



# Rolling Stock - Dynamic Behaviour



Rolling Stock Standard



This Australian Standard® AS 7509 Rolling Stock - Dynamic Behaviour was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

ARTC

Aurizon

Central Queensland University

Institute of Rail Technology (IRT)

PTA

Queensland Rail

UGL

The Standard was approved by the Development Group and the Rolling Stock Standing Committee in June, 2017. On June 22, 2017 the RISSB Board approved the Standard for release.

This Standard was issued for public consultation and was independently validated before being approved.

Development of the Standard was undertaken in accordance with RISSB's accredited process. As part of the approval process, the Standing Committee verified that proper process was followed in developing the Standard.

RISSB wishes to acknowledge the positive contribution of subject matter experts in the development of this Standard. Their efforts ranged from membership of the Development Group through to individuals providing comment on a draft of the Standard during the open review.

I commend this Standard to the Australasian rail industry as it represents industry good practice and has been developed through a rigorous process.



**Paul Daly**  
Chief Executive Officer  
Rail Industry Safety and Standards Board

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## Rolling Stock - Dynamic Behaviour

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## Document control

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## 1 Introduction

### 1.1 Purpose

This Standard describes the dynamic behaviour requirements for locomotive, freight, passenger and infrastructure maintenance rolling stock to reduce the risk of derailment as well as to reduce the likelihood of accelerated degradation of the infrastructure.

### 1.2 Scope

This Standard sets the minimum requirements for the dynamic performance of locomotive, freight, passenger and infrastructure maintenance rolling stock, both new rolling stock and modified rolling stock, intended for operation on a railway network.

Road-rail vehicles are covered by AS 7502.

Track machines that are pushed by workers are not required to be assessed against the requirements of this Standard.

Operation of rolling stock is not covered.

AS 7509 covers design of rolling stock, including how the rolling stock performs in operation, but AS 7509 does not specify how the rolling stock should be operated.

Rolling stock used on light rail, cane railway and/or monorail networks are not covered.

### 1.3 Compliance

There are two types of control contained within Australian Standards developed by RISSB:

- (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 term 'shall'.

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 (RIM), Rolling Stock Operator (RSO), and/or Rail Safety Regulator.

Recommended clauses are mandatory unless the RIM or RSO can demonstrate a better method of controlling the risk.

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

Hazards addressed by this Standard are included in an appendix. Refer to the RISSB website for the latest Hazard Register Guideline: [www.rissb.com.au](http://www.rissb.com.au).

Refer to AS 7501 for details on the Rolling Stock Compliance Assessment process.