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SPECIFICATION DATA

Metal Sales Manufacturing Corporation

This specification data sheet is provided by Metal Sales as a technical support tool incident to the sale of its Structural Standing Seam Steel Roof Panel products. Contact Metal Sales for more information on these and other products.

Section 07 41 13 - METAL ROOF PANELS

1. PRODUCT NAME
Seam-Loc 24, Snap-Loc 24 and Clip-Loc structural standing seam metal roof panels

2. MANUFACTURER
Metal Sales Manufacturing Corporation
7800 Highway 60
Sellersburg, IN 47172
Toll Free: 800.406.7387
Phone: 502.855.4300
Fax: 502.855.4200
Web: metalsales.us.com
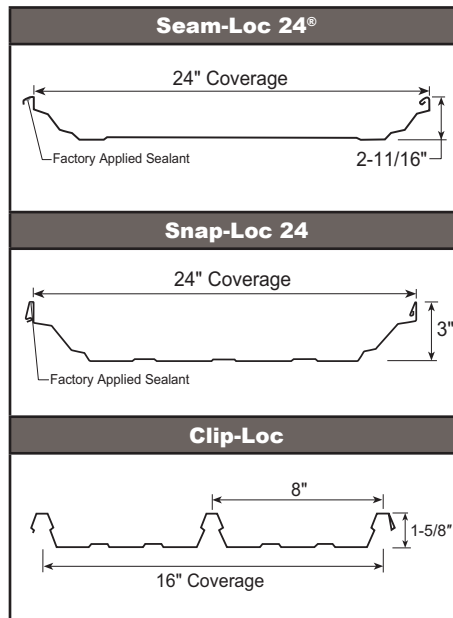E-Mail: rgage@metalsales.us.com

3. MANUFACTURER DESCRIPTION
Basic Use
For more than 60 years, Metal Sales has earned a reputation as the premier provider of metal building components and accessories. Metal Sales maintains the industry's largest professional sales and service team, supported by 21 branches located throughout the United States and offers a full line of high quality metal roof and wall panels for agricultural, commercial, architectural, industrial and residential projects of every shape and size for both new construction and retrofit applications. Metal Sales is dedicated to leading the metal building component industry, by setting new standards for operating efficiency, product design, active service management and lasting value.

Manufacturer Memberships and Affiliations
CRRC - Cool Roof Rating Council
MCA - Metal Construction Association
NRCA - National Roofing Contractors Association
MasterSpec

Seam-Loc 24®

24" Coverage

Factory Applied Sealant   2-11/16"

Snap-Loc 24

24" Coverage

3"

Factory Applied Sealant

Clip-Loc

8"

1-5/8"

16" Coverage

4. TECHNICAL DATA
Applicable Standards
ASTM International (ASTM)
●ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
●ASTM A 792 - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
●ASTM B 209 - Standard Specification for Aluminum adn Aluminum-Alloy Sheet and Plate
●ASTM D 2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates

●ASTM D 4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
●ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials
●ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials
●ASTM E 1514 - Standard Specification for Structural Standing Seam Steel Roof Panel Systems
●ASTM E 1592 - Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
●ASTM E 1637 - Standard Specification for Structural Standing Seam Aluminum Roof Panel Systems
●ASTM E 1646 - Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
●ASTM E 1680 - Standard Test Method for Rate of Air Leakage through Exterior Metal Roof Panel Systems
●ASTM E 2140 - Standard Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head

Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): Architectural Sheet Metal Manual

Underwriters Laboratories (UL):
●UL 263 - Fire Tests of Building Construction and Materials
●UL 580 - Tests For Uplift Resistance of Roof Assemblies
●UL 790 - Standard Test Methods for Fire Tests of Roof Coverings
●UL 2218 - Impact Resistance of Prepared Roof Covering Materials

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SPECIFICATION DATA

Approval Organizations:
Florida Building Code 2020
ICC Evaluation Service
Underwriters Laboratories
Cool Roof Rating Council

Physical Properties:
Test reports are available to design professionals upon request.

Note: Industry designation for material thickness is moving away from "gauge" to decimal thickness in inches. Metal Sales recommends use of a minimum thickness requirement of 0.0180 inch (0.46 mm) instead of 26 gauge, 0.0230 inch (0.58 mm) instead of 24 gauge and 0.0296 inch (0.75 mm) instead of 22 gauge. For Galvalume-coated steel, specify AZ50 for painted material or AZ55 for unpainted material.

