



COMMONWEALTH OF AUSTRALIA

AUSTRALIAN DESIGN RULE 11
FOR
INTERNAL SUN-VISORS

As Endorsed by the
Australian Transport Advisory Council

The intention of this Australian Design Rule is to define standards for internal sun visors to reduce the injury potential of internal sun visors and the adjacent vehicle structure.

The Australian Transport Advisory Council has recommended to Commonwealth, State and Territory Governments that all motor vehicles specified below if fitted with internal sun visors shall be designed to comply with Australian Design Rule 11 - Internal Sun Visors.

VEHICLE CATEGORY	RULE AMENDMENT	
	MANUFACTURED ON OR AFTER	
	11	
Passenger Cars		
Forward Control Passenger Vehicles up to 8 seats	1 Jan 1985	
9 seats	1 Jan 1985	
Other Passenger Cars	1 Jan 1972	
Passenger Car Derivatives	1 Jan 1972	
Multi-Purpose Passenger Cars	1 Jan 1973	
Omnibuses up to 3.5 tonnes GVM		
up to 12 seats	1 July 1973	
over 12 seats	1 July 1973	
up to 4.5 tonnes GVM	1 July 1973	
over 4.5 tonnes GVM	N/A	
Motorcycles	N/A	
Mopeds	N/A	
Specially Constructed Vehicles	N/A	
Other Vehicles not listed above		
up to 4.5 tonnes GVM	1 July 1973	
over 4.5 tonnes GVM	N/A	

N/A - Not Applicable

GROSS VEHICLE MASS - Abbreviated to 'GVM'

AUSTRALIAN DESIGN RULE NO. 11 - INTERNAL SUN VISORS

- 11.1 Definitions
- 11.1.1 Sun Visor - Any attachment mounted above the inside of the windscreen and provided for the purpose of shielding the eyes of the driver and other front seat passengers from direct solar glare.
- 11.1.2 Contactable - For the purposes of Clauses 11.2 and 11.3.2 to 11.3.4 a portion of a sun visor is contactable if it can be contacted by a 165mm diameter head form for a position to which the sun visor can be adjusted when installed in the vehicle. For the purpose of Clause 11.4 the sun visor shall be tested if there is any "point of contact" as defined in ECE * Regulation 21.01, "Uniform Provisions Concerning the Approval of Vehicles with Regard to Their Interior Fittings" including when the length of the arm of the measuring apparatus is increased to 1000 mm as provided for in Clause 1.4.1.1 of Annex 4 to that Regulation, on its surface in any position to which it may be adjusted.
- 11.2 Sun Visor General Requirements
- 11.2.1 Sun Visor Mounting
- 11.2.1.1 Each sun visor mounting shall present no rigid material edge * radius of less than 3mm that is statically contactable by a spherical 165mm diameter head form.
- 11.2.2 Sun Visor Mirror
- 11.2.2.1 Each edge of a contactable mirror attached to a sun visor shall be covered with a thickness of at least 1.5mm of energy absorbing material. Glazing materials used in contactable * inside mirrors shall be any glazing material that complies with the requirements of Clause 3-4 in Australian Standard R1-1968. Safety Glass for Land Transport or equivalent Clause in any of the standards specified in ADR 8 Clause 8.1.1, or * shall be so constructed as to prevent the particles formed on fracture from becoming detached from the sun visor.
- 11.3 Sun Visor Specific Requirements
- 11.3.1 A sun visor shall meet the requirements of either Clauses 11.3.2 to 11.3.4 or Clause 11.4. *

* Amended Feb 1984

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11.3.2 Design Requirement

- 11.3.2.1 The sun visor shall be constructed of or covered with approved energy absorption materials nominally over the whole area such that requirements of Clause 11.3.3 are met. These requirements shall be met by both sides of a sun visor if both sides are contactable. Any rigid structure required to support the visor or maintain its shape shall be of such dimensions as to limit the likelihood of injury to the head on impact. *

11.3.3 Energy Absorption Requirement

- 11.3.3.1 When tested in accordance with Clause 11.3.4 or by any other approved test procedure, the test sample shall arrest the moving head in such a way that the deceleration does not exceed 80 times acceleration due to gravity, except during a period of less than 3 milliseconds when no peak shall exceed 200 times acceleration due to gravity. Deceleration peaks exceeding 200 times acceleration due to gravity and of very short duration are permissible if it can be shown that they are due to 'ringing' of the test equipment. *

11.3.4 Test Procedure

- 11.3.4.1 The test sample shall be a right square prism with plane dimensions at least 100mm by 100mm. It shall consist of the energy absorbing materials used in the sun visor with a thickness equal to their minimum thickness measured at any point 25mm or more from the edge of the visor. Alternatively the test sample may be the sun visor itself. In this case the requirements shall be met for impact at any point more than 40mm from the edge of the visor. At least five test samples shall be tested. They shall be conditioned for at least 6 hours at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ and tested at that temperature.

- 11.3.4.2 The dynamic testing equipment shall consist of a rigid moving head having an effective mass of $6.8 \pm 0.1\text{kg}$ and a rigid anvil having a mass of at least 300kg. The moving head and anvil should have sufficient rigidity to obviate undesirable vibrations in the equipment. The portion of the moving head which contacts the test sample must be of spherical shape with a diameter of 165mm. The face of the anvil should be perpendicular to the direction of travel of the moving head just prior to impact. However, where a sun visor of tapered thickness is being tested, the anvil may be tilted or a rigid support provided, to ensure that the surface of the visor at the impact point is perpendicular to the direction of travel of the moving head. *

* Amended Feb 1984

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11.3.4.3 The moving head shall impact the test sample at a velocity of not less than 3.5m/s and a means of measuring this velocity shall be provided.

11.3.4.4 A transducer shall be mounted on the moving head such that a complete deceleration time curve is obtained using an oscilloscope or other recording device. The deceleration channel must have a frequency response flat to within $\pm 5\%$ from 1 to 1000 Hz.

11.4 Alternative Test Procedure

A sun visor will be deemed to satisfy this Design Rule for energy absorption requirement if covered by a type test certificate in accordance with ECE Regulation No. 21, Uniform Provisions Concerning the Approval of Vehicles with Regard to Their Interior Fittings, or other approved practice, provided such a type test certificate includes demonstration of compliance with the energy dissipation test of Annex 4. *

* Amended Feb 1984