Australian/New Zealand Standard™

Helmets for horse riding and horse-related activities

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CS-096, Equestrian Helmets. It was approved on behalf of the Council of Standards Australia on 14 February 2003 and on behalf of the Council of Standards New Zealand on 24 January 2003. It was published on 5 March 2003.

The following are represented on Committee CS-096:

Australian Centre for Agricultural Health and Safety
Australian Chamber of Commerce and Industry
Australian Conference of Principal Racing Clubs
Australian Equestrian Trade Association Ltd
Australian Harness Racing Council Inc.
Brain Foundation
Equestrian Federation of Australia
Imtest Laboratory (New Zealand)
New Zealand Equestrian Federation
New Zealand Pony Clubs Association
Plastics and Chemicals Industries Association
Roads and Traffic Authority of NSW
The University of New South Wales

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 Standards may also be withdrawn.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 joint Australian/New Zealand Standards can be found by visiting the Standards Australia web site at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 99195.

Australian/New Zealand Standard™

Helmets for horse riding and horse-related activities

Originated as part of AS 2063—1997 and AS 2063.3—1988.
Previous edition AS/NZS 3838:1998.
Second edition 2003.

Jointly published by Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 5067 2

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-096, Equestrian Helmets, to supersede AS/NZS 3838:1998.

This revision takes into account the publication of test methods: AS/NZS 2512.1:1998, *Methods of testing protective helmets*, Method 1: *Definitions and headforms*, AS/NZS 2512.5.2:1998 *Methods of testing protective helmets*, Method 5.2: *Determination of strength of retention system—Dynamic strength* and AS/NZS 2512.7.2:1998, *Methods of testing protective helmets*, Method 7.2: *Determination of stability of protective helmets—Dynamic stability*. The Committee has also included an informative Appendix on the selection, care, use and maintenance of helmets. The Committee also considered inclusion of a lateral rigidity test and reduction of peak acceleration to $250g_n$, however, at this stage, the Committee would like to see more research before making a decision.

The drop height for the dynamic strength test in Clause 7.8 was taken from EN 1384:1997, *Specifications for helmets for equestrian activities*. At the next revision the Committee will consider increasing the drop height and specifying a maximum residual extension on the harness.

Also at the next revision, the Committee will consider requesting that Committee CS-097, Testing of Helmets and Visors, look to reducing the cold conditioning temperature to –20°C.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

CONTENTS

Page

FOREWORD

Helmets which comply with this Standard are considered suitable for all activities involving horses. For certain activities, additional requirements may be appropriate.

There are intrinsic hazards with activities involving horses. It is recognized that it is not possible to write a protective headgear performance Standard that will result in headgear that can protect against injury or death in all accidents. It is also recognized that serious injury or death can result from both low-energy and high-energy impacts, even when protective headgear is worn. It is further recognized that protective headgear must be acceptable to the user and to the regulating associations or agencies requiring its use. Acknowledging these limitations, this Standard was developed using resources in medical, scientific, mechanical engineering, human factors and biomechanical fields.

This Standard incorporates many aspects of other recognized headgear performance Standards and draws from work done by others, where appropriate for this Standard. These Standards may be referenced. It should be noted that this Standard specifies a laboratory test of completed headgear to measure its ability to reduce head acceleration when impacting various shaped objects. It is known that headgear that performs well under this Standard will mitigate head injury in actual use within its design limits.

The protection provided by a helmet depends on the circumstances of the accident, the condition of the helmet and other factors. A proportion of the energy of an impact is absorbed by the helmet, thereby reducing the force of the blow sustained by the head. The structure of the helmet may be damaged in absorbing this energy, and any helmet which sustains a severe blow should be replaced even if damage is not apparent.

To achieve the performance of which it is capable and to ensure stability on the head, a helmet should be as closely fitting as possible, consistent with comfort, and it must be securely fastened, with the retaining strap under tension at all times.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Helmets for horse riding and horse-related activities

1 SCOPE

This Standard specifies requirements for protective helmets for horse riding and horse-related activities, intended to mitigate the effects of an impact to the head. The Standard includes construction, testing and labelling requirements.

NOTE: A helmet complying with this Standard may incorporate special features designed to suit its use in specific horse-related activities.

2 OBJECTIVE

The objective of this Standard is to provide horse riders and persons engaged in horse-related activities with helmets that provide basic head protection and help reduce the severity of head injury from hazards associated with horse riding and horse-related activities.

3 REFERENCED DOCUMENTS

The documents below are referred to in this Standard:

AS		
1609		Eye protectors for motor cyclists and racing car drivers
2342		Development, testing and implementation of information and safety symbols and symbolic signs
AS/NZS		
2512		Methods of testing protective helmets
2512.1	Method 1:	Definitions and headforms
2512.2	Method 2:	General requirements for the conditioning and preparation of test specimens and laboratory conditions
2512.3.1	Method 3.1:	Determination of impact energy attenuation—Helmet drop test
2512.5.2	Method 5.2:	Determination of strength of retention system—Dynamic strength
2512.6	Method 6:	Measurement of horizontal peripheral vision clearance
2512.7.1	Method 7.1:	Determination of stability of protective helmets—Static stability
2512.7.2	Method 7.2:	Determination of stability of protective helmets—Dynamic stability
2512.8	Method 8:	Measurement of peak deflection

4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS/NZS 2512.1 apply.

5 CONSTRUCTION

5.1 Components

The helmet shall consist of a means of absorbing impact energy and a retention system.

All components of the protective system shall be permanently attached to one another. Removable comfort pads are not part of the protective system.