



Designation: D7425 – 08

Standard Specification for Spray Polyurethane Foam Used for Roofing Applications¹

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1. Scope

1.1 This specification covers the types and physical properties of spray polyurethane foam (SPF) for use in SPF roofing applications.

1.2 This specification does not provide guidance for application.

1.3 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

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

C165 Test Method for Measuring Compressive Properties of Thermal Insulations

C168 Terminology Relating to Thermal Insulation

C177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

C518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

C1363 Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus

D1079 Terminology Relating to Roofing and Waterproofing

D1621 Test Method for Compressive Properties Of Rigid Cellular Plastics

D1622 Test Method for Apparent Density of Rigid Cellular Plastics

D1623 Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics

D2126 Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging

D2842 Test Method for Water Absorption of Rigid Cellular Plastics

D6226 Test Method for Open Cell Content of Rigid Cellular Plastics

E96/E96M Test Methods for Water Vapor Transmission of Materials

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminologies **D1079** and **C168**.

3.1.1 *knit line*—also called lift line. They are interchangeable terms describing the adhesion plane where one pass is sprayed over another.

4. Significance and Use

4.1 This specification covers spray polyurethane foam (SPF) that is used as part of a SPF roofing system.

5. Classification

5.1 This specification covers SPF currently commercially available as described by the physical property requirements in **Table 1**.

5.2 SPF shall be manufactured with HFC, hydrocarbon or/and water blowing agents. It is classified into two types as follows:

5.2.1 *Type I*—Thermal resistance, R value, is equal to or greater than 0.98 K·m²/W (5.6°F·ft²·h/Btu) per 25.4 mm (1 in.) thickness.

5.2.2 *Type II*—Thermal resistance, R value, is between 0.72 and 0.98 K·m²/W (4.1 and 5.6°F·ft²·h/Btu) per 25.4 mm (1 in.) thickness.

6. Ordering Information

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

6.1.1 ASTM designation, year of issue, and title.

6.1.2 Type (see **5.2**).

6.1.3 Sampling, if different (see **Section 9**).

6.1.4 If packaging is other than specified (see **13.1**).

¹ This specification is under the jurisdiction of ASTM Committee **D08** on Roofing and Waterproofing and is the direct responsibility of Subcommittee **D08.06** on Spray Polyurethane Foam Roof Systems.

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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.