

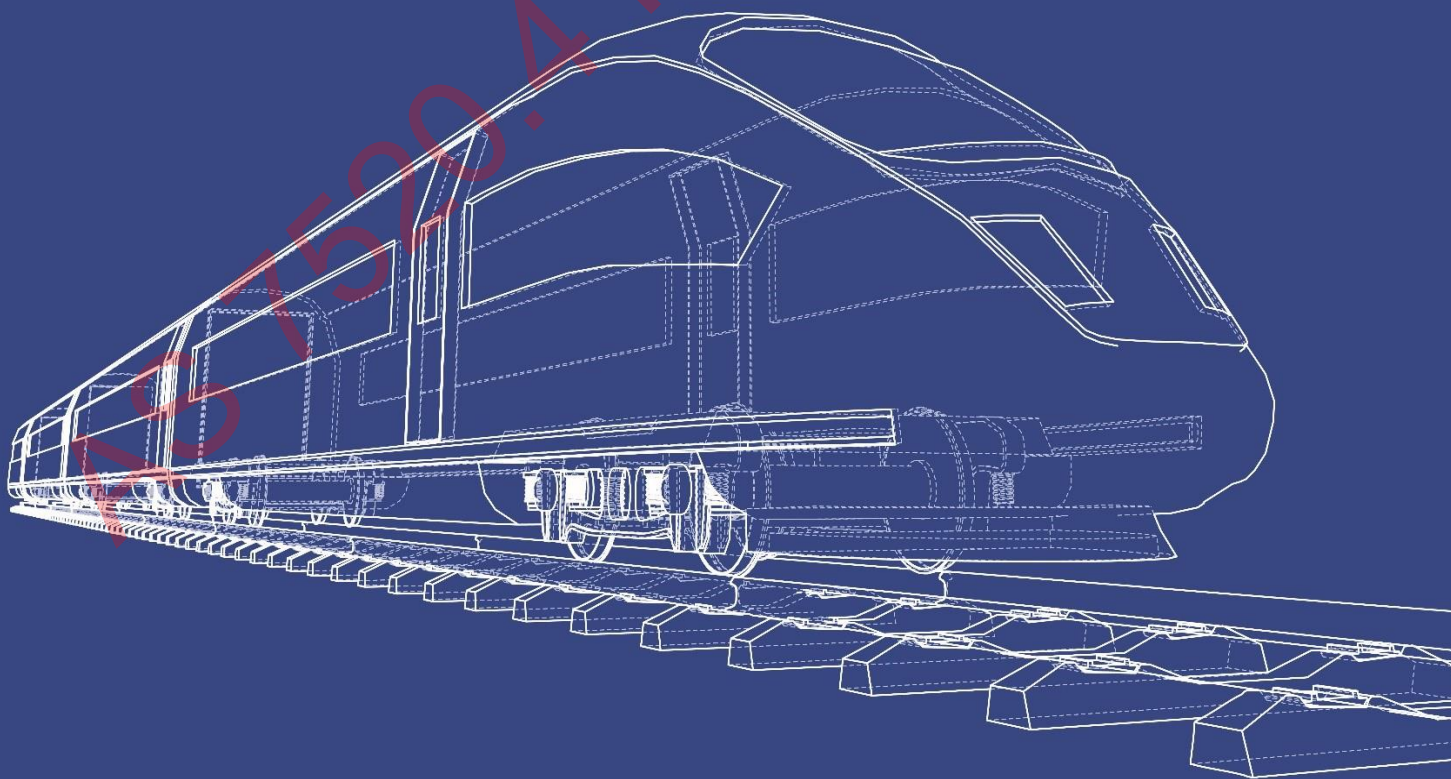
AS 7520.4:2023



# Body structural requirement - Part 4 – Infrastructure maintenance

**RiSSB**  
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Rolling Stock Standard



This Australian Standard® AS 7520.4 Body structural requirement - Part 4 – Infrastructure maintenance was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organizations:

ARTC, Rio Tinto, Queensland Rail, Transport for NSW, UGL Limited, Qube, Department of Transport VIC

The Standard was approved by the Development Group and the Rolling Stock Standing Committee in June, 2023. On June 21, 2023 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.



