



Designation: C419 – 20

Standard Practice for Making and Curing Test Specimens of Mastic Thermal Insulation Coatings¹

This standard is issued under the fixed designation C419; 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 practice covers the preparation of specimens of mastics and coatings in the form of cured sheets or films that are used in other procedures for evaluation of physical properties.

1.2 Three procedures are described for casting and curing (Note 1) mastics and coatings of all types for thermal insulation. When reinforcing mesh is recommended by the mastics and coatings manufacturer, test specimens shall be prepared using reinforcing mesh.

NOTE 1—The term “cure” is used primarily to denote the condition that develops as the result of loss of volatile matter but also to denote possible subsequent changes in chemical or physical properties due to crosslinking.

1.2.1 *Procedure A* is intended to provide a specimen of controlled thickness applied to the intended insulation for field use and equivalent in other respects to that obtainable under field application conditions.

1.2.2 *Procedure B* is intended to provide a free-film specimen of controlled thickness having smooth surfaces on both sides. This type is required for some types of physical testing.

1.2.3 *Procedure C* is intended to provide a free-film specimen of controlled thickness having one smooth surface (as field applied).

1.3 The procedures of this practice are not intended for the evaluation of application properties. These are covered in Test Methods C461 and Guide C647.

1.4 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.

1.5 *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 This practice 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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1.6 *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

- C168 Terminology Relating to Thermal Insulation
- C461 Test Methods for Mastics and Coatings Used With Thermal Insulation
- C533 Specification for Calcium Silicate Block and Pipe Thermal Insulation
- C647 Guide to Properties and Tests of Mastics and Coating Finishes for Thermal Insulation
- D6/D6M Test Method for Loss on Heating of Oil and Asphaltic Compounds

3. Terminology

3.1 *Definitions*—For definitions used in this practice see Terminology C168.

4. Summary of Practice

4.1 Mastics and coatings are applied by a metal blade to thermal insulation backing material in a thickness regulated by guide bars. Moderate heat is applied to the specimens to dry or otherwise cure them.

5. Significance and Use

5.1 The method of preparation of test specimens of mastic thermal insulation coatings will have an impact upon values obtained during testing. Testing laboratories shall follow this practice to help ensure the reproducibility of test methods for which a cured sheet or film of a mastic thermal insulation coating is required.

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.