



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.*

1.6 The committee with jurisdiction for this standard is not aware of any comparable standard guides published by other organizations.

2. Referenced Documents

2.1 ASTM Standards:²

C639 Test Method for Rheological (Flow) Properties of

Elastomeric Sealants

C679 Test Method for Tack-Free Time of Elastomeric Sealants

C717 Terminology of Building Seals and Sealants

C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants

C1087 Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems

C1135 Test Method for Determining Tensile Adhesion Properties of Structural Sealants

C1184 Specification for Structural Silicone Sealants

E631 Terminology of Building Constructions

E773 Test Method for Accelerated Weathering of Sealed Insulating Glass Units (Withdrawn 2010)³

E774 Specification for the Classification of the Durability of Sealed Insulating Glass Units (Withdrawn 2006)³

E2188 Test Method for Insulating Glass Unit Performance

E2189 Test Method for Testing Resistance to Fogging in Insulating Glass Units

E2190 Specification for Insulating Glass Unit Performance and Evaluation

2.2 Other Standards:

IGMA 73-8-2B Test Methods for Chemical Effects of Glazing Compounds on Elastomeric Edge Seals⁴

3. Terminology

3.1 Definitions:

3.1.1 Refer to Terminology C717 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 E631 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).

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 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 The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from IGMA, 111 E. Wacker Dr., Ste. 600, Chicago, IL 60601.