



Designation: C1427 – 16

Standard Specification for Extruded Preformed Flexible Cellular Polyolefin Thermal Insulation in Sheet and Tubular Form¹

This standard is issued under the fixed designation C1427; 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 specification covers extruded preformed flexible cellular polyolefin thermal insulation operating temperatures from -150°F to 200°F (-101°C to 93°C). For specific applications, the actual temperature limit shall be agreed upon between the manufacturer and the purchaser.

1.2 The use of thermal insulation materials covered by this specification are governed by codes and standards that address fire performance. Contact manufacturer for specific performance of product at the intended use thickness.

1.3 This specification covers the physical properties of preformed flexible cellular polyolefin thermal insulation, which have been deemed mandatory for thermal design. Physical properties such as density and coefficient of thermal expansion (CTE) have been deemed nonmandatory for thermal design. Nonmandatory physical properties have been included in [Appendix X1](#) for information purposes only.

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 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](#)
- [C177 Test Method for Steady-State Heat Flux Measure-](#)

[ments and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus](#)

[C335 Test Method for Steady-State Heat Transfer Properties of Pipe Insulation](#)

[C390 Practice for Sampling and Acceptance of Thermal Insulation Lots](#)

[C411 Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation](#)

[C447 Practice for Estimating the Maximum Use Temperature of Thermal Insulations](#)

[C518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus](#)

[C534 Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form](#)

[C585 Practice for Inner and Outer Diameters of Thermal Insulation for Nominal Sizes of Pipe and Tubing](#)

[C670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials](#)

[C1045 Practice for Calculating Thermal Transmission Properties Under Steady-State Conditions](#)

[C1058 Practice for Selecting Temperatures for Evaluating and Reporting Thermal Properties of Thermal Insulation](#)

[C1114 Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus](#)

[C1303 Test Method for Predicting Long-Term Thermal Resistance of Closed-Cell Foam Insulation](#)

[C1304 Test Method for Assessing the Odor Emission of Thermal Insulation Materials](#)

[C1763 Test Method for Water Absorption by Immersion of Thermal Insulation Materials](#)

[D883 Terminology Relating to Plastics](#)

[D1622 Test Method for Apparent Density of Rigid Cellular Plastics](#)

[D1667 Specification for Flexible Cellular Materials—Poly \(Vinyl Chloride\) Foam \(Closed-Cell\)](#)

[D3575 Test Methods for Flexible Cellular Materials Made From Olefin Polymers](#)

[E84 Test Method for Surface Burning Characteristics of Building Materials](#)

[E96/E96M Test Methods for Water Vapor Transmission of Materials](#)

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

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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.