



AUSTRALIAN RAIL INDUSTRY
STANDARDS ORGANISATION

AS 7510.6

Braking Systems – Part 6: Trains

STANDARDS



Advancing safety and productivity

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Development of this Standard was prepared by an Australian Rail Industry Standards Organisation (ARISO) Development Group consisting of representatives from the following organisations:

Queensland Rail, ESR Consulting, UGL Rail, Qube Logistics, Wabtec Australia, Aurizon, ARTC, Pacific National, and Transport for New South Wales.

The Rolling Stock Standing Committee verified that ARISO's accredited process was followed in developing the product, before the ARISO Board approved the document for publication.

ARISO 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 comments 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.



Alan Fedda
Chief Executive Officer
Australian Rail Industry Standards Organisation

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2026	10 September 2026	This document has been reviewed to ensure it remains relevant and applicable. The latest review assessed the content, confirming that while updates were made to align with current industry practices, technologies, and regulatory requirements, the original authorship and copyright have been acknowledged as required.

Approval

Name	Date
Australian Rail Industry Standards Organisation Board	10 September 2026

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Preface

This Standard was prepared by the Braking Systems – Part 6: Trains Development Group, overseen by the ARISO Rolling Stock Standing Committee.

This revision strengthens train braking requirements by introducing new controls for long, steep downhill operation, including brake recharge and dynamic brake failure management. It also adds detailed requirements for brake thermal capacity, brake system compatibility, train separation retention, and braking performance assessment. This Standard expands validation and testing requirements, including more comprehensive static brake testing and stopping performance verification, and provides updated RIM stopping distance guidance and hazard information to support safe train operation.

Objective

The objective of this Standard is to provide safety benefits in that proper braking performance contributes to the prevention of signals passed at danger, exceedances of authority, collisions or derailments of railway rolling stock by providing controls for known hazards (including those listed in Appendix B).

This Standard is intended to complement the rolling stock compliance certification process outlined in AS 7501, including all vehicle types such as new, modified and heritage rolling stock.

Compliance

There are four types of provisions contained within Australian Standards developed by ARISO:

- (a) Requirements.
- (b) Recommendations.
- (c) Permissions.
- (d) Constraints.

Requirements – it is mandatory to follow all requirements to claim full compliance with the Standard. Requirements are identified within the text by the term 'shall'.

Recommendations – do not mention or exclude other possibilities but do offer the one that is preferred. Recommendations are identified within the text by the term 'should'.

Recommendations recognize that there could be limitations to the universal application of the control, i.e. the identified control is not able to be applied, or other controls are more appropriate or better.

Permissions – conveys consent by providing an allowable option. Permissions are identified within the text by the term 'may'.

Constraints – provided by an external source such as legislation. Constraints are identified within the text by the term 'must'.

Using this Standard

Appendices in ARISO Standards may be designated either "normative" or "informative". A "normative" appendix is an integral part of a Standard and compliance with it is a requirement, whereas an "informative" appendix is only for information and guidance.

ARISO Standards identify known hazards relevant to the railway industry. Appendix B provides a non-exhaustive list of hazards relevant to the scope of this Standard.

Commentary C Preface

This Standard includes a commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by 'C' preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

AS 7510.6 PREVIEW ONLY

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Section 1 Scope and general

1.1 Scope

This document is applicable to trains that operate on rail networks.

This document is to ensure that the trains in their marshalled configuration are able to brake within a defined performance compliant with the rail networks signalling requirements, for general train control and safe rail operation.

This document covers freight and passenger trains (comprising locomotive, wagons, carriages), multiple unit trains (EMU/DMU), and infrastructure maintenance vehicles.

This document is not specifically intended to cover rolling stock used on light rail, cane railway, monorail and heritage railways operating on isolated networks, but items from this document may be applied to such systems as deemed appropriate by the relevant RIM/RSO.

This document assumes individual vehicles (locomotives, wagons, carriages, etc.) are compliant with individual vehicle brake requirements. Refer to other parts of the AS 7510 set of standards as applicable to the type of rolling stock vehicle to which individual vehicles should be assessed against:

- AS 7510.1:2026, *Braking Systems – Part 1: Locomotive Rolling Stock*
- AS 7510.2:2024, *Braking Systems – Part 2: Hauled Rolling Stock*
- AS 7510.3:2014, *Braking Systems – Part 3: Multiple Unit Passenger Rolling Stock*
- AS 7510.4:2014, *Braking Systems – Part 4: Infrastructure Maintenance Rolling Stock*

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:

- AS 7451:2023, *Train Integrity*
- AS 7504.1:2026, *Brake Components – Part 1: Brake Blocks*
- AS 7504.2:2023, *Brake Components – Part 2: Brake Discs and Pads*
- AS 7510.1:2026, *Braking Systems – Part 1: Locomotive Rolling Stock*
- AS 7510.2:2024, *Braking Systems – Part 2: Hauled Rolling Stock*
- AS 7510.3:2014, *Braking Systems – Part 3: Multiple Unit Passenger Rolling Stock*
- AS 7510.4:2014, *Braking Systems – Part 4: Infrastructure Maintenance Rolling Stock*
- AAR Manual of Standards and Recommended Practices – Section E-II: *Electronically Controlled Brake Systems* (2007)
- AAR Standard S-9152, *End-of-Train Communications* (2014)
- RISSB Code of Practice – ECP Braking (2017)

NOTE:

Documents for informative purposes are listed in a Bibliography at the back of the Standard.