American National Standard

for safety glazing materials
used in buildings –
safety performance specifications
and methods of test

Standard
ANSI Z97.1 – 2004[e]

American National Standards Institute
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American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test

Secretariat

Glazing Industry Secretariat Committee

Approved by ASC August 2003

American National Standards Institute, Inc.

ANSI Z97.1-2004[e]: Adjustment of year markings within standard – editorial changes made to "Forward" and Section 6.1(2). Correction of address for ANSI headquarters throughout document. Typographical errors identified and corrected after initial publishing.

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FORWARD

(This forward is not part of ANSI Z97-1-2004)

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The consensus committee that approved the Standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate. It was developed within the approved scope as stated in Section 1.1 of the standard.

This Standard is available for public review on a continuing basis. This provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large. The use of an addenda system will allow revisions made in response to public review or committee actions to be published as required.

This standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum requirements that are recommended for use, adoption, enforcement by federal, state and local authorities and by model codes. It is recommended that this standard be referenced but not incorporated in any statute.

The impact tests described in this standard are based on realistic information and criteria but it must be acknowledged that in a small number of cases, involving rare coincidence, somewhat larger impact forces could be developed.

This Standard does not recommend where safety glazing should be used or, when it is used, what type of glazing material should be used. For this information one should consult other codes, standards and manufacturer's information.

Neither the standards committee nor the secretariat feel that this standard is perfect or in its ultimate form. It is recognized that, although safety-glazing materials are widely used and accepted, new developments are to be expected and revisions of the standards are necessary as the art progresses and further experience is gained. The accredited standards committee (ASC) has carefully considered the inclusion of a widely used center punch fragmentation test in the standard as a secondary method for testing tempered glass. The ASC decided that while this test is a common quality control method used in the tempering industry, the actual evaluation and reporting of the test results needs further study. The tempering division of the Glass Association of North America (GANA) has agreed to pursue the development of this test and will propose a center punch fragmentation test for consideration at the next review of this standard.

This standard is a successor standard to the 1994 edition. The 1994 standard was a reaffirmation of the 1984 standard with various editorial changes and the 1984 standard superceeded those of the 1975, 1972 and 1966 editions.

For communication with the Committee please refer to the following page.

CORRESPONDENCE WITH THE Z97.1 COMMITTEE

General. ANSI Codes and Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, Z97.1 Main Committee
c/o J.C. Schimmelpenningh
Solutia Inc.
730 Worcester St.
Springfield, MA 01151

JCSchi@Solutia.com

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Proposals should be as specific as possible: citing the paragraph number(s), the proposed wording and a detailed description of the reasons for the proposal. Pertinent documentation should be included.

Interpretations. On written request, the Z97.1 Committee will render an interpretation of any requirement of the Standard. The request for interpretation should be clear and unambiguous. The following format is recommended:

Subject: Cite the applicable paragraph number(s) and provide a concise description.

Edition: Cite the edition of the Standard for which the interpretation is being requested.

Question: Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use not a request for an approval of a proprietary design or situation.

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The committee reserves the right to reconsider any interpretation when or if additional information which might affect its becomes available to the Committee. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation. The Z97.1 Committee does not "approve," "certify," "rate," or "endorse," any item, construction, proprietary device, or activity beyond what is addressed in the Standard.

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This standard was processed and approved for submittal to ANSI by American National Standards Committee on Safety Requirements for Architectural Glazing Material, Z97. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the Z97 Committee had the following members:

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American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test

1 Scope, Purpose, and Limitations

1.1 Scope.

This standard establishes the specifications and methods of test for the safety properties of safety glazing materials (glazing materials designed to promote safety and to reduce or minimize the likelihood of cutting and piercing injuries when the glazing materials are broken by human contact) as used for all building and architectural purposes.

1.2 Purpose.

The purpose of this standard is to prescribe the safety performance characteristics of safety glazing materials. This standard affords a basis for; (l) safety standards for adoption in regulations by federal, state, and local regulatory bodies; and (2) for use by building code officials, architects, designers, specifiers and others as a reference standard. Approval of a material under this standard constitutes acceptance of its safety characteristics and the retention of those characteristics. It is not to be construed as appraisal of its durability or appearance as a glazing material.

1.3 Limitations.

1.3.1 Conformance of a material to this standard demonstrates acceptable safety characteristics of the material and retention of those characteristics.

1.3.2 While this Standard related to the minimum safety performance property test criteria for safety glazing materials, the lowest classification level herein per section 5.1.2 has NOT been accepted by all jurisdictions (e.g. CPSC 16 CFR 1201, building codes etc...) as "safe performance" for unrestricted human impact accident modes. Therefore Class C herein applies to glazing material acceptable by the authority having jurisdiction that either: (1) has restricted human impact accident modes in application; or that (2) has a combination of minimal impact characteristics with a fire safety function other than energetic human impact alone.

1.3.3 Conformance of a material to this standard is not to be construed as an appraisal of its strength, durability or appearance as a glazing material, nor does this standard specify situations in which safety-glazing materials should be used.