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Glass in buildings—Selection and installation



This Australian Standard was prepared by Committee BD/7, Glazing and Fixing of Glass. It was approved on behalf of the Council of Standards Australia on 23 August 1989 and published on 20 October 1989.

The following interests are represented on Committee BD/7:

Architectural Aluminium Fabricators Federation of Australia
Australian Shopfitters Association
Australian Uniform Building Regulations Co-ordinating Council
Confederation of Australian Industry
Construction & Housing Association Australia
CSIRO, Division of Building, Construction and Engineering
Federated Glass Merchants Association
Flat Glass Industry Council of Australia
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STANDARDS AUSTRALIA

Amendment No. 1

to

AS 1288—1989

Glass in buildings—Selection and installation

REVISED TEXT

The 1989 edition of AS 1288 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 1.4.13, 5.8(a), 5.10, 5.13.2, 5.13.3.2, 7.3.2, Tables 5.4, F6, F7, Figures F3, F5, F6 and F8.

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Australian Standard®

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PREFACE

This Standard was prepared by Standards Australia Committee on Glazing and Fixing of Glass to supersede AS 1288, *SAA Glass Installation Code*

Part 1—1979: *Selection of glass*

Part 2—1979: *Glazing techniques*

Part 3—1979: *Unframed toughened glass assemblies.*

The 1979 edition of the Standard was adopted into the Building Codes or Ordinances of all Australian States—the most recent being New South Wales in January 1983. The requirements of the States have been considered in the preparation of this Standard. The concept 'capable of being mistaken for a doorway or unimpeded path of travel' has been defined to minimize any ambiguity.

This edition of the Standard provides a document for restoring uniformity to the glazing industry throughout Australia, and clarifies those technical definitions that in the previous edition gave rise to some misinterpretation.

The next edition is expected to permit limit state design method of analysis.

The committee considers that this Standard represents the best compromise which can be presented at this time. It makes recommendations for design and installation practice based upon proven techniques, yet does not restrict the adoption of materials or methods of design which can be shown to the satisfaction of the responsible Authority to provide no lesser standard of materials, designs or constructions than obtained by using the procedures specified herein.

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STANDARDS AUSTRALIA

Australian Standard

Glass in buildings—Selection and installation

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard sets out procedures for the selection and installation of glass in buildings, according to the type of material and the minimum thickness allowable for a given area (or maximum area allowable for a given thickness) for a single panel not exceeding 15 m² glazed area and for unidirectional glazing spans not exceeding 4 m.

NOTE: This Standard does not preclude the use of materials or methods of design and installation where such materials or methods of design can be demonstrated to be equal to or superior to those specified in this Standard.

1.2 APPLICATION. The thickness of glass (see Clause 3.1.1) required for a given area (or the area of glass for a given thickness) shall be determined on the basis of the criteria given in Sections 3, 4, 5 and 6 as follows:

- (a) For installations subject to wind loading, the thickness or area shall be determined according to Section 4.
- (b) For special situations other than those covered in Sections 3, 4 and 5, the thickness or area shall be determined according to Section 6.
- (c) For human impact considerations, the thickness or area shall be determined according to Section 5.

Glass shall be installed in accordance with Section 7. Unframed toughened glass assemblies shall be designed and glazed in accordance with Section 8.

1.3 REFERENCED DOCUMENTS. A list with titles of the documents referred to in this Standard is given in Appendix I.

1.4 DEFINITIONS. For the purpose of this Standard, the definitions below apply.

1.4.1 Buildings.

1.4.1.1 Residential—buildings and such portions of buildings used as separate dwelling houses and flats, but not incorporating common circulation areas in blocks of two or more flats.

1.4.1.2 Non-residential—buildings other than those defined in Clause 1.4.1.1 such as hotels, hostels, motels, shops, offices, schools, public assembly buildings, and factories, and those parts of residential buildings common to a group of dwellings such as common circulation areas in blocks of two or more flats.

1.4.2 Glass—a hard brittle amorphous substance produced by fusion and usually consisting of mutually dissolved silica or silicates that also contain soda and lime. It may be transparent, translucent, or opaque.

1.4.3 Ordinary annealed glass—glass which is cooled gradually during manufacture in an annealing operation to reduce residual stresses and strains which can be produced during cooling.

NOTE: Ordinary annealed glass includes plate, sheet, and float glass.

1.4.4 Heat-strengthened glass—glass which has been subjected to special heat treatment so that the residual surface compression stress and the edge compression stress lies between those of ordinary annealed glass and toughened glass.

1.4.5 Toughened glass—glass which has been subjected to special heat or chemical treatment so that the residual surface compression stress and the edge compression stress is greater than heat-strengthened glass.

NOTES:

1. Toughened glass is not necessarily toughened safety glass.
2. In general, the heat treatment or chemical treatment process greatly reduces the tendency of glass to fracture under the action of external forces and changes of temperature.
3. After being toughened, the glass cannot be cut, drilled, ground, or otherwise reworked. Etched, sandblasted, engraved, or otherwise worked surfaces should have such surface working carried out prior to toughening. Surface treatments should be kept as shallow as possible to ensure that the glass can be adequately toughened.
4. Toughened glass is also known as 'tempered glass'.

1.4.6 Laminated glass—glass which has been subjected to a special process of bonding two or more sheets together with one or more sheets of a special plastics interlayer.

NOTE: Laminated glass will crack and break under sufficient impact, but the pieces of glass tend to adhere to the plastics interlayer and not to fly or fall apart.

1.4.7 Safety glazing materials—materials constructed, treated, or permanently combined with other materials so as to reduce the likelihood of cutting and piercing injuries resulting from human impact with them.

1.4.8 Toughened safety glass—a glass which, if fractured, will entirely disintegrate into small relatively harmless particles.

1.4.9 Laminated safety glass—a laminated glass which, if broken, will resist penetration.

1.4.10 Safety wired glass—a single sheet of glass with wire completely embedded in the glass.

1.4.11 Safety organic-coated glass—a glazing material consisting of a piece of glass coated and permanently bonded on one or both sides with a continuous polymeric coating, sheet, or film.

NOTES:

1. Organic-coated glass will crack and break under sufficient impact, but the pieces of glass tend to adhere to the organic coating and not to fly or fall apart.
2. Safety organic-coated glass is rendered ineffective if the coating becomes detached from the parent glass.

1.4.12 Fin—a piece of glass positioned to provide lateral support.