

ASC Z97 ANSI ACCREDITED STANDARDS COMMITTEE

Safety Requirements for Architectural Glazing Materials

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TECHNICAL INTERPRETATION

TI-2017.0223.001

Document: **ANSI Z97.1-2015**

Date: February 23, 2017

Referenced Section(s): Section 3 Definitions

Section 5.1.3. (1) and (4) Impact Procedure

ANSI Z97.1 committee TI-2016.0624.001 established a need for testing VIG as a “final product”. Upon testing of final product VIG, testing laboratories are seeing results that there is uncertainty as how to interpret.

Interpretation Request: (What needs clarification/modification/removal?)

Clarification is needed to ensure consistent reporting of results from various laboratories

Suggested Revised Language:

5.1.3 Impact Procedure

(1) “Place and center ... (20Nm+ 5Nm).”

Note: For VIG, a border of 1-inch shall be marked around the entire perimeter/edge of the test specimen (see section 5.2.4). Marking this area with a dark marker is suggested.

(4) “Classify the test specimen ... released and fall free.”

Note: When testing VIG and composite perimeter fragments are observed, first a tenacious effort shall be made to “break free” any particles suspected to be in the “10 largest” search. If this is not possible, then fragments in the perimeter area shall be physically geometrically measured for area and that measured area, by calculation, added to the selected 10 largest crack free particles to determine if the test specimen complied or did not comply. As an alternate to physical area measurement, some form of digital photography and/or calculation method is acceptable.

Interpretation:

5.1.3 Impact Procedure

(1) Place and center ... (20Nm+ 5Nm).

Note: For VIG, a border of 1-inch shall be marked around the entire perimeter/edge of the test specimen (see section 5.2.4). Marking this area with a dark marker is suggested.

(4) Classify the test specimen ... released and fall free.

Note: When testing VIG and composite perimeter fragments are observed, first an effort shall be made to separate any crack free particles suspected to be in the “10 largest” search. If this is not possible, then crack free fragments in the perimeter area shall be physically geometrically measured for area and that measured area, by calculation, added to the selected 10 largest crack free particles to determine if the test specimen complied or did not comply. As an alternate to physical area measurement, some form of digital photography and/or calculation method is acceptable.

Rationale:

Per TI-2016.0624.001, VIG units shall be tested as final product units. The permanently bonded nature of the unit causes the break pattern to be somewhat hybrid in nature between tempered glass and laminates. The edges of the systems tend to break as composite perimeter edge fragments, while the rest of the glass falls away in particles that are rated in the same manner as tempered. It is the consensus of the steering committee that the edge sections need to be evaluated for particle size after breakage. Glass shards that are not separated by a break pattern which are in the one (1) inch marked border area are the concern from a cutting and laceration and test evaluation standpoint. The language above is deemed to address the characterization of the composite perimeter edge fragments and provide a method of evaluation after impact for VIG evaluation. This interpretation applies to VIG units only.

Notes are adopted for clarification and to promote consistency in laboratory evaluation.

Keywords: Compliance, Edge Clamping, Impact, Rating, Vacuum Insulating Units

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