



Designation: D 6381 – 00a

Standard Test Method for Measurement of Asphalt Shingle Tab Mechanical Uplift Resistance¹

This standard is issued under the fixed designation D 6381; 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.

1. Scope

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

NOTE 1—There are several types of shingles designed for service without a factory-applied or field-applied adhesive. 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 tab 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.

1.2 This test method shall be permitted to be used 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 must be stated in the report.

1.3 The values stated in SI units are to be regarded as the standard.

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:

D 228 Test Methods for Asphalt Roll Roofing, Cap Sheets, and Shingles²

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

3. Summary of Test Method

3.1 The test specimens are constructed from pieces of shingles, overlaid and sealed prior to testing. All specimens are then conditioned and tested at selected temperatures. Specimens are tested by lifting the exposed tab edge and recording the uplift force required.

4. Significance and Use

4.1 Tab uplift resistance is one of the properties of an applied shingle that relates to its ability to withstand wind forces. This mechanical test is a laboratory method to measure that resistance at a designated temperature.

4.1.1 No quantitative relationship has been established between the mechanical tab uplift resistance and uplift forces due to the wind.

4.2 Many factors influence the sealing characteristics of shingles in the field; for example, temperature, time, contamination by dirt and debris, roof slope, and interference by misplaced fasteners. It is not the objective of this test method to address all of these influences. This test method is designed to determine the tab mechanical uplift resistance when representative specimens of shingles are sealed under selected conditions prior to testing.

5. Apparatus

5.1 The *Tensile Testing Machine*, shall be a constant-rate-of-extension (CRE) type.

5.2 *Heavy-Duty Paper Cutter*, steel rule, die or template 95 by 114 mm (3¾ by 4½ in.) and 95 by 178 mm (3¾ by 7 in.).

5.3 *The Test Fixture* is a specially designed apparatus and drawings are on file at ASTM Headquarters.³ Fig. 1 is a photo of the apparatus in a typical tensile testing machine with a specimen in place.

¹ This test method is under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing and Bituminous Materials and is the direct responsibility of Subcommittee D08.02 on Prepared Roofings, Shingles and Siding Materials.

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

³ The sole source of supply of this commercially available test fixture known to the committee at this time is Ashcraft Machine and Supply Inc., 185 Wilson St., Newark, Ohio 43055. Specify Shingle Tab Uplift Tester, Model 102. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.