

Standard Guide for Secondary Seal for Sealed Insulating Glass Units for Structural Sealant Glazing Applications¹

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1. Scope

1.1 This guide covers design and fabrication considerations for the edge seal of conventionally sealed insulating glass units, herein referred to as IG units. The IG units described are used in structural silicone sealant glazing systems, herein referred to as SSG systems. SSG systems typically are either two or four sided, glazed with a structural sealant. Other conditions such as one, three, five, six sided may be used.

1.2 This guide does not cover the IG units of other than conventional edge seal design (Fig. 1); however, the information contained herein may be of benefit to the designers of such IG units.

1.3 In an SSG system, IG units are retained to a metal framing system by a structural seal (Fig. 2). The size and shape of that seal, as well as numerous other SSG system design considerations, are not addressed in this guide.

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

1.5 *This standard does not purport to address all of the safety problems, 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:

- C 639 Test Method for Rheological (Flow) Properties of Elastomeric Sealants²
- C 679 Test Method for Tack-Free Time of Elastomeric Sealants²
- C 717 Terminology of Building Seals and Sealants²
- C 794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants²
- C 1087 Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems²

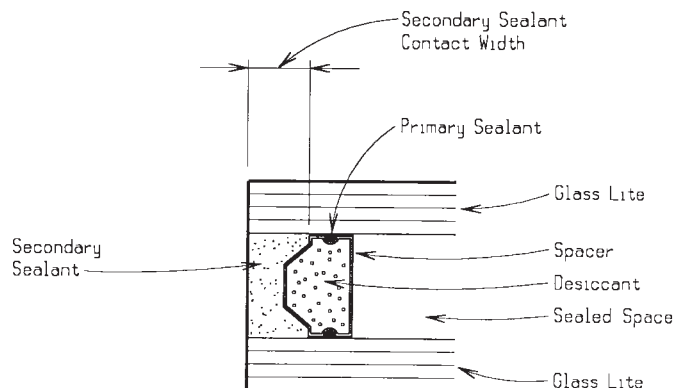


FIG. 1 Sealed IG Edge Seal: Basic Components

C 1135 Test Method for Determining Tensile Adhesion Properties of Structural Sealants²

C 1184 Specification for Structural Silicone Sealants²

E 631 Terminology of Building Constructions²

E 773 Test Method for Seal Durability of Sealed Insulating Glass Units²

E 774 Specification for Sealed Insulating Glass Units²

2.2 Other Standards:

Sigma 73-8-2B Test Methods for Chemical Effects of Glazing Compounds on Elastomeric Edge Seals³

3. Terminology

3.1 Definitions:

3.1.1 Refer to Terminology C 717 for definitions of the following terms used in this guide: adhesive failure, bead, cohesive failure, compatibility, cure, elongation, gasket, glazing, joint, lite, modulus, non-sag sealant, seal, sealant, sealant backing, setting block, shelf-life, silicone sealant, spacer, structural sealant, substrate, tooling, and working life. Refer to Terminology E 631 for the definition of sealed insulating glass as used in this guide.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *desiccant*—a hygroscopic material that adsorbs water or may adsorb solvent vapors, or both (see Fig. 1).

3.2.1.1 *Discussion*—The desiccant maintains a low relative humidity in sealed insulating glass.

¹ This guide is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.10 on Specifications, Guides and Practices.

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² *Annual Book of ASTM Standards*, Vol. 04.07.

³ Available from SIGMA, 111 E. Wacker Dr., Ste. 600, Chicago, IL 60601.