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Notice of Changes to Certification

To: All IGCC®/IGMA® Licensees, Participants, Approved Laboratories, Auditors & Interested Parties

From: Insulated Glass Certification Council (IGCC) / IGMA

Date: June 11, 2019

Subject: **IMPORTANT Update to ASTM Insulating Glass Testing Standards**

We are pleased to announce the latest version of the ASTM Insulating Glass Testing standards (ASTM E2188, E2189, E2190) have completed revision and are now publicly available. IGCC has evaluated release and implementation of these new standards and the attached directive provides a summary of revisions and direction for implementation. The transition will be rolled out over the next 6 to 12 months. The IGCC office and IGCC auditors are available and will assist with direction during regular test sample fabrication. In the meantime feel free to contact us any time with questions you may have.

A copy of this Memo can also be found on the IGCC website (<https://www.igcc.org/reviewed-components-memos.aspx>). Thank you for your attention to these matters. If you have any questions, please feel free to contact us any time and as always, thank you for your support of the IGCC®/IGMA® Certification process.

Best regards,

A handwritten signature in black ink that reads "Alicia Devaux". The signature is written in a cursive, flowing style.



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Designation: E2189 – 19

Standard Test Method for
Testing Resistance to *Fogging in Insulating Glass Units*¹



Designation: E2188 – 19

Standard Test Method for
Insulating Glass Unit Performance¹



Designation: E2190 – 19

Standard Specification for
Insulating Glass Unit Performance and Evaluation¹

Topic: ASTM 2188, E2189, Standard Revisions

THE NEW 2019 ASTM IG STANDARDS are now available. We recommend all interested parties acquire copies of the standards (www.astm.org). Transition to these standards **WAS** approved at the May 2019 IGCC meeting. Below is the approved motion with direction as to implementation timeline and a summary of revisions to the standard that were viewed to be substantial. This is by no means a comprehensive list of all revisions. All parties are encouraged to fully read the revised standards.

Approved Motion:

To adopt the 2019 versions of ASTM E 2188, 2189 and 2190 for certification and testing in the IGCC/IGMA Certification program. Testing to the 2010 version of the standard shall be considered equal to testing to the 2019 version of the standard **except for the supplemental internal component testing.** Initial (first time) sample fabrication for supplemental internal component testing shall not require auditor witness. Testing to the 2019 version of the standard shall begin on or before 1/1/2020 (as labs are ready) and certification (listing) to the 2019 version shall begin August 2020.

Impact to Licensees/Fabricators

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

- 5.2 Test specimens “dividing the specimen into 4 areas as shown in Fig.1” verses previously 9 areas.

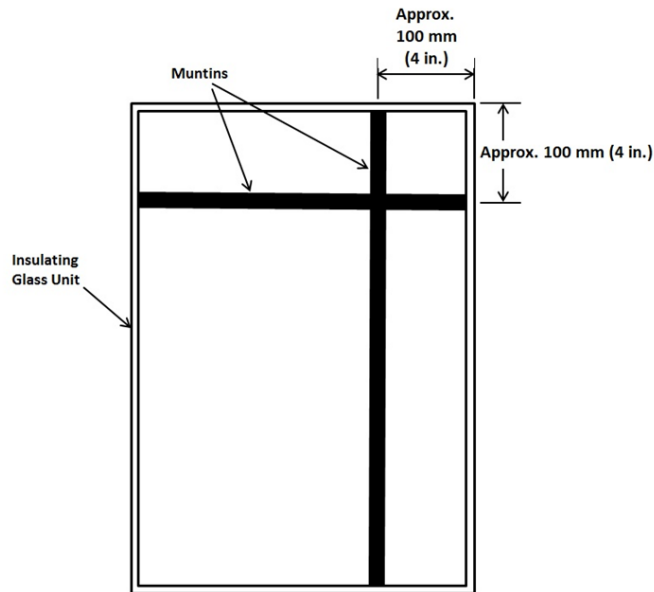


FIG. 1

(Test samples with muntins shall be configured per FIG.1, this may begin immediately)

- 5.3 “Test specimens containing other types of internal components shall contain the internal component design to be qualified. If the internal component design cannot fit in the designated specimen size, specimens shall be fabricated containing representative quantities of each component of the design to be qualified.”

ASTM E2190 – Standard Specification for Insulating Glass Unit Performance and Evaluation

Concept: Although “Performance Requirements” (pass/fail), “Test Specimen” (size/thickness), “Test Method” (2188 and 2189) remain essentially the same, the revisions are extensive and include what is defined as a “baseline” test set or a set with no internal components. The concept is that regular testing is performed on this baseline set. Then, additional ASTM E2189 testing **only** may be performed on test units with internal components. IGCC/IGMA Guideline G.8 has been developed to define “what” internal component units to test and “when” to test them.

