



Standard Test Method for Fog Determination¹

This standard is issued under the fixed designation E 1887; 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 fogging.

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

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 may involve hazardous materials, operations, and equipment. 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 1.*

2. Referenced Documents

2.1 ASTM Standards:

E 773 Test Method for Accelerated Weathering of Sealed Insulating Glass Units²

E 774 Specification for the Classification of the Durability of Sealed Insulating Glass Units²

3. Terminology

3.1 Definition of Term Specific to This Standard:

3.1.1 *fogging*—visible deposits present after testing in accordance with Section 8.

4. Significance and Use

4.1 This test method is intended to provide a means for evaluating fogging of sealed insulating glass units.

5. Apparatus

5.1 *Cooling Plate*, approximately 127 mm (5 in.) square, to be centered on the back side of each specimen. The temperature of the cooling plate shall be $21 \pm 3^\circ\text{C}$ ($70 \pm 5^\circ\text{F}$). (See Fig. 1.)

5.2 *Ultraviolet Light Source*³—Ultraviolet light output of the source shall be tested every 200 h and shall have an output not less than 20 kW/m^2 when tested at the specimen glass surface. The intensity shall be measured with a long-wave ultraviolet light meter.⁴ If the ultraviolet light output falls below the minimum, the lamp shall be replaced.

5.3 The temperature at the glass surface shall be $65 \pm 3^\circ\text{C}$ ($150 \pm 5^\circ\text{F}$).

NOTE 1—**Warning:** Ultraviolet light sources used in this test method are harmful, especially to the eyes. Appropriate protective measures must be observed.

NOTE 2—The conditions of a minimum output of 20 kW/m^2 when tested at the distance needed to maintain the temperature at the glass surface of $65 \pm 3^\circ\text{C}$ ($150 \pm 5^\circ\text{F}$) can be obtained with a single 275 to 300 watt RS1 sun lamp. These conditions can also be obtained using an Osram⁵ lamp. Alternatively, a long wave UV bulb (B100A)⁶ and an infrared lamp can be used.

6. Test Specimens

6.1 Test specimen design and construction shall be established by Test Method E 773.

³ The previous ultraviolet light source was a 275 W, Type RS sunlamp or equivalent.

⁴ The sole source of supply of the apparatus known to the committee at this time is Ultra-Violet Products, Inc., 5100 Walnut Grove Ave., San Gabriel, CA 91778. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

⁵ The sole source of supply of the apparatus known to the committee at this time is Bulbtronics, Inc., 45 Banfi Plaza, Farmingdale, NY 11735. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

⁶ The sole source of supply of the apparatus known to the committee at this time is Ultra-Violet Products, Inc., 2066 W. 11th Street, Upland, CA 91786. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

¹ This test method is under the jurisdiction of ASTM Committee E-6 on Performance of Buildings and is the direct responsibility of Subcommittee E06.22 on Durability Performance of Building Constructions.

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² *Annual Book of ASTM Standards*, Vol 04.11.