



Standard Specification for Insulating Glass Unit Performance and Evaluation¹

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1. Scope

1.1 This specification covers preassembled permanently sealed insulating glass units with one or two airspaces and preassembled insulating glass units with capillary tubes intentionally left open.

1.2 This specification is applicable only to sealed insulating glass units that are constructed with glass.

1.3 This specification is applicable to both double-glazed and triple-glazed insulating glass units; for triple-glazed insulating glass units where both of the outer lites are glass and inner lite is either glass or a suspended film.

1.4 The qualification of test specimens is based on frost/dew point and on the absence of fog after the specified test durations.

1.5 The qualification of argon gas filled test specimens is based on the qualifications in 1.3 and maintaining the specified argon gas amounts before and after testing to Test Method E2188.

1.6 Qualification under this specification is intended to provide a basis for evaluating the durability of sealed insulating glass units.

1.7 This specification is not applicable to sealed insulating glass units containing a spandrel glass coating due to test method limitations.

1.8 This specification does not cover other physical requirements such as appearance, thermophysical properties, heat and light transmission, and glass displacement.

NOTE 1—Sealed insulating glass units qualified according to this specification are not necessarily suitable for structurally glazed applications. Factors such as sealant longevity when exposed to long term ultraviolet light and the structural properties of the sealant must be reviewed for these applications. For more information on the requirements for structural sealant glazing applications, refer to Specification C1369, Guide C1249, and Test Method C1265.

¹ This specification is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.22 on Durability Performance of Building Constructions.

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

1.10 *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

C162 Terminology of Glass and Glass Products

C717 Terminology of Building Seals and Sealants

C1036 Specification for Flat Glass

C1249 Guide for Secondary Seal for Sealed Insulating Glass Units for Structural Sealant Glazing Applications

C1265 Test Method for Determining the Tensile Properties of an Insulating Glass Edge Seal for Structural Glazing Applications

C1369 Specification for Secondary Edge Sealants for Structurally Glazed Insulating Glass Units

E546 Test Method for Frost/Dew Point of Sealed Insulating Glass Units

E631 Terminology of Building Constructions

E2188 Test Method for Insulating Glass Unit Performance

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

E2269 Test Method for Determining Argon Concentration in Sealed Insulating Glass Units using Gas Chromatography

E2649 Test Method for Determining Argon Concentration in Sealed Insulating Glass Units Using Spark Emission Spectroscopy

3. Terminology

3.1 *Definition of Terms:*

3.1.1 For definitions of terms found in this Specification, refer to Terminologies C162, C717, and E631.

3.2 *Definitions of Terms Specific to This Standard:*

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.