AS 1636.2—1996

Australian Standard®

Tractors—Roll-over protective structures—Criteria and tests

Part 2: Rear-mounted for narrow-track tractors

This Australian Standard was prepared by Committee ME/65 Agricultural Tractors and Machinery. It was approved on behalf of the Council of Standards Australia on 21 September 1995 and published on 5 January 1996.

The following interests are represented on Committee ME/65:

Department of Primary Industries, Qld

Health and Safety Organisation, Vic.

National Farmers Federation

N.S.W. Agriculture

Safety Institute of Australia

Tractor and Machinery Association of Australia

University of Melbourne

WorkCover Authority of New South Wales

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

AS 1636.2-1996

Australian Standard®

Tractors—Roll-over protective structures—Criteria and tests

Part 2: Rear-mounted for narrow-track tractors

PUBLISHED BY STANDARDS AUSTRALIA (STANDARDS ASSOCIATION OF AUSTRALIA) 1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7337 0131 0

PREFACE

This Standard was prepared by the Standards Australia Committee ME/65 on Agricultural Tractors and Machinery. It lays down the performance requirements under specified test methods for rear-mounted roll-over protective structures (ROPS) for narrow-track, wheeled tractors intended to protect drivers in the event of a tractor overturning.

The Standard is based on but not equivalent to the Council of the European Communities Directive 86/298/EEC on rear-mounted roll-over protection structures of narrow-track, wheeled agricultural and forestry tractors as amended by the Council Directive 89/682/EEC.

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.

© Copyright - STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

Page

SECTION 1 SCOPE AND GENERAL

1.1	SCOPE 4
1.2	OBJECTIVE 4
1.3	APPLICATION 4
1.4	REFERENCED DOCUMENTS 4
	DEFINITIONS
1.6	EQUIVALENCE
1.7	ALTERNATIVE TO PHYSICAL TESTING
	GENERAL REQUIREMENTS
1.9	MARKING
SECTIC	ON 2 DYNAMIC TESTING
2.1	SCOPE OF SECTION 13

2.2	CONDITIONS FOR ACCEPTANCE	13
2.3	SELECTION AND PREPARATION FOR TEST OF ROPS AND TRACTOR	13
2.4	APPARATUS AND EQUIPMENT	13
2.5	TESTS FOR ESTABLISHING STRENGTH OF CAB	
	OR FRAME AND ATTACHMENT TO TRACTOR	14
2.6	REPORT AND SPECIFICATION	18

SECTION 3 STATIC TESTING

3.1	SCOPE OF SECTION	25			
3.2	CONDITIONS FOR ACCEPTANCE	25			
3.3	SELECTION AND PREPARATION OF ROPS AND TRACTOR	26			
3.4	APPARATUS AND EQUIPMENT	26			
3.5	TESTS FOR ESTABLISHING STRENGTH OF CAB				
	OR FRAME AND ATTACHMENT TO TRACTOR	32			
3.6	REPORT AND SPECIFICATION	34			
APPENDICES					
А	TYPICAL DATA SHEET FOR A PROTECTIVE STRUCTURE	35			
В	TYPICAL TEST REPORT FOR A PROTECTIVE STRUCTURE				
	(DYNAMIC TESTING)	36			
С	TYPICAL TEST REPORT FOR A PROTECTIVE STRUCTURE				
	(STATIC TESTING)	38			

4

STANDARDS AUSTRALIA

Australian Standard

Tractors—Roll-over protective structures—Criteria and tests

Part 2: Rear-mounted for narrow-track tractors

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies procedures for the evaluation of rear-mounted roll-over protective structures (ROPS) for the protection of drivers of narrow-track tractors. It also sets out test procedures and minimum performance criteria for those structures.

It applies to driver-controlled tractors—

- (a) having a ground clearance not greater than 600 mm measured beneath the lowest points of the front or rear axles, allowing for the differential; and
- (b) having fixed or adjustable minimum track width of-
 - (i) less than 1150 mm for axles fitted with the widest tyres; and the remaining axle adjustable so that the outer edges of the tyres do not protrude beyond the outer edge of the widest tyres; or
 - (ii) less than 1150 mm for axles where wheels and tyres are all the same size.

This Standard applies to driver-controlled tractors and is not intended to apply to machinery whose primary purpose is earth-moving as defined in AS 2294. It describes two different methods of testing a ROPS: a dynamic test, which may be applied to tractors having a mass of not less than 800 kg and not greater than 6000 kg; and a static test, which may be applied to tractors having a mass of not less than 560 kg and not greater than 6000 kg.

NOTE: A ROPS is a structure whose primary purpose is to reduce the possibility of an operator from being crushed or otherwise injured in the event of a tractor rolling over. Wearing a seat belt in conjunction with using a ROPS, may provide additional protection in the event of a tractor rolling over. Seat belts should comply with AS/NZS 2596 or SAE J386.

1.2 OBJECTIVE The objective of this Standard is to enable designers and manufacturers of rear-mounted ROPS to verify the design and performance of such equipment and to thus minimize the risks to the health and safety of drivers of tractors involved in a roll-over accident.

1.3 APPLICATION This Standard is intended for designers, builders and testers of rear-mounted ROPS who are concerned with the design of those ROPS used on narrow-track, wheeled tractors.

1.4 REFERENCED DOCUMENTS The documents below are referred to in this Standard:

AS

2294 Earth-moving machinery—Protective structures

3569 Steel wire ropes

AS/NZS

2596 Seat belts for use in motor vehicles