



Standard Guide for Corrosion Test Panel Preparation, Testing, and Rating of Coil-Coated Building Products¹

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1. Scope

1.1 This guide has been written specifically for coil-coated metal building products.

1.2 This guide applies to preparation, testing, and rating of line-coated and laboratory-coated test panels for the purpose of comparing and ranking the panels for corrosion resistance and other related properties.

1.3 Testing may include accelerated laboratory corrosion tests and outdoor exposure tests.

1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- B117 Practice for Operating Salt Spray (Fog) Apparatus
- D610 Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
- D714 Test Method for Evaluating Degree of Blistering of Paints
- D870 Practice for Testing Water Resistance of Coatings Using Water Immersion
- D1654 Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
- D1735 Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus
- D2247 Practice for Testing Water Resistance of Coatings in

100 % Relative Humidity

- D2803 Guide for Testing Filiform Corrosion Resistance of Organic Coatings on Metal
 - D3359 Test Methods for Measuring Adhesion by Tape Test
 - D4138 Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means
 - D4585 Practice for Testing Water Resistance of Coatings Using Controlled Condensation
 - D5796 Test Method for Measurement of Dry Film Thickness of Thin-Film Coil-Coated Systems by Destructive Means Using a Boring Device
 - D5894 Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)
 - D7091 Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals
 - G7 Practice for Atmospheric Environmental Exposure Testing of Nonmetallic Materials
 - G85 Practice for Modified Salt Spray (Fog) Testing
 - G87 Practice for Conducting Moist SO₂ Tests
 - G169 Guide for Application of Basic Statistical Methods to Weathering Tests
- ### 2.2 SAE Standards:³
- J2334 Laboratory Cyclic Corrosion Test

3. Terminology

3.1 Definitions:

3.1.1 *test panel, n*—a representative specimen of metal substrate, coated with a coating system for evaluation, and prepared in a way that allows measurement of environmental degradation, especially corrosion, for system performance comparisons and ranking.

4. Summary of Guide

4.1 Test panels may be collected from coil line clips and formed building panels, or may be laboratory-prepared.

¹ This guide is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.53 on Coil Coated Metal.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from SAE International (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001, <http://www.sae.org>.