



Designation: C1737 – 10

Standard Guide for Evaluating Temperature Effects to Aerosol Foam Sealant During and After Dispensing¹

This standard is issued under the fixed designation C1737; 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 guide covers the general effects of temperature during the use temperatures for aerosol foam sealant (either polyurethane or latex types).

1.2 The guide is intended to estimate the observed product dispensing character and foam quality of aerosol foam dispensed or cured, or both, at specific temperatures.

1.3 Such foam sealants are used for a variety of end use applications primarily intended to reduce air movement in building enclosures.

1.4 Currently two main foam sealant types are applicable to this standard, single component polyurethane and latex types.

1.5 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 There are no other known test methods specific for measuring the product temperature range for aerosol foam sealant.

1.7 *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

C1620 Specification for Aerosol Polyurethane and Aerosol Latex Foam Sealants

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

¹ This guide is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.61 on Aerosol Foam Sealants.

Current edition approved June 1, 2010. Published August 2010. DOI: 10.1520/C1737-10.

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.

3.1.1 *cure temperature*—set temperature of the chamber used for curing the foam sealant. Also called the ambient air temperature for purposes of this guide.

3.1.2 *friability*—the property of a cured or semi cured foamed cellular material which permanently deforms and crumbles to a powder like consistency after a light finger force is applied to the material surface.

3.1.3 *product temperature*—temperature of the foam sealant in its original container after 24 h incubation.

3.1.4 *product use temperature*—one measurement from the outcome of this guide. The product use temperature is composed of two metrics as defined above, that is, the product temperature itself and the ambient air temperature during the cure.

3.1.5 *tack free time*—see Specification C1620.

4. Summary of Guide

4.1 *Procedure*—Select the desired temperatures to measure foam sealant specimens for “test product temperature” and “test-cure temperature.” A product for example could be tested at a product temperature of 5°C, and a cure temperature (ambient air temperature) of 0°C.

4.1.1 Specimens from a completely filled aerosol container's are dispensed at specified size and as bead segments.

4.1.2 Product temperature is maintained at selected “product temperature” prior to testing at the selected “cure temperature” (which may be the same or different than the product temperature).

4.1.3 Foam products are evaluated for flow rate, tack free time, friability, and skin and cell appearance as described herein.

5. Significance and Use

5.1 This guide is not intended to measure the precise temperature range for dispensing and curing product under all the possible substrate and environmental factors but to provide a basis for benchmarking a foam sealant product under specific laboratory conditions.

5.2 The product user is encouraged to evaluate each application and determine suitability for actual use.