



# Standard Specification for Secondary Edge Sealants for Structurally Glazed Insulating Glass Units<sup>1</sup>

This standard is issued under the fixed designation C 1369; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers the properties of cold, liquid-applied, single or multi-component, chemically curing, elastomeric sealants used as the secondary seal of sealed insulating glass units, hereinafter referred to as the “sealant” (see Fig. 1). These sealants are intended to be a structural component of sealed insulating glass units used in structural sealant glazing (hereinafter referred to as SSG). Hereinafter, the term “insulating glass” will be referred to as IG. Presently only certain silicone sealants are recognized as having the necessary durability for use as secondary sealant in IG units in structural glazing applications.

1.2 This specification does not describe all of the necessary properties of the sealant. Only those properties for which there are ASTM test methods and industry-agreed-upon minimum acceptable test requirements are described by this specification. Additional properties will be added as ASTM test methods for these properties become available.

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

## 2. Referenced Documents

### 2.1 ASTM Standards:

- C 603 Test Method for Extrusion Rate and Application Life of Elastomeric Sealants<sup>2</sup>
- C 639 Test Method for Rheological (Flow) Properties of Elastomeric Sealants<sup>2</sup>
- C 661 Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer<sup>2</sup>
- C 679 Test Method for Tack-Free Time of Elastomeric Sealants<sup>2</sup>
- C 717 Terminology of Building Seals and Sealants<sup>2</sup>
- C 792 Test Method for Effects of Heat Aging on Weight Loss, Cracking, and Chalking of Elastomeric Sealants<sup>2</sup>
- C 1135 Test Method for Determining Tensile Adhesion Properties of Structural Sealants<sup>2</sup>
- C 1184 Specification for Structural Silicone Sealants<sup>2</sup>

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee C-24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.35 on Structural Sealants.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.07.

C 1265 Test Method for Determining the Tensile Properties of an Insulating Glass Edge Seal for Structural Glazing Applications<sup>2</sup>

## 3. Terminology

3.1 *Definitions*—Refer to Terminology C 717 for definitions of the following terms used in this specification: chemically curing sealant, compatibility, elastomeric, hardness, non-sag sealant, sealant, shelf life, silicone sealant, and substrate.

## 4. Classification of Sealants

4.1 A sealant qualifying under this specification shall be classified as to type and use as follows:

4.1.1 *Type S*—A single-component sealant.

4.1.2 *Type M*—A multi-component sealant.

4.1.3 *Use G*—A sealant that meets the requirements of this specification when tested on clear, uncoated float glass substrates.

4.1.4 *Use O*—A sealant that meets the requirements of this specification when tested on coatings<sup>3</sup> such as reflective and low-emissivity metallic materials applied to glass substrates.

## 5. Materials and Manufacture

### 5.1 Sealant:

5.1.1 Furnish single-component sealants as a homogeneous mixture of a consistency suitable for application. Apply the sealant in strict accordance with the written recommendations of the sealant manufacturer. The cured sealant shall be an elastomeric solid.

5.1.2 Multi-component sealants shall be mixed in the correct ratio<sup>4</sup> of components and delivered by appropriate equipment as specified by the sealant manufacturer.

## 6. Requirements

6.1 The physical, mechanical, and performance properties of the sealant shall conform to the requirements described in Table 1.

<sup>3</sup> Reflective and low-emissivity metallic materials are typical coatings applied to the glass substrate. If the coatings are edge deleted for actual production, they should be edge deleted for use in this specification.

<sup>4</sup> If the mix ratio of multi-component sealant is not within the sealant manufacturers recommendations, the cure rate, tack free time, cohesive strength, and adhesive strength of the sealant can be adversely affected.