



Designation: C488 – 16

Standard Test Method for Conducting Exterior Exposure Tests of Finishes for Thermal Insulation¹

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1. Scope

1.1 This test method covers out-of-doors exposure testing of finishes that are normally field-applied to thermal insulation and possibly include joints or joint sealants, or both. Such exposure is essential prior to the determination of certain physical properties when the finish is to be exposed to exterior weather conditions. This test method also indicates possible compatibility problems between the joint sealant and the finish as well as the ability of the finish to span a dry joint. This test method is not intended to evaluate mildew resistance, efflorescence, or chemical resistance.

NOTE 1—For testing free plastic films, see Practice D1435.

1.2 This test method does not prescribe the method of application, test duration, or inspection intervals.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered 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:*²

C168 Terminology Relating to Thermal Insulation
D1435 Practice for Outdoor Weathering of Plastics

3. Terminology

3.1 *Definitions:* Terminology C168 applies to the terms used in this test method.

¹ This test method is under the jurisdiction of ASTM Committee C16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.33 on Insulation Finishes and Moisture.

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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.

4. Summary of Test Method

4.1 This test method specifies out-of-doors exposure, under ambient conditions, of field-applied finishes on thermal insulations, utilizing a minimum of three test specimens and one control specimen stored indoors.

5. Significance and Use

5.1 Both physical and chemical changes possibly occur from weather exposure, and these changes affect performance properties, service life, and maintenance schedules. For this reason, tests of properties relating to performance shall be made both before and after specific periods of outdoor exposure.

5.2 This test method recognizes that differing geographical locations, environmental conditions, differences between surface temperatures and ambient temperatures, and test durations have extremely varied effects upon the test results.

5.3 This test method is to be used for comparative qualitative testing.

6. Test Specimens

6.1 A minimum of three test specimens and one control specimen, each having been applied to an insulation base of minimum dimensions 1 by 6 by 12 in. (25 by 150 by 300 mm), shall be prepared. Insulation shall be the same as that which is proposed for the application. The control specimen shall be stored indoors.

6.1.1 If the insulation thickness in actual application is less than 1 in. (25 mm), then the thickness of the insulation base shall be as in practice.

6.2 The following types of specimens are possible for testing:

- 6.2.1 Thermal insulation with no joints,
- 6.2.2 Thermal insulation with dry joints, and
- 6.2.3 Thermal insulation with joints filled with joint sealant.

6.3 For testing compatibility of sealants with finishes, joints at least 1 in. (25 mm) deep by $\frac{1}{16}$ to $\frac{3}{16}$ in. (2 to 5 mm) wide by 12 in. (300 mm) long shall be cut in the insulation block. Joints shall be at least 4 in. (100 mm) apart and at least 4 in. (100 mm) from the edges, parallel to the joint. More than one sealant is potentially tested with a single finish by varying the