



Designation: ~~C1258-94~~ (Reapproved 2000) Designation: C 1258 – 08

Standard Test Method for Elevated Temperature and Humidity Resistance of Vapor Retarders for Insulation¹

This standard is issued under the fixed designation C 1258; 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 test method covers the determination of the aging resistance of flexible low permeance vapor retarders for thermal insulation as classified in Specification C 1136. Water vapor permeance measurement and visual inspection after exposure at elevated temperature and humidity are used to assess vapor retarder response.

1.2 Typical vapor retarders applicable to this test method that are intended for indoor use include foil-scrim-kraft laminates, metallized polyester-scrim-kraft laminates, treated fabrics, treated papers, films, foils, or combinations of these materials that may comprise a vapor retarder material. This test method is not intended for assessment of the liquid-applied coatings, sealants, or mastics commonly used with insulation products.

1.3 The values stated in inch-pound units are to be regarded as standard. The SI units given in parentheses are for information purposes 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

C 168 Terminology Relating to Thermal Insulation

C 1136 Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation

E 96/E 96M Test Methods for Water Vapor Transmission of Materials

3. Terminology

3.1 Terminology C 168 shall be considered as applying to the terms used in this specification.

4. Summary of Test Method

4.1 The vapor retarders are subjected to accelerated aging via elevated temperature and humidity at 120°F (49°C) and 95 % relative humidity for a period of 28 days, then visually inspected for corrosion (if applicable), delamination, or other degradation. Water vapor permeance in accordance with Test Methods E 96/E 96M is measured after humid aging.

4. Significance and Use

4.1 On sub-ambient temperature systems, humid ambient conditions cause a vapor driving force toward the insulation which, if not retarded, is detrimental to the insulation's thermal resistance. Therefore a vapor retarder should resist degradation. Degradation in this test method is induced by elevated temperature and humidity conditions.

5. Significance and Use

5.1 On sub-ambient temperature systems, humid ambient conditions cause a vapor driving force toward the insulation which, if not retarded, is detrimental to the insulation's thermal resistance. Therefore a vapor retarder should resist degradation. Degradation in this test method is induced by elevated temperature and humidity conditions.

¹ This test method 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 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* Vol 04.06, volume information, refer to the standard's Document Summary page on the ASTM website.