Technical Properties for Seam-Loc 24:
►Panel Coverage: 18 inches (457.2 mm) or 24 inches (609.6 mm)
►Rib Height: 2-11/16 inches (68.3 mm)
►Material: Aluminum-zinc alloy-coated steel sheet, ASTM A 792, AZ50 or AZ55 coating designation, Grade 50, structural quality, 0.0230-inch (0.58-mm) or 0.0296-inch (0.75-mm) mimimum thickness
►Minimum Roof Slope: 1/4:12
►Sealant: Factory-applied side lap sealant
►Attachment: Concealed clip designed for thermal movement
►Side Lap: Mechanically-seamed panel system
►Insulation Capacity: Accommodate blanket insulation thickness of 1/2 inch (12.7 mm) to 6 inches (152 mm)
►Application: Applied over open framing or solid substrate
►Surface Finish: PVDF or Acrylic-Coated Galvalume®
►Color: See list of available colors. Contact Metal Sales for more information.
►Testing:
●Fire Resistance Rating: UL 263 and UL 790 Class A Fire Resistance Rating per assembly
Impact Resistance: UL 2218, Class 4
Air Infiltration: Tested according to ASTM E 1680
Water Infiltration: Tested according to ASTM E 1646
Wind Uplift Resistance: Tested according to ASTM E 1592 and in compliance with UL 580, Class 90 Wind Uplift, Construction #197 and 197A
►Code and Testing Agency Approvals:
Florida Building Code Approved: FL10999.8 and FL10999.9
UL Construction #197 and 197A

Technical Properties for Snap-Loc 24:
►Panel Coverage: 24 inches (609.6 mm)
►Rib Height: 3 inches (76.2 mm)
►Material: Aluminum-zinc alloy-coated steel sheet, ASTM A 792, AZ50 or AZ55 coating designation, Grade 50, structural quality, 0.0230-inch (0.58-mm) or 0.0296-inch (0.75-mm) mimimum thickness
►Minimum Roof Slope: 1/4:12
►Sealant: Factory-applied side lap sealant
►Attachment: Concealed clip designed for thermal movement
►Side Lap: Snap-together panel system
►Insulation Capacity: Accommodate blanket insulation thickness of 1/2 inch (12.7 mm) to 6 inches (152 mm)
►Application: Applied over open framing or solid substrate
►Surface Finish: PVDF or Acrylic-Coated Galvalume®
►Color: See list of available colors. Contact Metal Sales for more information.
►Testing: Fire Resistance Rating: UL 263 and UL 790 Class A Fire Resistance Rating per assembly
Impact Resistance: UL 2218, Class 4
Air Infiltration: Tested according to ASTM E 1680
Water Infiltration: Tested according to ASTM E 1646
Wind Uplift Resistance: Tested according to ASTM E 1592 and in compliance with UL 580, Class 90 Uniform Static Air Pressure Difference: As tested in compliance with ASTM E 330
►Code and Testing Agency Approvals:
UL Construction #240

Technical Properties for Clip-Loc:
►Panel Coverage: 16 inches (406.4 mm)
►Rib Height: 1-5/8 inches (41.3 mm)
►Material: Aluminum-zinc alloy-coated steel sheet, ASTM A 792, AZ50 or AZ55 coating designation, Grade 50, structural quality, 0.0180-inch (0.46-mm), 0.0230-inch (0.58-mm) or 0.0296-inch (0.75-mm) mimimum thickness
►Minimum Roof Slope: 1:12
►Attachment: Concealed clip designed for thermal movement
►Insulation Capacity: Accommodates blanket insulation thickness of up to 4 inches (101.6 mm)
►Side Lap: Snap-together panel system
►Application: Applied over open framing or solid substrate
►Surface Finish: PVDF or Acrylic-Coated Galvalume®
►Color: See list of available colors. Contact Metal Sales for more information.

►Testing: Fire Resistance Rating: UL 263 and UL 790 Class A Fire Resistance Rating per assembly.
Impact Resistance: UL 2218, Class 4
Air Infiltration: Tested according to ASTM E 1680
Water Infiltration: Tested according to ASTM E 1646
Wind Uplift Resistance: Tested according to ASTM E 1592 and UL 1897 and in compliance with UL 580, Class 90 Wind Uplift, Constructions #586 and 586A.
►Code and Testing Agency Approvals:
ICC-ES Evaluation Report: ESR-2385
UL Construction #586 and 586A

Environmental Considerations
Construction metals generally are readily recyclable at the end of their service life. The raw materials used in manufacture of standing seam panels also come from recycled sources. Post industrial and post consumer recycled content varies.

Fire Performance
In accordance with ASTM E 84:
Flame Spread Index: 25 or less (Class A)
Smoke Developed Index: 0

5. INSTALLATION
Handling and Storage
Handle and store product according to Metal Sales recommendations. Deliver materials in original, unopened, undamaged containers with identification labels intact. Store materials above ground, under waterproof covering, protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer. Provide proper ventilation of metal panel system to prevent condensation build-up between each panel and trim or flashing component. Store metal panel products in manufacturer's unopened packaging until ready for installation. Exercise caution in unloading and handling metal panel system to prevent bending, warping, twisting and surface damage.

