



Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units¹

This standard is issued under the fixed designation E 773; 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 test method covers procedures for testing the performance of preassembled permanently sealed insulating glass units against accelerated weathering.

1.2 This test method is applicable only to sealed insulating glass units, with one or two airspaces, fabricated for vision glass areas for use in buildings, such as sliding doors, windows, wall systems, and picture windows.

1.3 The unit construction used in this test method contains dimensions that are an essential component of the test. Deviations of glass or airspace sizes, or both, will affect the test results.

1.4 This test method is not applicable to sealed insulating glass units that are constructed from exterior vision materials other than glass.

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

1.6 *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.* A specific hazard statement is given in Note 2.

2. Referenced Documents

2.1 ASTM Standards:

C 1036 Specification for Flat Glass²

E 546 Test Method for Frost Point of Sealed Insulating Glass Units³

E 774 Specification for the Classification of the Durability of Sealed Insulating Glass Units³

¹ This test method 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.

Current edition approved Nov. 10, 2001. Published November 2001. Originally published as E 773 – 81. Last previous edition E 773 – 97.

² Annual Book of ASTM Standards, Vol 15.02.

³ Annual Book of ASTM Standards, Vol 04.11.

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *chemical dew point*—the temperature (Note 1) at which organic vapor or other chemical begins to condense on the interior glass surface of a sealed insulating glass unit.

NOTE 1—The temperature as indicated by the temperature indicator of frost point apparatus when constructed and used in accordance with test procedures described in Test Method E 546.

3.1.2 *frost point*—the temperature (Note 1) below freezing point of water (0°C (32°F)) at which visible frost begins to deposit on the interior glass surface of a sealed insulating glass unit.

4. Significance and Use

4.1 This test method is intended to provide a means for evaluating the durability of the sealing system of sealed insulating glass units. A round-robin test has been conducted, and additional data are being collected. The suitability of these test methods will be further evaluated as the analysis of test results is completed.

5. Apparatus

5.1 For High Humidity Testing:

5.1.1 *High-Humidity Test Chamber*—A chamber of convenient dimensions capable of maintaining $60 \pm 3^\circ\text{C}$ ($140 \pm 5^\circ\text{F}$) and $95 \pm 5\%$ relative humidity.

5.2 For Accelerated Weather Cycle Test:

5.2.1 *Accelerated Weather Cycle Test Apparatus*⁴—The accelerated weather cycle test apparatus shall be essentially that shown in Figs. 1-3 to provide the cycle conditions and time frame indicated in Section 8.

5.2.2 Ultraviolet Light Source:

NOTE 2—**Warning:** Ultraviolet light sources used in this test method

⁴ The apparatus is a modification of the device developed by the Division of Building Research of the National Research Council of Canada. The modifications include two black light lamps for each test specimen. Construction details are available from SIGMA (Sealed Insulating Glass Manufacturer's Association), 111 E. Wacker Drive, Chicago, IL 60601.

