

Australian Standard[®]

**Earth-moving machinery—
Off-highway rims and wheels—
Maintenance and repair**

This Australian Standard was prepared by Committee ME/63, Earthmoving Equipment. It was approved on behalf of the Council of Standards Australia on 31 December 1996 and published on 5 March 1997.

The following interests are represented on Committee ME/63:

AUSTROADS

Construction and Mining Equipment Association of Australia

Department of Defence

Department of Mineral Resources, N.S.W.

Department of Mines and Energy, Qld

Department of Natural Resources and Environment, Vic.

Metal Trades Industry Association of Australia

Queensland Forest Research Institute

Safety Institute of Australia

Sydney Water Corporation

Telstra Corporation

Tractor and Machinery Association of Australia

WorkCover Authority of New South Wales

Additional interests participating in preparation of Standard:

Earth-moving machinery tyre manufacturers

Earth-moving machinery users

Rim and wheel manufacturers

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PREFACE

This Standard was prepared by the Standards Australia Committee ME/63, Earthmoving Equipment, at the request of users of earthmoving equipment, particularly those involved in major mining operations, and is supported by the inspectorates of Queensland, New South Wales and Western Australia. These bodies have expressed their concern that wheels and rims for earthmoving equipment are being subjected to ever-increasing loads and forces. The origin of the forces is the larger, heavier trucks and payloads being introduced and the higher speeds these vehicles can achieve.

On a number of occasions wheels have suffered failures both in Australia and overseas. In many cases, where the wheel or rim has disintegrated, pieces of the rim have been thrown for considerable distances. The release of large quantities of energy in an uncontrolled manner poses a risk to persons nearby and in order that this element of risk be minimized, some controls over the repair and inspection of wheels are considered necessary.

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.

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STANDARDS AUSTRALIA

Australian Standard

Earth-moving machinery—Off-highway rims and wheels—Maintenance and repair

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard sets out the requirements for the identification, safe demounting, inspection, maintenance, testing and mounting of off-highway wheels and rims for rubber-tyred earth-moving machinery. It applies to wheels and rims of not less than 600 mm (24 inches) nominal diameter.

1.2 OBJECTIVE The objective of this Standard is to assist manufacturers, suppliers, employers, repairers and users of earth-moving machinery in minimizing the risk to health and safety of employees working with or otherwise near wheels and rims of earth-moving machinery.

1.3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

- 1171 Methods for magnetic particle testing of ferromagnetic products and components
- 1627 Metal finishing—Preparation and pretreatment of surfaces
- 1627.4 Part 4: Abrasive blast cleaning
- 2207 Non-destructive testing—Ultrasonic testing of fusion welded joints in carbon and low alloy steel

AS/NZS

- 1554 Structural steel welding
- 1554.5 Part 5: Welding of steel structures subject to high levels of fatigue loading

1.4 DEFINITIONS For the purpose of this Standard, the definitions below apply.

1.4.1 Competent person—a person who has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform correctly a specified task.

1.4.2 Rim base—the part of the wheel on which the tyre is mounted and supported. It may consist of a number of separate components, e.g. back section, centre section and gutter section.

1.4.3 Rim assembly—the assembly of components which together comprise the rim. It can consist of a rim base, flanges, bead seat band and lock ring. (See Figure 1.)

1.4.4 Wheel—a rotating load-carrying member between the tyre and the axle. It usually consists of two major parts, as follows:

- (a) The rim base.
- (b) The wheel disc.

A wheel can consist of a rim base or rim assembly with a disc or hub.

The rim and wheel disc may be integral, permanently attached, or detachable.

1.4.5 Wheel disc—that part of the wheel which is the supporting member between the axle or hub and the rim base.



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