Designation: D3815/D3815M – 05 (Reapproved 2011)

Standard Practice for Accelerated Weathering of Pressure-Sensitive Tapes by Open-Flame Carbon-Arc Exposure Apparatus[1]

This standard is issued under the fixed designation D3815/D3815M; 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 Department of Defense.

1. Scope

1.1 This practice describes one environment for the exposure of pressure-sensitive tapes to a laboratory accelerated weathering environment.

1.2 This practice describes sample preparation and the laboratory-accelerated weathering environment to which it shall be exposed. It does not specify the length of time of the exposure nor what tests shall be performed on the material following the exposure.

NOTE 1—Practice D6551/D6551M describes xenon-arc exposures of tapes.

1.3 The values stated in either SI or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system must be used independently without combining values in any way.

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

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar

D3330/D3330M Test Method for Peel Adhesion of Pressure-Sensitive Tape

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

D6551/D6551M Practice for Accelerated Weathering of Pressure-Sensitive Tapes by Xenon-Arc Exposure Apparatus

G147 Practice for Conditioning and Handling of Nonmetallic Materials for Natural and Artificial Weathering Tests

G151 Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources

G152 Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

3. Summary of Practice

3.1 The pressure-sensitive tape is exposed in accordance with the conditions provided by Practices G151 and G152. Exposure time is determined by applicable material specification or by mutual agreement by all interested parties.

4. Significance and Use

4.1 This practice does not necessarily provide direct simulation of natural weathering exposure.

4.2 Results from use of this practice shall not be represented as being equivalent to those of any natural weathering test until a satisfactory degree of correlation has been established for the material in question.

4.3 Variations in results are possible when the operating conditions vary within the accepted limits for the instrument specified in Practices G151 and G152.

5. Apparatus

5.1 *Exposure Apparatus,* conforming to the requirements defined in Practices G151 and G152 for exposure using the open-flame carbon arc with daylight filters.

5.2 *Panels,* for holding or supporting the specimens approximately 75 by 225 mm [3 by 9 in.] and rigid enough to resist deforming during use.

5.2.1 The material shall be Type 302 or 304 stainless steel in accordance with Specification A666 having a bright annealed finish. The surface roughness height shall be 50 ± 5 mm [2.0 ± 0.1 µ-in.] arithmetical average deviation from the mean line.

5.2.2 Other dimensions or materials and finishes are acceptable when defined by the subsequent test standard or commodity specification.

[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.