

AS 7520.1:2022

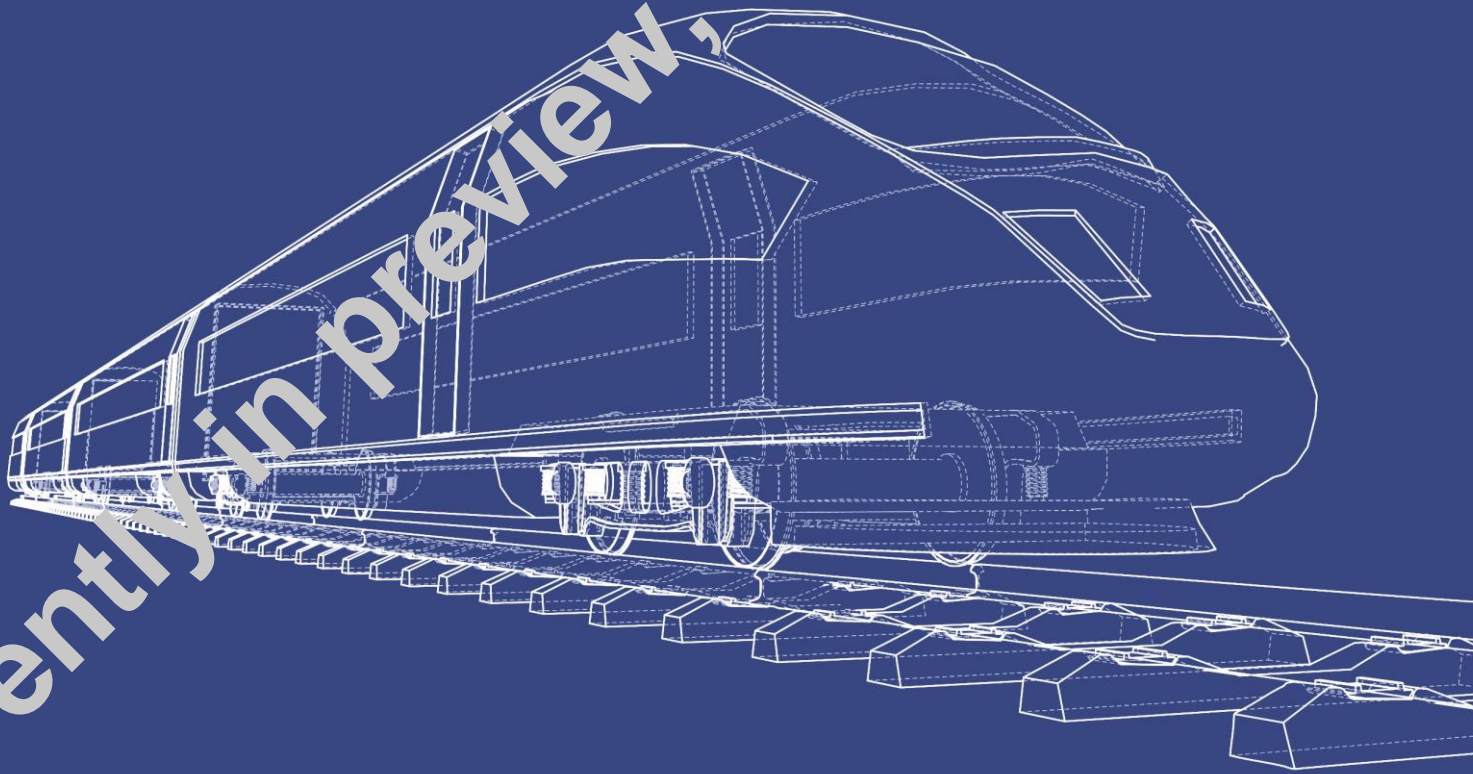


Australian railway rolling stock - Body structural requirements - Part 1 - Locomotive

RiSSB

RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Rolling Stock Standard



This Australian Standard® AS 7520.1 Australian railway rolling stock - Body structural requirements - Part 1 - Locomotive was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

ARTC	Queensland Rail	BHP
Rio Tinto	UGL	Qube

The Standard was approved by the Development Group and the Rolling Stock Standing Committee in May, 2022. On June 22, 2022 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.



Deb Spring
Chief Executive Officer
Rail Industry Safety and Standards Board

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Approval

Name	Date
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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7520.1 Australian railway rolling stock - Body structural requirements - Part 1 - Locomotive. Membership of this development group consisted of representatives from the organisations listed on the inside cover of this document.

AS 7520.1:2022 Australian Railway Rolling Stock – Body Structural Requirements – Part 1 – Locomotive Standard wholly supersedes AS 7520.1:2012 Australian Railway Rolling Stock – Body Structural Requirements – Part 1 – Locomotive.

Objective

This document describes requirements for the structural strength of railway locomotive bodies.

The main purpose of the requirements are to:

- (a) prescribe the minimum structural integrity level of the vehicle body to ensure safe performance under normal operating conditions and extreme operating conditions;
- (b) minimize risks to train crew and members of the general public in the event of collisions or derailments.

Compliance

There are four types of provisions contained within Australian Standard[®] and standards developed by RISSB:

1. Requirements.
2. Recommendations.
3. Permissions.
4. 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'.

For compliance purposes, where a recommended control is not applied as written in the Standard it could be incumbent on the adopter of the Standard to demonstrate their actual method of controlling the risk as part of their WHS or Rail Safety National Law obligations. Similarly, it could also be incumbent on an adopter of the Standard to demonstrate their method of controlling the risk to contracting entities, or interfacing organisations where the risk may be shared.

RISSB Standards address known hazards within the railway industry. Hazards, and clauses within this Standard that address those hazards, are listed in Appendix A.

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, it does not form part of the requirements and recommendations of this Standard.

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1 Scope and general

1.1 Scope

This Standard applies to new and modified locomotive rolling stock.

This Standard covers the design, construction, and maintenance of rolling stock.

The requirements mandated in this Standard do not retrospectively apply to any existing vehicles other than vehicles which are being modified in areas covered by this Standard so far as reasonably practicable.

Operation of rolling stock is not covered.

This Standard is not specifically intended to cover rolling stock used on light rail, cable railways and monorail networks, but items from this Standard may be applied to such systems as deemed appropriate by the relevant rail infrastructure manager.

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

1.2 Normative references

The following documents are indispensable for the application of this Standard:

- AS 7507 Rolling Stock Outlines
- AAR Standard S-5506 - Performance requirements for diesel electric locomotive fuel tanks, 2001.
- AAR Standard S-580 - Locomotive crashworthiness requirements, 2008.
- AS/NZS 2080 - Safety Glazing for Land Transport.
- British Railways Board specification - BR 566 High impact resistant windscreens.
- EN 15152 - Railway applications - Front windscreens for train cabs.
- EN 15227 - Railway applications - Crashworthiness requirements for railway vehicles.
- EN 126-3 Railway applications – Structural requirements for railway vehicles.
- FRA Standard 49 CFR Part 223 Safety Glazing Standards - Locomotives, passenger cars and cabooses.
- UK RSSB Standard - GM/RT2130 Vehicle fire safety and evacuation.
- UK RSSB Standard - GM/RT2100 Requirements for Rail Vehicle Structures.

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