



Designation: D 5636 – 94 (Reapproved 1999)^{e1}

Standard Test Method for Low Temperature Unrolling of Felt or Sheet Roofing and Waterproofing Materials¹

This standard is issued under the fixed designation D 5636; 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.

^{e1} NOTE—Editorially switched from English dominant to SI dominant.

1. Scope

1.1 This test method covers the procedure for the physical testing and analysis of surface cracking due to low temperature unrolling of roofing composed of bituminous impregnated felts and reinforced polymer modified bituminous sheet materials. These products may employ various surfacing materials on one side.

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

1.3 *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:*

D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials²

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, see Terminology D 1079.

4. Summary of Test Method

4.1 The felt or sheet roofing or waterproofing material roll is temperature conditioned. Specimens are then taken from the roll, wrapped around a mandrel, temperature conditioned, unrolled, and inspected for cracking.

5. Significance and Use

5.1 Since felts or sheet roofing or waterproofing materials are brought to the roof in a roll and unrolled, this test method

simulates felt or membrane behavior under actual field conditions during the unrolling process.

5.2 This test method is designed to aid those interested in the physical properties of roofing and waterproofing felts and sheet materials.

5.3 This test method enables a researcher to measure the relative behavior of low temperature unrolling of roofing and waterproofing felt or sheet materials under laboratory conditions.

5.4 The data obtained from this test method will not permit service life prediction or the ability of the material to be installed at the tested temperature. Unrolling capabilities are important during application, and the temperature at the time of unrolling is believed to affect the performance of roofing and waterproofing membranes. However, the actual link between the test data and performance is unknown and is dependent on the materials and exposure.

6. Apparatus

6.1 The mandrel for the test procedure is a ± 80 mm (3.125 in.) outer diameter (Schedule 30) PVC pipe, a minimum ± 250 mm (10.0 in.) in length.

7. Test Method

7.1 *Unrolling at Low Temperatures*—This test method determines the temperature at which no cracking is observed in the felt or sheet roofing or waterproofing materials after unrolling at the test temperature from a ± 80 mm (3.125 in.) diameter mandrel.

7.2 *Sampling:*

7.2.1 The specimens are to be taken from a roll of roofing or waterproofing materials conditioned at $23 \pm 3^\circ\text{C}$ ($73.6 \pm 3.4^\circ\text{F}$) and $50 \pm 5\%$ relative humidity for 24 h. No specimens are to be taken closer than ± 1.22 m (4 ft.) from the leading edge or closer than ± 150 mm (6 in.) from the side of the roll.

7.2.2 Cut four specimens from the roll in the longitudinal direction. The specimens shall be ± 250 mm (± 3 mm) [10 in. ($\pm 1/8$ in.)] wide by ± 450 mm (± 3 mm) [18 in. ($\pm 1/8$ in.)] long.

¹ This test method is under the jurisdiction of ASTM Committee D-8 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.20 on Roofing Membrane Systems.

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² *Annual Book of ASTM Standards*, Vol 04.04.