- 4.2 “Internal component performance – If specifying internal components, additional testing to E2189 is required. This testing is supplementary and separate from the baseline set. It does not affect the results of the baseline set”

G.8 Internal Components (IC)

Baseline testing to ASTM E2189 shall be performed during each regular certification test on units identical to those fabricated for ASTM E2188 testing. Initially and at least each 4 years, sets of three (3) double pane, five (5) multiple cavity test specimens shall be constructed under auditor witness for E2189 internal component performance testing utilizing all the components of an internal components (IC) system, which are used in the ultimate product. Only ASTM E2189 testing shall be required in each of the following categories of internal components. The specific internal component to test in each category shall be 1) worst case product or 2) highest sales volume product, at the fabricator’s discretion:

- 1) Bars, grills or muntins (BA)
- 2) Blinds (BL)
- 3) Glass, or other glazing materials (GI)
- 4) Other internal components not in the above categories (i.e. insulating materials, electronics) (OI)

When testing muntins or grills, test samples shall be fabricated dividing the sample into four areas in an off-set pattern in accordance with ASTM E2189. A licensee may use the same IGCC®/IGMA® number for units manufactured with and without internal components (IC) providing regular testing has been accomplished in accordance with the above procedure. (Modified 05/07/2019)

- 5.3 Requirements for testing coated glass are now specified. These requirements are consistent with current and historical IGCC/IGMA requirements.
- 6.1.5 “After each phase of E2188 testing, measure and record again the frost/dew point of the six specimens. If gas filling is specified, measure and record again the argon gas concentration of each specimen cavity ...”

(This will require revisions to reports for labs as gas content was NOT typically taken between exposures)

Impact to Testing/Labs

ASTM E2188 - Standard Test Method for Insulating Glass Unit Performance

- 6.1.1.3 “Each lamp shall have an ultraviolet light output in the range of 20-60 W/m² (2000-6000 μW/cm²) when measured with a UVA ultraviolet radiometer in direct contact with the lamp. The radiometer shall be calibrated with results traceable to a national or international physical standards body (e.g. NIST).”

(Prior requirement – Greater than 10 W/m² (1000 μW/cm²) and reference to a specific meter. This range of light output will likely require “burning in” of bulbs.)

- 6.1.2 and 6.2.2 Deleted requirement for overheating and overcooling protection (AW and HH)

(This will remain a requirement in IGCC Lab Manual)

- 8.2.2 Specifies “exposure for 336 h +8/-0 h (14 days)”
- 8.2.3 and 8.2.4 Allows multiple frost points over 7 days and states “record the lowest (i.e. coldest)”
- 8.3.3.4 (for water or mist supply) “Steam may also be used to supply moisture as long as liquid moisture is visible on the specimens.”
- 8.3.4 Requires “252 cycles (approximately 63 days)” (9 weeks)
- 8.4 Specifies “a second high humidity phase” of “672 h, +/-8 hours, (28 days)”

- 8.5 “If there is any discontinuity or stoppage in the testing cycle in any phase for longer than 7 days, the duration and point in the test phase (cycle/hours) that it occurs shall be recorded and reported.”

(This does not suggest that a shorter exposure is acceptable. The required number of hours/cycles of exposure are required (see 8.2.2, 8.3.4 and 8.4)).

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

- 6.1.1 Volatile Fog Test Apparatus ... “capable of maintaining 50 +/- 3C (122+/-5F). In order to maintain this temperature, at least one circulating fan shall be mounted in the box. The circulating fan(s) shall run as needed in order to maintain uniform air temperature in the apparatus. Alternatively, a proportional temperature-controlled exhaust fan may be installed in a strategically located vent. A supplemental heating element with controller may also be added to the box, if needed.”
(Alternatives are provided for cooling/heating the box)
- 6.2.2 “The light source shall consist of one 300W ultraviolet lamp that shall be mounted to and centered on the floor of the box such that the top of the lamp is 205 +/-5mm (8+/- 3/16 in) from the box floor. The voltage to the lamp shall be 230VAC +/-10VAC.”
(Lamp height is now specified)
- 6.2.3 “The output of the UV light source shall not be less than 400 μW/cm² when measured with a UVA ultraviolet radiometer at a distance of 355 +/- 5mm (14 +/- 3/16 in) normal to the top surface of the mounted lamp. The radiometer shall be calibrated with results traceable to a national or international physical standards body (for example ... NIST).”
(Description of radiometer is changed)
- 6.3 Fog Examination Light Source ... “shall have a luminous flux of 1000-1400 lumens, have a color temperature of 4000-4200K ...”
(Light source is further specified)
- 7.3 “Examine the entire glass surface before testing. Flaws or deposits seen before testing shall be recorded and reported. Exclude any existing flaws or deposits found from evaluation for fog.”
(Clarification is provided that the test is intended to evaluate issues caused by the test)
- 8.2.3 “... Any internal components shall not be located beneath, or in line with, the surface of the cooling plate during the test ...”
- 8.2.4 “For double-glazed units with low-e coatings, the cooling plate shall be placed on the low-e coated lite.”
- 8.3 “Record the temperature readings for each of the four thermocouples at least once during testing period.”
(IGCC Lab Manual guideline C.2 and C.3 requires daily logging and shall still apply)

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