

AS 7635:2013

Track Geometry

Infrastructure Standard



This Australian Railway Standard AS 7635 Track Geometry was prepared by the RISSB Track Geometry Development Group. It was signed off by the Track Geometry Development Group and the 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 June 05, 2013 the RISSB Board approved the Standard for release. This Standard was published on the RISSB website (www.rissb.com.au) on August 15, 2013.



Kevin Taylor
Chief Executive Officer
Rail Industry Safety and Standards Board

The following organisations were represented on the RISSB Development Group:

Rio Tinto

Brookfield Rail

ARTC

Rail Corp

Queensland Rail

PTA SA

Transport Victoria

This standard was issued on two occasions for open review and was independently validated before being signed off and the approvals 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.

Keeping Standards up-to-date

Australian Standards developed by RISSB are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are reviewed every five years, and new editions are published. Between editions, amendments may be issued.

Australian Standards developed by RISSB may also be withdrawn. It is important that readers assure themselves they are using a current RISSB Standard, which should include any amendments that may have been published since the Standard was published.

Information about Australian Standards to be developed by RISSB, drafts, amendments, and new projects can be found by visiting www.rissb.com.au

RISSB welcomes suggestions for improvements, and encourages readers to notify it immediately of any apparent inaccuracies or ambiguities. Contact us via email at rissb@rissb.com.au or write to Rail Industry Safety and Standards Board, PO Box 4608, Kingston, ACT 2604.

Australian Standards® developed by RISSB

AS 7635: 2013

Track Geometry

First published as AS 7635:2013

Copyright

RISSB

All rights are reserved. No part of this work may be replaced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of RISSB.

Published by Rail Industry Safety and Standards Board (RISSB) ABN: 5810-5001-465

P O Box 4608, Kingston, ACT, Australia 2604

ISBN 978-1-74342-570-1

Notice to Users

This RISSB product has been developed using input from rail experts from across the Rail Industry and represents good practice for the industry. The reliance upon or manner of use of this RISSB product is the sole responsibility of the user who is to assess whether it meets their organisation's operational environment and risk profile.

Document Control

Identification

Document Title	Date
AS 7635 Track Geometry	15/08/2013

Document History

Publication Version	Effective Date	Page(s) Affected	Reason for and Extent of Change(s)
Version 1.0	15 August 2013	All	First Publication

Approval

Name	Date
Development Advisory Board (DAB)	1/05/2013
Rail Industry Safety and Standards Board (RISSB)	5/06/2013

Standard Change Procedures

The RISSB maintains the master for this document and publishes the current version on the RISSB website.

Any changes to the content of this publication require the version number to be updated.

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.

Contents

1	Introduction.....	6
1.1	Purpose	6
1.2	Scope	6
1.3	Compliance.....	6
1.4	Referenced documents.....	6
1.4.1	Normative references.....	6
1.4.2	Informative references	7
1.5	Definitions.....	7
2	Track design.....	7
2.1	Nominal track gauges	7
2.2	Track gauge.....	8
2.2.1	Nominal Track Gauges	8
2.2.2	Gauge Widening	8
2.2.3	Rail Cant.....	8
2.3	Horizontal alignment.....	9
2.3.1	Curves	9
2.3.2	Transition Curves.....	9
2.3.3	Track Cant.....	10
2.4	Vertical alignment	10
2.4.1	Track gradient.....	10
2.4.2	Vertical curves	11
2.4.3	Grade compensation on curves	12
2.5	Lengths of tangents and curves	12
2.6	Track geometry at platforms	12
2.7	Dual gauge tracks.....	12
2.8	Basic design parameters.....	12
3	Construction	13
3.1	New track.....	13
3.2	Serviceable materials.....	13
3.3	Additional restrictions at worksites	13
4	Monitoring and maintenance	13
4.1	Inspection – frequency and tasks.....	13
4.1.1	Patrol inspection	14
4.1.2	On-train inspection.....	14
4.1.3	General inspection	15
4.1.4	Detailed inspection.....	15
4.2	Assessment	15
4.2.1	Geometry defects.....	15

Appendix Contents

Appendix A	Design parameters.....	17
Appendix B	Guidelines.....	22
B.1	Inspection guidelines for interstate corridor.....	22
B.2	Geometry defects – response category maintenance limits for interstate corridor.....	23
Appendix C	Definitions.....	26

1 Introduction

1.1 Purpose

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

1.2 Scope

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

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.

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

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

1.3 Compliance

There are two types of control contained within RISSB Standards:

- (a) mandatory requirements
- (b) recommended requirements

Each of these types of control address hazards that are deemed to require controls on the basis of existing Australian and international Codes of Practice and Standards.

A **mandatory** requirement is a requirement that the standard provides as the only way of treating the hazard.

Mandatory requirements are identified within the text by the terms *shall* or *must*.

A **recommended** requirement is one 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 Rail Infrastructure Manager and/or Rail Safety Regulator.

Recommended requirements are to be considered when compliance with the standards is being assessed.

Recommended requirements are identified within the text by the term *should*.

Hazards addressed by this standard are included within the text. Refer to the RISSB website for the latest Hazard Register Guideline : www.rissb.com.au.

1.4 Referenced documents

1.4.1 Normative references

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.