

Australian Standard™

Motor vehicle frontal protection systems

Part 1: Road user protection

This Australian Standard was prepared by Committee ME-083, Motor Vehicles—Frontal Protection Systems. It was approved on behalf of the Council of Standards Australia on 16 September 2002 and published on 17 September 2002.

The following are represented on Committee ME-083:

Association of Rotational Moulders Australasia
Australian Automobile Association
Australian Automotive Aftermarket Association
Australian Industry Group
AUSTROADS
Australian Motor Vehicle Certification Board
Consumers' Federation of Australia
Ergonomics Society of Australia
Federal Chamber of Automotive Industries
Land Transport Safety Authority New Zealand
Motor Trades Association of Australia
New Zealand Employers & Manufacturers Association
Pedestrian Council of Australia
Society of Automotive Engineers Australasia
The University of Melbourne
The University of Adelaide
Victorian Automobile Chamber of Commerce

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 00176.

Australian Standard™

Motor vehicle frontal protection systems

Part 1: Road user protection

First published as AS 4876.1—2002.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 4849 X

PREFACE

This Standard was prepared by the Australian members for the Joint Standards Australia/Standards New Zealand Committee ME-083, Motor Vehicles—Frontal Protection Systems. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide manufacturers with performance requirements for vehicle frontal protection systems (VFPS) and address issues, such as the following:

- (a) Applicable Australian Design Rules requirements.
- (b) Road user protection requirements.
- (c) Test methods.
- (d) Marking and packaging.

This Standard does not address the issue of VFPS compatibility with Vehicle Occupant Protection Systems (e.g. air bag triggering).

Committee ME-083 will consider developing further Parts in the AS 4876 series. This may include a Part dealing with the protection offered to the vehicle by VFPS.

Child head impact criteria have been included incorporating values that are considered achievable.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 REFERENCED DOCUMENTS.....	4
1.3 DEFINITIONS.....	4
1.4 MARKING	5
1.5 PACKAGING.....	6
SECTION 2 DESIGN AND INSTALLATION REQUIREMENTS	
2.1 GENERAL.....	7
2.2 ANCHORAGES	7
2.3 DESIGN.....	7
SECTION 3 PERFORMANCE REQUIREMENTS	
3.1 AUSTRALIAN DESIGN RULES COMPLIANCE	11
3.2 ROAD USER PROTECTION CRITERION	11
APPENDICES	
A CHILD HEAD IMPACT PROTECTION TEST PROCEDURE— HORIZONTAL TEST	12
B CHILD HEAD IMPACT PROTECTION TEST PROCEDURE—VERTICAL DROP TEST	15

STANDARDS AUSTRALIA
—————
Australian Standard
Motor vehicle frontal protection systems
—————
Part 1: Road user protection
—————

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for all types of vehicle frontal protection systems (VFPS) and specifies the road user protection criterion. This Standard also requires that motor vehicles fitted with a VFPS continue to comply with the applicable Australian Design Rules (ADRs).

This Standard applies to the design and construction of vehicle frontal protection systems for motor vehicles up to and including 3500 kg GVM in the MA, MB, MC, MD1, MD2 and NA Categories, as defined in the Australian Design Rules for Motor Vehicles and Trailers.

NOTES:

- 1 The Committee recommends that this Standard, except for the road user protection criterion (refer to Clause 3.2), is applicable to VFPS for new model motor vehicles first produced after 1 January 2003.
- 2 The Committee also recommends that the performance requirement for the road user protection criterion (refer to Clause 3.2) is applicable to VFPS for new model motor vehicles first produced after 1 January 2005.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

ISO

6487 Road vehicles—Measurement techniques in impact tests—Instrumentation

ADR*

Australian Design Rules for Motor Vehicles and Trailers

1.3 DEFINITIONS

For the purpose of this Standard, the definitions given in the *Australian Design Rules for Motor Vehicles and Trailers* and those below apply.

1.3.1 Anchorage

A device designed to transfer loads from a VFPS to the vehicle. It includes bolts or screws and other hardware for the attachment of the VFPS and it may be fitted as original-vehicle equipment or supplied as part of the VFPS fitting.

1.3.2 Bumper replacement VFPS

A VFPS that is primarily designed to reduce the damage to a vehicle in the event of either a front end impact or an animal strike, in which the VFPS is fitted in place of the vehicle's front bumper (refer to Figure 1.1(a)).

* This reference refers to the latest edition of the Design Rules as amended from time to time.