



Designation: D6675 – 23

Standard Practice for Salt-Accelerated Outdoor Cosmetic Corrosion Testing of Organic Coatings on Automotive Sheet Steel¹

This standard is issued under the fixed designation D6675; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

Corrosion of painted sheet steel of auto bodies is classified according to the initial location and direction of the corrosive attack. When the corrosion starts on the visible exterior surface, mostly at nicks and scratches in the paint, it is called “cosmetic” or “outside in” corrosion. Corrosion initiated at an interior surface or within a closed or semi-closed part is called “perforation” or “inside out” corrosion.

1. Scope

1.1 This practice is designed to assist procedures to be followed when conducting outdoor exposures to evaluate cosmetic corrosion that might occur in steel panels covered with an organic coating that has been damaged. The outdoor exposures described are based on Practices **G7** and **G50** and include periodic wetting of the test specimens with a salt solution.

1.2 The methods of preparing test specimens and the particular exposure requirements of materials are beyond the scope of this practice.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

- B117** Practice for Operating Salt Spray (Fog) Apparatus
- D609** Practice for Preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Conversion Coatings, and Related Coating Products
- D610** Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
- D823** Practices for Producing Films of Uniform Thickness of Paint, Coatings and Related Products on Test Panels
- D1014** Practice for Conducting Exterior Exposure Tests of Paints and Coatings on Metal Substrates
- D1654** Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
- D1730** Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting
- D2201** Practice for Preparation of Zinc-Coated and Zinc-Alloy-Coated Steel Panels for Testing Paint and Related Coating Products
- D3170** Test Method for Chipping Resistance of Coatings
- G7** Practice for Natural Weathering of Materials
- G50** Practice for Conducting Atmospheric Corrosion Tests on Metals

3. Significance and Use

3.1 Tests of the type described in this practice are used to evaluate the corrosion resistance of organic coatings on metal products exposed to highly salty environments, such as areas subjected to deicing salts or coastal areas. Exposure conditions

¹ This practice is under the jurisdiction of ASTM Committee **D01** on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee **D01.27** on Accelerated Testing.

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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.