**Damian White**  
Chief Executive Officer  
Rail Industry Safety and Standards Board

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## AS 7520.4:2023

### Body structural requirement - Part 4 – Infrastructure maintenance

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#### Document details

First published as: AS 7520.4:2023

ISBN 978 1 76139 284 9

#### Document history

Publication Version	Effective Date	Reason for and Extent of Change(s)
2023	June 21, 2023	
2012	August 23, 2012	First Published

#### Approval

Name	Date
Rail Industry Safety and Standards Board	21/06/2023

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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7520.4 Body structural requirement - Part 4 – Infrastructure maintenance. Membership of this Development Group consisted of representatives from the organizations listed on the inside cover of this document.

## Objective

This Standard provides requirements for the structural strength of infrastructure maintenance rollingstock.

The main purpose of the requirements is 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 public in the event of collisions or derailments.

## Compliance

There are four types of provisions contained within Australian Standard® brand 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 entity or interfacing organizations where the risk may be shared.

RISSB Standards address known hazards within the railway industry. For detailed information on the Australian Railway Risk Model (ARRM) and a comprehensive list of hazardous event categories, please see Appendix B. This appendix provides insights into various hazardous events, their consequences, and associated precursors.

*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.*

## Contents

1	Scope and general .....	6
1.1	Scope .....	6
1.2	Normative references .....	6
1.3	Terms, abbreviations, and definitions .....	7
2	Design and verification general requirements .....	9
3	Construction .....	10
4	Maintenance .....	10
5	Vehicle masses .....	11
6	Structural rating .....	11
7	Proof loads .....	12
7.1	Longitudinal proof loads .....	12
7.2	Vertical proof loads .....	13
8	Fatigue loads .....	14
9	Crashworthiness performance .....	14
9.1	Collision performance .....	14
9.2	Rollover performance .....	14
9.3	Roof structure penetration .....	14
10	Cow catchers .....	15
11	Wheel guards .....	15
12	Doors .....	15
13	Glazing .....	15
13.1	Front windscreen .....	15
13.2	Side windows – infrastructure maintenance rolling stock .....	16
14	Emergency towing fixtures .....	16
15	Body mounted equipment .....	16
15.1	General requirements .....	16
15.2	Underframe components .....	16
15.3	Modular cabs .....	16
15.4	Shock/minor impact loading .....	17
16	Fuel tanks .....	17
17	Containers and removable structures with corner fittings .....	17
18	Tanks and fitting on rail tank cars .....	17
19	Roadrailer trailer .....	17
20	Equipment on infrastructure maintenance rolling stock .....	17
20.1	Derail catch bars .....	17
20.2	Retention of components .....	18

## Appendix Contents

Appendix A	Shunt vehicles (normative) .....	19
A.1.1	Assessing compliance .....	19
A.1.2	Derogations .....	19
Appendix B	Australian Railway Risk Model (informative) .....	20
Appendix C	Bibliography .....	21

AS 7520.4 Preview Only

## 1 Scope and general

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### 1.1 Scope

This Standard applies to:

- (a) new and modified infrastructure maintenance rolling stock;
- (b) the design, construction, and maintenance of rolling stock;
- (c) track machines in all operating modes and configurations.

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

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.

This Standard does not include the operation of rolling stock or cover rolling stock used on light rail, cane railways and monorail networks. Still, items from this Standard may be applied to such systems as deemed appropriate by the relevant RIM.

This Standard is not to be used for shunt vehicles. The use of Australian Locomotive Standards should be used except for vehicles complying with the items detailed in Appendix A. Where a road-rail vehicle Standard or this Standard may be used as the minimum requirements.

### 1.2 Normative references

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document:

- AS 7501 - Railway Rolling Stock - Rolling Stock Certification
- AS 7503.4 – Train Identification and Integrity Part 4: Infrastructure Maintenance Rolling Stock
- AS 7520.02 – Railway Rolling Stock – Body Structural Requirements – Part 2: Freight Rolling Stock
- AS 7524 – Coupler and Draw Gear
- AS/NZS 1554 Structural steel welding
- AS/NZS 1665 Welding of aluminium structures
- AS/NZS 2080 - Safety Glass for Land Transport
- EN 12663 Railway applications - Structural requirements of railway vehicle bodies.
- EN 15152 - Railway applications - Front windscreens for train cabs
- EN 15227 - Railway applications - Crashworthiness requirements for railway vehicles
- EN 15663 Railway application – vehicle reference masses