

AS7635:2013



RAIL INDUSTRY SAFETY AND STANDARDS BOARD

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Australian Railway Infrastructure

Accredited Australian Standards
Development Organisation

AS 7635 Track Geometry

STANDARD



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This Australian Railway Standard *AS 7635 Track Geometry* was prepared by the RISSB *Track Geometry Development Group*. It was signed off by the RISSB *Track Geometry Development Group* and *Infrastructure Standing Committee* in *May 2013* and subsequently by the Development Advisory Board (DAB) in *May 2013*. The DAB confirmed that the process used to develop the standard was in accordance with the RISSB accredited development process. On the *04 June 2013* the RISSB Board approved the Standard for release. This Standard was published on the RISSB website (www.rissb.com.au) on the *15 August 2013*.



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Chief Executive Officer
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Transport Victoria	

This Standard was issued on Two occasions for open review was independently validated before being signed off and the approvals were granted.

RISSB wish to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the committees and through the open review periods.

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Australian Railway Infrastructure Track Geometry

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Document Control

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Changes to this publication must be approved according to the procedure for developing management system documents.

The RISSB will identify and communicate changes to this publication.

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1 PREFACE

The aim of this Standard is to outline requirements that encourage rail organisations to adopt a whole-of-life approach to the management of track geometry. This approach includes the requirements in relation to track geometry in terms of design, supply, construction and maintenance of track for a range of operational track gauges used in Australia.

For the purposes of this Standard, all clauses containing the term 'shall' are considered mandatory requirements; all clauses containing the term 'should' are considered recommendations, and all other clauses are explanatory statements. This Standard also highlights recommended and mandatory sections with (R) and (M) respectively alongside the paragraph number.

All RISSB standards provide controls for hazards contained in RISSB's hazard guideline. In this particular Standard, the reference number of the hazard being addressed is identified in brackets at the end of each sentence (where appropriate). RISSB's hazard guideline can be found on the RISSB website at www.rissb.com.au.

1 INTRODUCTION

1.1 DISCLAIMER

- 1.1.1 This Rail Industry Safety and Standards Board (RISSB) Australian Infrastructure Standard has been drafted for use by rail operators and the rail industry in Australia.
- 1.1.2 RISSB and all persons acting for the RISSB in preparing the Standard disclaim any liability or responsibility to any person for any consequences arising directly or indirectly from the use by the rail industry or organisations of the Standard in whole or in part, and whether or not in conjunction with, or as a supplement to, the standards which the rail industry already use.
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- 1.1.5 Users are responsible for making their own enquiries in relation to the application of legislation, and the framers of the Standard accept no responsibility in this regard.
- 1.1.6 Adherence to the Standard does not necessarily ensure compliance with any relevant national standards and codes of practice.
- 1.1.7 Users are responsible for making their own enquiries in relation to compliance with national standards and codes of practice.
- 1.1.8 While all reasonable care has been taken in the preparation of this Standard, it is provided to rail operators without any legal liability on the part of RISSB, and RISSB [publisher, authors, consultants and editors each] takes no responsibility for loss suffered by any person resulting in any way from the use of, or reliance on, this publication.
- 1.1.9 Responsibility rests with the rail organisation to ensure that all aspects of the Standard are safe.
- 1.1.10 ©Rail Industry Safety and Standards Board

1.2 DOCUMENT CONTROL

1.2.1 Identification

- 1.2.1.1 Document title: Railway Infrastructure – Track Geometry
- 1.2.1.2 Number: AS 7635
- 1.2.1.3 Version: 1 for publication
- 1.2.1.4 Publication date:

1.2.2 Preparation and Approval

- 1.2.2.1 Prepared by: Opus Rail
- 1.2.2.2 RISSB Board approval date: 5 June 2013

1.2.3 Distribution and Change

1.2.3.1 The current version of this Standard is available from the RISSB website at www.rissb.com.au.

1.2.3.2 RISSB standards are subject to review at a period not exceeding five years from their date of publication.

1.2.4 Document History

1.2.4.1 Previous Published Versions

1. None.

1.3 CONTENT

1.3.1 Table of Contents

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4. MONITORING AND MAINTENANCE

- 4.1 Inspection – Frequency and Tasks
- 4.2 Assessment

1.3.2 Document Layout

1.3.2.1 The section and clause numbers provide a unique identifier for each sentence, recommendation or mandatory item in the document (e.g. this is sentence 1.3.2.1).

1.3.2.2 Mandatory items are identified with the symbol **(M)** at the left hand side of the text and highlighted with the colour used here.

1.3.2.3 Recommendations are identified with the symbol **(R)** at the left hand side of the text, but in this case no highlighting is used.

1.3.2.4 Supporting information given in this document is given in plain text (e.g. as this sentence) and is not identified by either an **(M)** or **(R)**

1.3.2.5 The numbers in parentheses at the end of a particular clause show the hazard number, taken from Track and Civil Hazard Trees, for the hazard(s) being controlled by each requirement.

1.4 PURPOSE: AS7635 TRACK GEOMETRY

1.4.1 This Standard specifies track geometry standards for design, construction, commissioning, monitoring, maintenance and modification of rail tracks in Australia.

1.5 SCOPE

1.5.1 This Standard covers rail networks classified in AS 7630, with the exception of high speed passenger (HSP) lines.

1.5.2 This Standard is not specifically intended to cover urban on-street tramway or light rail networks, cane railways, or heritage railways operating on private reservation, but items from this Standard may be applied to such systems as deemed appropriate by the relevant Railway Infrastructure Manager.

1.5.3 This Standard is not intended for use in the design and operation of HSP lines, monorail networks, or miniature or amusement park railways.

1.5.4 Geometric defects of welds and corrugations in rails are covered in AS 7640

1.6 COMPLIANCE

- 1.6.1 There are two types of controls contained within the RISSB Australian Infrastructure Standards – 1. mandatory (**M**) requirements; and 2. recommended (**R**) requirements.
- 1.6.2 Both of these types of controls address hazards that are deemed to require controls on the basis of existing Australian and international rolling stock practices and standards.
- 1.6.3 A mandatory requirement is a requirement that the Standard sees as the only acceptable way of treating the hazard.
- 1.6.4 A recommended requirement is one that is suggested where the Standard recognises that there are limitations to the universal application of the requirement and that there may be circumstances where the control cannot be applied or that other controls may be appropriate or satisfactory, subject to agreement with the Railway Infrastructure Manager.
- 1.6.5 Recommended requirements in the RISSB Australian Infrastructure Standards are considered when compliance to the standards is being assessed.

1.7 REFERENCED DOCUMENTS

1.7.1 Normative References

- 1.7.1.1 The following referenced documents are indispensable for the application of this Standard:
 - (a) National Rail Safety Law
 - (b) AS 7630 Railway Infrastructure - Track Classification
 - (c) AS 7640 Railway Infrastructure - Rail Management.

1.7.2 Informative References

- 1.7.2.1 The following referenced documents are cited in this Standard for information only:
 - (a) RISSB National Guideline – Glossary of Railway Terminology.

1.8 DEFINITIONS

- 1.8.1 General railway technical terms extracted from the RISSB National Guideline – Glossary of Railway Terminology can be found in Appendix C.
- 1.8.2 Specific terms used in this Standard are defined below:
 - (a) **Bends:** Bends occur where two tangent tracks meet at near 180 degrees without an intermediate curve and will usually have a speed restriction to limit the effect of rough ride.
 - (b) **Rail Cant:** The amount the rail is sloped in toward the track centre, usually 1 in 20 or 1 in 40.