



Designation: E 1300 – 02₃

An American National Standard

Standard Practice for Determining Load Resistance of Glass in Buildings¹

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1. Scope

1.1 This practice describes procedures to determine the load resistance of specified glass types, including combinations of glass types used in a sealed insulating glass unit, exposed to a uniform lateral load of short or long duration, for a specified probability of breakage.

1.2 This practice applies to vertical and sloped glazing in buildings for which the specified design loads consist of wind load, snow load and self-weight with a total combined magnitude less than or equal to 10 kPa (210 psf). This practice shall not apply to other applications including, but not limited to, balustrades, glass floor panels, aquariums, structural glass members and glass shelves.

1.3 This practice applies only to monolithic, laminated, or insulating glass constructions of rectangular shape with continuous lateral support along one, two, three or four edges. This practice assumes that (1) the supported glass edges for two, three and four sided support conditions are simply supported and free to slip in plane (2) glass supported on two sides acts as a simply supported beam, and (3) glass supported on one side acts as a cantilever.

1.4 This practice does not apply to any form of wired, patterned, etched, sandblasted, drilled, notched or grooved glass with surface and edge treatments that alter the glass strength.

1.5 This practice addresses only the determination of the resistance of glass to uniform lateral loads. The final thickness and type of glass selected also depends upon a variety of other factors (see 5.3).

1.6 Charts in this practice provide a means to determine approximate maximum lateral glass deflection. Appendix X1 and Appendix X2 provide additional procedures to determine maximum lateral deflection for glass simply supported on four sides. Appendix X3 presents a procedure to compute approximate probability of breakage for annealed monolithic glass lites simply supported on four sides.

1.7 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only. For conversion of quantities in various systems of measurements to SI units refer to SI 10.

1.8 Appendix X4 lists the key variables used in calculating the mandatory type factors in Tables 1-3 and comments on their conservative values.

1.9 *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.*

2. Referenced Documents

2.1 ASTM Standards:

¹ This practice is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.51 on Component Performance of Windows, Curtain Walls, and Doors.

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