



Designation: D 3815/D3815M – 99

Standard Practice for Accelerated Weathering of Pressure-Sensitive Tapes by Carbon-Arc Exposure Apparatus¹

This standard is issued under the fixed designation D 3815/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 an accelerated weathering environment.

1.2 This practice describes sample preparation and the accelerating 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.

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:*
- A 666 Specification for Austenitic Stainless Steel, Sheet, Strip, Plate, and Flat Bar²
 - D 3330/D3330M Test Methods for Peel Adhesion of Pressure-Sensitive Tape at 180° Angle³
 - D 3715/D3715M Practice for Quality Assurance of Pressure-Sensitive Tapes³
 - G 151 Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources⁴
 - G 152 Practice for Operating Open Flame Carbon-Arc Light Apparatus for Exposure of Nonmetallic Materials⁴

¹ This practice is under the jurisdiction of ASTM Committee D-10 on Packaging and is the direct responsibility of Subcommittee D10.14 on Tape and Labels.

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² *Annual Book of ASTM Standards*, Vols 01.03, 01.04 and 01.05.

³ *Annual Book of ASTM Standards*, Vol 15.09.

⁴ *Annual Book of ASTM Standards*, Vol 14.02.

3. Summary of Practice

3.1 The pressure-sensitive tape is exposed for the time specified in accordance with the conditions provided by Practices G 151 and G 152. Following this exposure the specimen is ready for a prescribed examination of physical characteristics by other standards as determined by the applicable material specification or other document.

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 G 151 and G 152.

5. Apparatus

5.1 *Exposure Apparatus*, conforming to Practices G 151 and G 152.

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 A 666 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.

5.2.3 A panel or frame of the dimensions required by the exposure apparatus may be used to support the specimen panel when it is more convenient to do so, as long as the light and water paths are not interrupted or shortened by doing so.

5.3 *Rubber-Covered Roller*, at least as wide as the specimen with any diameter and rubber hardness.