



Designation: C1775 – 22

Standard Specification for Laminate Protective Jacket and Tape for Use over Thermal Insulation for Outdoor Applications¹

This standard is issued under the fixed designation C1775; 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 addresses the minimum performance for flexible laminate protective jacket and a pressure sensitive adhesive tape for use over thermal insulation on pipes, duct, and equipment operating at both above and below ambient temperatures and installed outdoors, above ground. It does not include the following: protective metal jacket, homogenous plastic film jacket materials, modified asphalt jacket materials, and butyl rubber membranes.

1.2 This type of material shall consist of multiple layers of polymer film and aluminum foil laminated to one another with layer(s) of reinforcement as an option.

1.3 Jacket and tape materials covered by this specification shall have low water vapor permeance values; however, they are not necessarily always used as vapor retarders. The water vapor transmission tests address the jacket and tape materials only and do not address overlaps or taped joints. All materials shall be weather resistant and intended to have sufficient strength to provide protection for mechanical insulation.

1.4 Materials covered under this specification shall have a high, medium, or low surface emittance.

1.5 The top layer shall be one of the following: aluminum foil, a polymer film, or a polymer coating.

1.6 This specification includes jacket materials both with and without factory applied, pressure sensitive adhesives. The tape materials covered by this specification always have a factory applied, pressure sensitive adhesive.

1.7 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.

1.8 *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.

1.9 *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
- C1263 Test Method for Thermal Integrity of Flexible Water Vapor Retarders
- C1338 Test Method for Determining Fungi Resistance of Insulation Materials and Facings
- C1371 Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emis-someters
- D774 Test Method for Bursting Strength of Paper
- D882 Test Method for Tensile Properties of Thin Plastic Sheeting
- D1000 Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications
- D1204 Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature
- D3330 Test Method for Peel Adhesion of Pressure-Sensitive Tape
- D3759 Test Method for Breaking Strength and Elongation of Pressure-Sensitive Tape
- E96 Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials
- F1249 Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor

¹ This specification is under the jurisdiction of ASTM Committee C16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.40 on Insulation Systems.

Current edition approved March 1, 2022. Published March 2022. Originally approved in 2013. Last previous edition approved in 2014 as C1775 – 14. DOI: 10.1520/C1775-22.

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.