
Standard Specification for Steel Sheet, Metallic-Coated and Polymer-Precoated, for Corrugated Steel Pipe

AASHTO Designation: M 246M/M 246-24¹

Technically Revised: 2024

Technical Subcommittee: 4b, Flexible and Metallic Pipe

ASTM Designation: A742/A742M-20



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1. SCOPE

- 1.1. This specification covers polymer-precoated steel sheet for corrugated steel pipe (CSP), which is coated after metallic coating on continuous lines by coil coating (roller coating or laminating) processes. The metallic coating is either zinc or aluminum-zinc alloy. Sheet for this purpose is furnished flat in coils, flat in cut lengths, or corrugated in cut lengths, all being protected by a mill-applied polymer coating on one or both sides.
- 1.2. *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety concerns associated with its use. It is the responsibility of the user of this procedure to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to its use.*
- 1.3. The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text, the inch-pound units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standards:*
 - M 218, Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe
 - M 289, Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe
 - M 339M/M 339, Thermometers Used in the Testing of Construction Materials
- 2.2. *ASTM Standards:*
 - A929/A929M, Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe
 - D543, Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents
 - D968, Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
 - D1005, Standard Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
 - D2794, Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

- D7091, Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals
- E879, Standard Specification for Thermistor Sensors for General Purpose and Laboratory Temperature Measurements
- E1137/E1137M, Standard Specification for Industrial Platinum Resistance Thermometers
- G22, Standard Practice for Determining Resistance of Plastics to Bacteria (withdrawn 2002; no replacement)
- G23, Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) with and without Water for Exposure of Nonmetallic Materials (withdrawn 2000; replaced by G152)
- G62, Standard Test Methods for Holiday Detection in Pipeline Coatings

2.3. *International Electrotechnical Commission Standard:*

- IEC 60751: 2008 Industrial Platinum Resistance Thermometers and Platinum Temperature Sensors

3. CLASSIFICATION

- 3.1. The polymer coating is classified by grade corresponding to the thickness in micrometers on each side in SI units, and the thickness in mils (thousandths of an inch) on each side in inch-pound units (see Table 1).

Table 1—Polymer Coating

Grade		Coating Thickness	
SI	inch-pound	μm	in.
250/250	[10/10]	250/250	[0.010/0.010]

- 3.2. Any combination of polymer coating thickness other than shown in Table 1 is subject to agreement between the manufacturer and purchaser or fabricator.

4. TERMINOLOGY

- 4.1. In this specification, *manufacturer* refers to the producer of the sheet, *fabricator* refers to the producer of the pipe, and *purchaser* refers to the purchaser of the finished pipe.

5. ORDERING INFORMATION

- 5.1. The polymer-precoated sheet covered by this specification shall be ordered only to the specified thicknesses listed in Table 2. The specified thickness is based on the thickness of the metallic-coated steel sheet, not including the thickness of the polymer coating.