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# Australian Standard 2080—1983

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## SAFETY GLASS FOR LAND VEHICLES



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*



This Australian standard was prepared by Committee AU/11, Safety Glass for Land Transport. It was approved on behalf of the Council of the Standards Association on 16 November 1982 and published on 7 March 1983.

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The following interests were represented on the committee responsible for the preparation of this standard:

Australian Automobile Association  
Australian Federation of Consumer Organizations  
Australian Road Research Board  
Confederation of Australian Industry  
Department of Defence  
Department of Motor Transport, New South Wales  
Department of Transport and Construction  
Federation of Automotive Products Manufacturers  
Federation Chamber of Automotive Industries  
Police Department, Western Australia  
Railways of Australia Committee  
Transport Department, Tasmania  
Victorian College of Optometry, University of Melbourne  
Victoria Police

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*This standard was issued in draft form for comment as DR 81001*

**STANDARDS ASSOCIATION OF AUSTRALIA**  
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**AMENDMENT No 1**  
to  
**AS 2080—1983**  
**SAFETY GLASS FOR LAND VEHICLES**

REVISED TEXT

*SUMMARY:* The following sections of the standard are covered in this amendment: Clause 1.6.1, 1.7.

Published on 4 July 1983.

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**Page 6. Clause 1.6.1.**

*Delete* the 'Note' and *substitute* the following paragraph:

Alternatively, the primary vision area shall be determined in accordance with Australian Design Rule No 8 for Safety Glass.

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No 1  
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**Page 6. Clause 1.7.**

*Delete* existing clause and 'Note' and *substitute:*

**1.7 LOCATION OF THE MODIFIED ZONE OF WINDSCREENS.**

**1.7.1 Road Vehicles.** The dimensions and location of the modified zone of windscreens for road vehicles shall be in accordance with the vehicle manufacturer's specification.

Alternatively, the dimensions and location of the modified zone shall be in accordance with Australian Design Rule No 8 for Safety Glass.

**1.7.2 Other Vehicles.** For other than road vehicles, the dimensions and location of the modified zone shall be as specified by the purchaser or the vehicle manufacturer.

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**AUSTRALIAN STANDARD**

# **SAFETY GLASS FOR LAND VEHICLES**

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## PREFACE

This edition of this standard was prepared by the Association's Committee on Safety Glass for Land Transport to supersede AS 2080—1977. The standard incorporates the technical changes discussed by the committee and in addition, the format has been brought into line with current SAA policy.

In general, the performance requirements in this standard are based on BS 857, Safety Glass for Land Transport, with some significant differences. For luminous transmittance, this standard adopts the requirements of ADR 8 through the primary vision area of windscreens, except for railway vehicles for which the requirement is 70 percent minimum. A luminous transmittance of not less than 70 percent is recommended for safety glasses other than windscreens, this being in accordance with BS 5282, Road Vehicles Safety Glass. Obscuration bands and special applications should be considered separately.

The committee discussed requests that a method be included that would permit safety glass manufacturers to determine the location of the primary vision area of the windscreen of any vehicle. However, the committee noted that the basic information required for specifying the location, i.e. the relationship between the driver, seat and the installed windscreen, must be supplied by the vehicle manufacturer. Without this information, the somewhat complex method for determining the location would be of little value for safety glass manufacturers and it was considered therefore that its inclusion was not warranted.

It is to be noted also that sampling and acceptance requirements specified in AS 2080—1977 and in BS 857 have been withdrawn as such requirements are considered to be contractual matters which are usually influenced by production methods used by individual manufacturers. However, an appendix (L) has been included to provide information on methods that may be used for the assessment of compliance with this standard.

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## STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard**  
for  
**SAFETY GLASS FOR LAND VEHICLES**

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This standard specifies requirements and tests for flat and curved heat-treated and laminated safety glass for windscreens and other glasses for vehicles. While intended primarily for road vehicles, the standard also has an application for railway locomotives, rolling stock, and other vehicles.

Advisory information on the assessment of compliance of safety glasses with this standard is given in Appendix L.

**1.2 REFERENCED DOCUMENTS.** The following documents are referred to in this standard:

AS 1199	Sampling Procedures and Tables for Inspection by Attributes
AS 1399	Guide to AS 1199, Sampling Procedures and Tables for Inspection by Attributes
AS 1821	Suppliers Quality Control System — Level 1
AS 1822	Suppliers Quality Control System — Level 2
AS 1823	Suppliers Quality Control System — Level 3
AS 2000	Guide to AS 1821-1823, Suppliers Quality Control Systems
CIE 20 (TC-2.2)	Recommendation for the Integrated Irradiance and Spectral Distribution of Simulated Solar Radiation for Testing Purposes

**1.3 DEFINITIONS.** For the purpose of this standard, the following definitions apply:

**1.3.1 Safety glass**—a glass which, if fractured, is less likely to cause severe cuts or serious physical injury than ordinary glass and which is subject to special requirements in regard to visibility, strength, and fragmentation.

**1.3.2 Heat-treated safety glass**—a glass which has been subjected to a process of prestressing so that, if fractured, it disintegrates into small pieces. Unless otherwise stated, it is assumed that the heat treatment is substantially uniform over the whole area of the glass. Heat-treated safety glass is also known as 'toughened safety glass' or 'tempered safety glass'.

NOTE: Prestressing may be carried out by heating and rapid cooling or, for glasses other than windscreens for road vehicles, by chemical treatment.

**1.3.3 Modified heat-treated safety glass**—a heat-treated safety glass having a zone of modified heat treatment which fractures into larger pieces than the remainder of the glass, thus affording a better view

through the zone. Modified heat-treated safety glass is also known as 'modified safety glass' or 'zoned windscreen'.

**1.3.4 Laminated safety glass**—a glass consisting of two or more sheets of glass held together by one or more layers of plastics material known as 'interlayers'.

**1.3.5 Primary vision area**—that part of the windscreen through which the principal field of view is obtained.

**1.3.6 Secondary (or 'lost') image**—a spurious image, usually seen at night when the object being viewed is very bright in relation to its surroundings, e.g. the headlights of an approaching vehicle.

**1.4 TYPES OF MODIFIED HEAT-TREATED SAFETY GLASS WINDSCREENS FOR ROAD VEHICLES.** Heat-treated safety glass windscreens for road vehicles shall incorporate a modified heat-treated zone in accordance with one of the following types:

- (a) *Type Z (uniform small zone)*—a type in which the stresses in the glass are substantially even throughout a small zone in front of the driver (see Fig. 1.1).
- (b) *Type Z1 (uniform wide zone)*—a type in which the stresses in the glass are substantially even throughout a wide zone extending across the greater part of the windscreen (see Fig. 1.2(a)).
- (c) *Type Z2 (non-uniform wide zone)*—a type in which the stresses in the glass vary in intensity over the zone so that if the glass is fractured, alternate areas break into fine and coarse particles respectively. The alternate areas are arranged in a generally regular pattern over the zone, and the stresses in corresponding areas are substantially the same (see Fig. 1.2(b)).

**1.5 TYPES OF LAMINATED SAFETY GLASS.** Laminated safety glass shall be one of the following types:

- (a) *Standard laminate*—laminated safety glass complying with specified minimum optical and mechanical requirements, and being suitable for all applications other than windscreens.
- (b) *High performance laminate*—laminated safety glass complying with specified impact requirements in addition to the requirements for standard laminate.
- (c) *Windscreen*—high performance laminate complying with additional specified optical requirements.