Designation: C 419 – 94 (Reapproved 2000)

Standard Practice for Making and Curing Test Specimens of Mastic Thermal Insulation Coatings[1]

This standard is issued under the fixed designation C 419; 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 may be 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.

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 insulation, and equivalent in other respects to that obtainable under field application conditions. The thermal insulation intended for field use may be specified as the backing.

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 C 461 and Guide C 647.

1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

C 461 Test Methods for Mastics and Coatings Used With Thermal Insulation[2]

C 533 Specification for Calcium Silicate Block and Pipe Thermal Insulation[2]

C 647 Guide to Properties and Tests of Mastics and Coating Finishes for Thermal Insulation[2]

D 6 Test Method for Loss on Heating of Oil and Asphaltic Compounds[3]

3. Summary of Practice

3.1 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.

4. Significance and Use

4.1 The method of preparation of test specimens of mastic thermal insulation coatings can have an impact upon values obtained during testing. Testing laboratories should 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.

5. Apparatus

5.1 *Guide Bars*—Two rectangular steel bars of thickness equal to the desired wet thickness of the applied mastic or coating. The guide bars shall be equal in length to the total length of the specimens. For use on relatively soft backing material, the guide bars may be equipped with pins projecting from the lower surface at each end, which can be forced into the backing to hold the bars in position during preparation of the test specimen.

5.2 *Strike-Off Bar*— A flat strip of rigid metal, not less than 2 in. (51 mm) greater in length than the width of the specimen. One edge shall be smooth and straight.

5.3 *Leveling Roller*— One section of straight 1½-in. (38-mm) stainless steel pipe or any other convenient cylindrical leveling tool. The tool shall have a smooth surface. Minimum length shall be 2 in. (51 mm) longer than the width of the specimen.

[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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[2] *Annual Book of ASTM Standards*, Vol 04.06.

[3] *Annual Book of ASTM Standards*, Vol 04.04.