



Designation: D6381/D6381M – 24

Standard Test Method for Measurement of Asphalt Shingle Mechanical Uplift Resistance¹

This standard is issued under the fixed designation D6381/D6381M; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This test method covers measuring the uplift resistance of asphalt roofing shingles by mechanical means. It is applicable to shingles that use a factory-applied or field-applied sealant.

1.2 There are several types of shingles designed for service without a factory-applied or field-applied sealant. These shingles, when applied in accordance with the manufacturers' application instructions, employ other means to provide resistance against the forces generated by the action of wind such as geometry and shingle construction. Field experience has shown that these types of shingles function satisfactorily in service. Because there are a variety of these shingle designs, it is not practical to describe in this test method how to test these shingles for uplift resistance. The testing of these types of shingles, therefore, goes beyond the scope of this test method.

1.3 This test method describes two procedures for measuring shingle uplift resistance. Procedure A employs a specially designed apparatus with a clamping device which facilitates lifting of the edge of the shingle and measuring the force required to break the seal. Procedure B employs a metal "T" section adhered to the weather surface of the shingle to facilitate application and measurement of a perpendicular force to break the seal.

1.4 It is not prohibited to use this test method over a range of sealing time and temperature combinations and testing temperatures to simulate a variety of actual field use conditions. The times and temperatures used shall be stated in the report.

1.5 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 nonconformance with the standard.

¹ This test method is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.02 on Steep Roofing Products and Assemblies.

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1.6 *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.*

1.7 *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

- D228/D228M Test Methods for Sampling, Testing, and Analysis of Asphalt Roll Roofing, Cap Sheets, and Shingles Used in Roofing and Waterproofing
- D1079 Terminology Relating to Roofing and Waterproofing
- D3462/D3462M Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
- D7158/D7158M Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)

3. Terminology

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

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *seal*—as it relates to steep roofing shingles, is the bonding that results from the activation of the sealant under the action of time and temperature.

3.2.2 *sealant*—as it relates to steep roofing shingles, is defined as factory-applied or field-applied material designed to seal the shingles to each other under the action of time and temperature after the shingles are applied to a roof.

3.2.3 *sealed*—as it relates to steep roofing shingles, is the condition of the shingles after the sealant has been activated by the action of time and temperature.

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.