



Designation: D5105 – 05 (Reapproved 2019)

Standard Practice for Performing Accelerated Outdoor Weathering of Pressure-Sensitive Tapes Using Concentrated Natural Sunlight¹

This standard is issued under the fixed designation D5105; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This practice covers one procedure for the exposure of pressure-sensitive tapes to an accelerated outdoor weathering environment.

1.2 This practice describes sample preparation and an accelerated outdoor environment to which it shall be exposed. It does not specify what observations or tests are to be performed on the material following exposure.

1.3 The values stated in inch-pound 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

D3715/D3715M Practice for Quality Assurance of Pressure-Sensitive Tapes

¹ This practice is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.14 on Tape and Labels.

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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.

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2.2 *Federal Specifications:*

QQ-A-250/5 Aluminum Alloy Alclad 2024, Plate and Sheet³

2.3 *SAE Document:*

SAE J576 Plastic Materials for Use in Optical Parts Such as Lenses and Reflectors of Motor Vehicle Lighting Devices—Recommended Practice⁴

3. Summary of Practice

3.1 The pressure-sensitive tapes are exposed to concentrated solar radiation in accordance with the conditions provided by the apparatus described in Practice G90, using spray Cycle 3. Following this exposure, the specimen is ready for any prescribed examination of appearance and physical characteristics by other standards as determined by the applicable material specification or other documents.

4. Significance and Use

4.1 This practice provides a means of qualitative assessments of outdoor weathering effects on pressure-sensitive tapes. The resistance of tapes to outdoor weathering is determined relative to the resistance of a control tape with known stability.

4.2 If tests described in this practice produce the same type of degradation as found in real-time exposures of the same materials, it is possible to use the results from these short-term tests to determine the quantitative effects of natural weathering.

4.3 The timing of exposure testing covering both outdoor conventional and outdoor accelerated exposure of this practice, using levels of ultraviolet solar radiation exposure (MJ/m^2) of

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁴ Available from SAE International (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001, http://www.sae.org.