Preparation
Install substrate boards over roof deck and sheathing over entire roof surface using recommended fasteners. Install furring, eave angles, sub-purlins and other miscellaneous roof panel support members and anchor according to metal roof panel manufacturer's recommendations. Ensure panel support is in-plane. Limit in-plane variance to no more than a total of 1/4 inch (6 mm) on 10 feet (3 m).

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SPECIFICATION DATA

Underlayment Installation
Install self-adhering sheet underlayment and felt underlayment as required. Apply slip sheet over underlayment prior to installing metal roof panels. Install flashing in compliance with requirements in Division 07 Section "Sheet Metal Flashing and Trim".

Thermal Insulation Installation
Install polyethylene vapor retarder if required. Install board insulation if required, in compliance with installation requirements in Division 07 Section "Thermal Insulation".
Install blanket insulation if required, in compliance with installation requirements in Division 07 Section "Thermal Insulation".

Metal Roof Panel Installation
Verify that site conditions are acceptable for installation. Do not proceed with installation until unacceptable conditions are corrected. Comply with panel manufacturer's installation instructions including but not limited to special techniques, interface with other work and integration of systems. Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing and using proper fasteners as recommended by panel manufacturer. Comply with installation tolerances.

Accessory Installation
Install accessories using techniques recommended by manufacturer and which will assure positive anchorage to building and weather tight mounting. Provide for thermal movement. Coordinate installation with flashings and other components. For Flashing and Trim, comply with performance requirements, manufacturer's written installation instructions and the SMACNA "Architectural Sheet Metal Manual". Provide concealed fasteners where possible and install units to true level. Install work with laps, joints and seams that will be permanently watertight. Metal Sales recommends S-5! non-penetrating systems for the attachment of snow guards and solar panels.

Field Quality Control
If requested by Owner, provide manufacturer's field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

Precautions, Cleaning and Protection
Touch-up paint is used to cover and protect unexpected scratches on the paint finish that may occur during installation of panel. Touch-up paint will not weather as well or at the same rate as the original system. Test in an area that will not be noticeable. Metallic paint colors are available at an additional charge. Minor differences in color and appearance are normal and to be expected.

To minimize possible differences in appearance, an entire project should be painted at one time, from one batch of paint, using the same application equipment. Additionally, fabricated panels, flat sheet and flashings should be oriented in the same direction.

After installation remove temporary coverings and protection of adjacent work areas. Repair or replace any installed products that have been damaged. Clean installed panels in accordance with manufacturer's instructions prior to Owner's acceptance. Remove and lawfully dispose of construction debris from Project site. Protect installed product and finish surfaces from damage during construction.

Building Codes
Current data on building code requirements and product compliance may be obtained from Metal Sales technical support specialists. Installation must comply with the requirements of authority having jurisdiction.

6. AVAILABILITY AND COST
Availability
Metal Sales products are nationally distributed and supported from 21 convenient locations nationwide, including Alaska. Metal Sales has the ability to ship worldwide. Contact Metal Sales for information on local availability.

Cost
Budget installed cost information may be obtained from a local Metal Sales distributor or through the manufacturer

7. WARRANTIES
Weather Tightness Warranty
Metal Sales Weather Tightness Warranty is available in several forms. Request sample warranty documents from manufacturer for review and editing assistance. Warranty Period is optionally 5, 10 or 20 years.
Type 1 Warranty:
   Side lap warranty only, with dollar limit
Type 2 Warranty:
   Trim and side lap warranty, with dollar limit
Type 3 Warranty:
   Side lap warranty only, with no dollar limit
Type 4 Warranty:
   Trim and side lap warranty, with no dollar limit
Premier Plus Warranty:
   Single-source warranty, with no dollar limit

Paint Finish Warranty
Metal Sales standard PVDF (Fluorocarbon) System Warranty for film integrity, chalk rating and fade rating in which manufacturer agrees to repair or replace panels that show evidence of deterioration within specified warranty period. Deterioration shall include, but is not limited to, color fading of more than 5 Hunter units when tested according to ASTM D 2244, chalking in excess of a No. 8 rating when tested according to ASTM D 4214 or cracking, checking, peeling or failure of paint to adhere to bare metal. Warranty Period for film integrity is 45 years and for chalk and fade rating is 35 years. Metal Sales warranty excludes failure due to physical damage and exposure to salt environments.

8. MAINTENANCE
No specific maintenance is required for properly installed Metal Sales standing seam panel products. Periodic roof inspection to verify system integrity, drainage functionality and repair of storm damage is advised.

9. TECHNICAL SERVICES
Technical assistance, including more detailed information, product literature, test results, project lists, assistance in preparing project specifications and arrangements for application supervision, is available by contacting Metal Sales.

10. FILING SYSTEMS
Additional product information is available from the manufacturer, upon request and from MasterSpec.

Seam-Loc 24 is a registered trademark of Metal Sales.