



Standard Specification for Structural Standing Seam Steel Roof Panel Systems¹

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1. Scope

1.1 This specification covers the design, construction, and weatherability of structural standing seam steel roof panel systems. It includes performance requirements for the following elements only: panels, concealed panel clips, panel/clip anchorage, and panel joint sealers.

NOTE 1—These systems are used on both low-slope and steep-slope roof applications. They also are used with or without an underlying deck or sheathing.

1.2 The objective of this specification is to provide for the overall performance of the structural standing seam steel roof panel system as defined in 3.2.6 during its service life in order to provide weather protection, carry the specified design loads, and allow proper access over the roof surface in order to provide for periodic maintenance of equipment by the owner.

1.3 In addition to structural, the specifier shall evaluate other characteristics beyond the scope of this specification, that affect the final choice of roof construction. These include, but are not limited to, functional, legal, insurance, and economic considerations. See Appendix X1 for specifier's checklist.

1.4 The specification is not intended to exclude products or systems not covered by the referenced documents.

1.5 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.6 The text of this specification contains notes and footnotes that provide explanatory information and are not requirements of this specification.

2. Referenced Documents

2.1 ASTM Standards:

A 463/A 463M Specification for Steel Sheet, Aluminum-Coated, by the Hot-Dip Process²

A 653/A 653M Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process²

A 792/A 792M Specification for Steel Sheet, 55 %

- Aluminum-Zinc Alloy-Coated by the Hot-Dip Process²
A 875/A 875M Specification for Steel Sheet, Zinc-5 % Aluminum Alloy-Coated by the Hot-Dip Process²
C 711 Test Method for Low-Temperature Flexibility and Tenacity of One-Part, Elastomeric, Solvent-Release Type Sealants³
C 765 Test Method for Low-Temperature Flexibility of Preformed Tape Sealants³
C 879 Test Method for Release Papers Used with Preformed Tape Sealants³
D 1667 Specification for Flexible Cellular Materials—Vinyl Chloride Polymers and Copolymers (Closed-Cell Form)⁴
D 3310 Test Method for Determining Corrosivity of Adhesive Metals⁵
E 631 Terminology of Building Constructions³
E 1592 Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference⁶
E 1646 Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference⁶
E 1680 Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems⁶
G 21 Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi⁷
2.2 *Underwriters Laboratories Standard:*
580 Standard for Safety, Tests for Uplift Resistance of Roof Assemblies⁸
2.3 *Factory Mutual Research Corporation Standard:*
Approval Standard Class I Panel Roofs Class No. 4471⁹
2.4 *AISI Document:*
Cold-Formed Steel Design Manual, Latest Edition¹⁰
2.5 *MBMA Document:*

³ Annual Book of ASTM Standards, Vol 04.07.

⁴ Annual Book of ASTM Standards, Vol 08.01.

⁵ Annual Book of ASTM Standards, Vol 15.06.

⁶ Annual Book of ASTM Standards, Vol 04.11.

⁷ Annual Book of ASTM Standards, Vol 06.01.

⁸ Available from Underwriters Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096.

⁹ Available from Factory Mutual Research Corporation, 1151 Boston Providence Turnpike, Norwood, MA 02062.

¹⁰ Available from American Iron and Steel Institute, 1101 7th Street, NW, Washington, DC 20036-4700.

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² Annual Book of ASTM Standards, Vol 01.06.