AS/NZS 2063:2020

Australian/New Zealand Standard™

# Helmets for use on bicycles and wheeled recreational devices



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AS/NZS 2063:2020

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Australian Chamber of Commerce and Industry
Australian Competition and Consumer Commission
Bicycle Industries Australia
Bicycle Industry Association of New Zealand
Bicycle NSW
Centre for Accident Research and Road Safety, Qld
Consumers Federation of Australia
Cycling and Walking Australian and New Zealand
Joint Accreditation System of Australia and New Zealand
Ministry of Business, Innovation and Employment, New Zealand
Monash University Accident Research Centre
National Retail Association
Royal Australian College of Surgeons
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Australian/New Zealand Standard™

# Helmets for use on bicycles and wheeled recreational devices

Originated in Australia as part of AS 2063—1977.
Originated in New Zealand as NZS 5439:1986.
Previous edition AS/NZS 2063:2008.
Third edition 2020.

# Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-110, Bicycle and Bicycle Accessories, to supersede AS/NZS 2063:2008, *Bicycle helmets*.

The objective of this Standard is to provide lightweight helmets that protect against, and reduce the severity of, head injury from hazards associated with cycling, skateboarding and other wheeled recreational activities.

The major changes in this edition are as follows:

(a) The addition to the scope of wheeled recreational devices, such as skateboards, roller skates, roller blades and kick-scooters.

(b) Specification of normative product conformity and batch testing requirements.

(c) Specification of impact velocities and indicative drop heights.

(d) Clarification of the intent of test site selection.

The terms "normative" and "informative" are used in Standards to define the application of the appendices to which they apply. A "normative" appendix is an integral part of a Standard, whereas an "informative" appendix is only for information and guidance.

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## Introduction

The protection given by a helmet depends on the circumstances of the impact and the wearing of a helmet cannot always prevent injury or death. 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.

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

In preparing this Standard, the Committee considered the issue of angular acceleration management in helmet performance. At present there is no widely available and accepted test method for assessing the performance of helmets in managing angular acceleration that might arise in an oblique impact. The Committee determined that the current Standard is not design restrictive regarding current technologies and designs that are intended to manage head angular acceleration in an impact. The Committee recommended that further work be undertaken to develop and/or adopt a test method so that it can be addressed in a future amendment or revision of the Standard.

In revising the Standard, the Committee considered relevant Australian, New Zealand and international scientific, commercial and grey literature that has been produced over decades on helmet testing and performance.

# Australian/New Zealand Standard

## Helmets for use on bicycles and wheeled recreational devices

## Section 1 Scope and general

### 1.1 Scope and application

#### 1.1.1 Scope

This Standard specifies the design, construction and basic performance requirements of lightweight protective helmets intended to mitigate the adverse effects of a blow to the head. This Standard covers impact energy attenuation, helmet stability, load distribution, strength and effectiveness of the retention system and its attachment points, peripheral vision clearance and marking requirements.

This Standard applies to helmets used for recreational activities involving bicycles, and wheeled recreational devices (such as skateboards, roller skates, roller blades, hoverboards and kick-scooters, including those that are power-assisted).

This Standard does not cover helmets intended to be used by motorcyclists. The design and construction of motorcycle helmets are covered by AS/NZS 1698 or UNECE R22.05.

#### 1.1.2 Application

Helmets conforming to this Standard may not adequately control hazards and injuries associated with all cycling activities, such as BMX and mountain biking.

### 1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS/NZS 2512.1, *Methods of testing protective helmets, Part 1: Definitions and headforms*

AS/NZS 2512.2, *Methods of testing protective helmets, Method 2: General requirements for the conditioning and preparation of test specimens and laboratory conditions*

AS/NZS 2512.3.1, *Methods of testing protective helmets, Method 3.1: Determination of impact energy attenuation—Helmet anvil test*

AS/NZS 2512.5.2, *Methods of testing protective helmets, Method 5.2: Determination of strength of retention system—Dynamic strength*

AS/NZS 2512.6, *Methods of testing protective helmets, Method 6: Measurement of horizontal peripheral vision clearance*

AS/NZS 2512.7.2, *Methods of testing protective helmets, Method 7.2: Determination of stability of protective helmets—Dynamic stability*

AS/NZS 2512.8, *Methods of testing protective helmets, Method 8: Measurement of peak deflection*

AS/NZS 2512.9, *Methods of testing protective helmets, Method 9: Determination of load distribution*

UNECE Regulation 22.05

### 1.3 Terms and definitions

For the purpose of this Standard, the definitions given in AS/NZS 2512.1 and those below apply: