



Designation: ~~D5683/D5683M – 95 (Reapproved 2011)~~<sup>ε1</sup> D5683/D5683M – 95 (Reapproved

## Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes<sup>1</sup>

This standard is issued under the fixed designation D5683/D5683M; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

<sup>ε1</sup> NOTE—Units information was editorially revised in February 2011.

### 1. Scope

1.1 This test method measures the flexibility of roofing or waterproofing sheet materials or membranes by bending the test material over a block containing arcs of specific radii at a standard temperature.

1.2 The values stated in either SI units 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 shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

*1.3 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:<sup>2</sup>

D1079 Terminology Relating to Roofing and Waterproofing

### 3. Terminology

3.1 For definitions of terms used in this test method, refer to Terminology D1079.

### 4. Summary of Test Method

4.1 Bend the five specimens of roofing or waterproofing sheet materials or membrane, conditioned at 4.4°C [40°F], (see Note 1), over a block (see Fig. 1) designed to provide arcs of equal length with 6-mm [¼-in.], 13-mm [½-in.], 19-mm [¾-in.], and 25-mm [1-in.] radii, and the smallest radius is reported where cracking is not observed in any specimen.

NOTE 1—Other test temperatures may be used in addition to the tests required at 4.4°C [40°F], and refrigerated conditioning chambers may be used instead of the water bath specified. Follow procedures outlined in Section 8, if refrigerated chamber is utilized; however, the plastic bag may be omitted.

### 5. Significance and Use

5.1 This test method is designed to aid those interested in the engineering properties of roofing and waterproofing sheet materials and membranes.

5.2 This test method enables a researcher to measure the relative flexibility of roofing and waterproofing sheet materials and membranes under standard conditions in the laboratory.

5.3 The data obtained from this test method will not permit prediction of the service life of a membrane. Membrane flexibility is important during application, and changes in flexibility are believed to be linked to the performance of roofing and waterproofing membranes, but the actual link between test data and performance is unknown and is dependent on the materials and exposure.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.20 on Roofing Membrane Systems.

Current edition approved Jan. 1, 2011; May 1, 2017. Published February 2011; May 2017. Originally approved in 1995. Last previous edition approved in 2005 as D5683 – 95/D5683/D5683M – 95 (2005); (2011)<sup>ε1</sup>. DOI: 10.1520/D5683-95R11E01.10.1520/D5683\_D5683M-95R17.

<sup>2</sup> 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.