Designation: C 1029 – 96

Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation[1]

This standard is issued under the fixed designation C 1029; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers the types and physical properties of spray applied rigid cellular polyurethane intended for use as thermal insulation. The operating temperatures of the surfaces to which the insulation is applied shall not be lower than −22°F (−30°C) or greater than +225°F (+107°C). For specific applications, the actual temperature limits shall be as agreed upon between the manufacturer and the purchaser.

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

1.3 *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 165 Test Method for Measuring Compressive Properties of Thermal Insulations[2]

C 168 Terminology Relating to Thermal Insulating Materials[2]

C 177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus[2]

C 236 Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box[2]

C 518 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus[2]

D 883 Terminology Relating to Plastics[3]

D 1621 Test Method for Compressive Properties of Rigid Cellular Plastics[3]

D 1622 Test Method for Apparent Density of Rigid Cellular Plastics[3]

D 1623 Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics[3]

D 2126 Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging[3]

D 2842 Test Method for Water Absorption of Rigid Cellular Plastics[4]

D 2856 Test Method for Open Cell Content of Rigid Cellular Plastics by the Air Pycnometer[4]

E 84 Test Method for Surface Burning Characteristics of Building Materials[5]

E 96 Test Methods for Water Vapor Transmission of Materials[2]

3. Terminology

3.1 Definitions—For definitions of terms used in this specification, refer to Terminologies C 168 and D 883.

4. Classification

4.1 Spray-applied rigid-cellular polyurethane thermal insulation covered by this specification is classified into four types as follows:

4.1.1 *Type I*—Compressive strength 15 psi (104 kPa) minimum.

4.1.2 *Type II*—Compressive strength 25 psi (173 kPa) minimum.

4.1.3 *Type III*—Compressive strength 40 psi (276 kPa) minimum.

4.1.4 *Type IV*—Compressive strength 60 psi (414 kPa) minimum.

5. Ordering Information

5.1 Orders for materials purchased under this specification shall include the following:

5.1.1 ASTM designation, year of issue, and title.

5.1.2 Type (see 4.1).

5.1.3 *R* value or thickness required (see 10.1).

5.1.4 Sampling, if different (see Section 8.).

5.1.5 If a certificate of compliance is required (see 13.1).

5.1.6 If packaging is other than specified (see 14.1).

5.1.7 If marking is other than specified (see 14.4).

[1] This specification is under the jurisdiction of ASTM Committee C-16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.22 on Organic and Nonhomogeneous Inorganic Thermal Insulations.

Current edition approved Sept. 10, 1996. Published November 1996. Originally published as C 1029 – 85. Last previous edition C 1029 – 90.

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

[3] *Annual Book of ASTM Standards,* Vol 08.01.

[4] *Annual Book of ASTM Standards,* Vol 08.02.

[5] *Annual Book of ASTM Standards,* Vol 04.07.

Copyright © ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, United States.