedure ASTM E108.

   The Loc Seam panel has received a Class 90 Wind Uplift rating by Underwriters Laboratories when tested in accordance with test procedure UL 580. The Loc Seam roof panel has been tested in accordance with CEGS 07416. This panel has also been tested in accordance with Air Infiltration, ASTM E1680, ASTM E283 and Water Penetration, ASTM

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E1646, ASTM E331. This panel has received a Class A fire rating when tested in accordance with test procedure ASTM E108.

5. INSTALLATION

Installation should be performed in accordance with Architectural Metal Systems' manuals and building erection drawings, and should be by a qualified installer using proper tools and equipment. Systems are installed by Architectural Metal Systems Authorized Roofers.

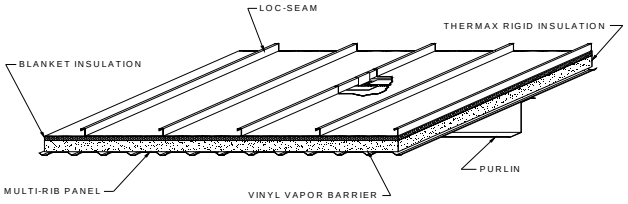
6. AVAILABILITY

For availability, contact:

ARCHITECTURAL METAL SYSTEMS

7. WARRANTY

Thirty-five year material and twenty year weathertightness warranties are available.



8. MAINTENANCE

Only normal routine maintenance is required over the life of the panels.

9. TECHNICAL SERVICES

For information, contact:

ARCHITECTURAL METAL SYSTEMS

10. PRODUCT NOTES

A certain amount of waviness called "oilcanning" may exist in this panel. Minor waviness of the panel is not sufficient cause for rejection, because oilcanning does not affect the structural integrity of the panel.

Architectural Metal Systems reserves the right to revise all standard specifications and information. Architectural Metal Systems regularly updates its published "Standard Specifications" on the Architectural Metal Systems web site, www.americanbuildings.com, which supercede and replace any previously published standard specifications of Architectural Metal Systems.

System "R" Values

Thermax	Winter	Summer
1"	9.8	10.5
1 1/2"	13.8	14.1
2"	17.8	17.7
2 1/2"	21.8	21.3
3"	25.8	24.9
4"	33.8	32.1

Engineering Properties of Architectural Metal Systems 16" LocSeam Panel

Designated Gage of Steel	Steel Yield KSI	Base Metal Thick. (In.)	Total Thick. (In.)	Panel Weight (lbs. / ft.²)	Top In Compression Ix (In.⁴ / ft.)	Top In Compression Sx (In.³ / ft.)	Top In Compression Ma K-IN.	Bottom In Compression Ix (In.⁴ / ft.)	Bottom In Compression Sx (In.³ / ft.)	Bottom In Compression Ma K-IN.	Fb KSI
24 Ga.	50	0.0225	0.0241	1.35	0.166	0.099	2.97	0.073	0.061	1.83	30
22 Ga.	50	0.0300	0.0316	1.77	0.225	0.140	4.20	0.110	0.094	2.82	30

Gage of Panel	No. of Spans	Load Type	Maximum Total Uniform Load in PSF, Span Lengths, Ft. 1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
24 Ga.	1	POS	683	423	285	204	153	118	94	77
	2	POS	460	276	183	129	96	74	59	48
	3	POS	542	332	222	159	118	92	73	60
	4	POS	516	314	210	149	111	86	68	56
22 Ga.	1	POS	1042	629	417	296	220	170	135	110
	2	POS	733	435	286	201	149	115	91	74
	3	POS	873	527	350	248	185	143	113	92
	4	POS	828	497	329	233	173	134	106	86

Engineering Properties of Architectural Metal Systems 16" LocSeam 360 Panel

Designated Gage of Steel	Steel Yield KSI	Base Metal Thick. (In.)	Total Thick. (In.)	Panel Weight (lbs. / ft.²)	Top In Compression Ix (In.⁴ / ft.)	Top In Compression Sx (In.³ / ft.)	Top In Compression Ma K-IN.	Bottom In Compression Ix (In.⁴ / ft.)	Bottom In Compression Sx (In.³ / ft.)	Bottom In Compression Ma K-IN.	Fb KSI
24 Ga.	50	0.0225	0.0241	1.35	0.140	0.078	2.34	0.063	0.056	1.68	30
22 Ga.	50	0.0300	0.0316	1.77	0.195	0.114	3.42	0.095	0.085	2.55	30

Gage of Panel	No. of Spans	Load Type	Maximum Total Uniform Load in PSF, Span Lengths, Ft. 1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
24 Ga.	1	POS	613	363	238	168	124	96	76	62
	2	POS	450	264	172	121	90	69	55	44
	3	POS	541	322	212	150	111	86	68	55
	4	POS	512	303	199	140	104	80	64	52
22 Ga.	1	POS	929	542	353	248	183	141	111	90
	2	POS	700	407	264	185	137	105	83	68
	3	POS	849	499	326	229	170	131	104	84
	4	POS	801	469	306	215	159	122	97	79

1. The panels were checked for bending, shear, combined bending and shear and deflection. Deflection was limited to span/150
2. Section Properties have been calculated in accordance with the 2001 *North American Specification for the Design of Cold-Formed Steel Structural Members*.
3. Minimum yield strength of 24 and 22 gage steel is 50,000 psi.
4. Steel panels are either aluminum-zinc alloy or G-90 coated. The base metal thickness was used in determining section properties.
5. Positive load (POS) is applied inward toward the panel supports and is applied to the outer surface of the full panel cross-section.

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