

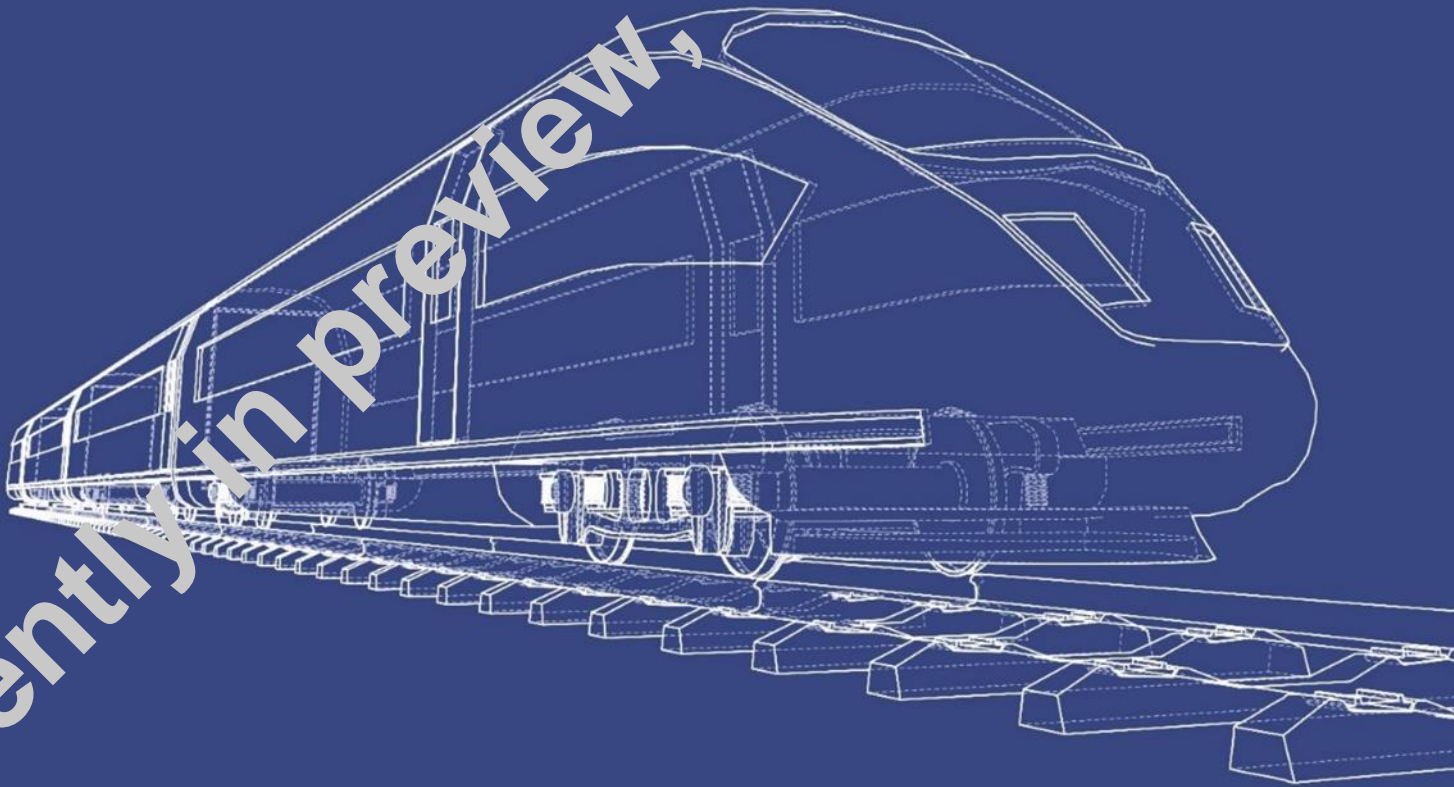
AS 7533:2021



Driving cabs

RiSSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Rolling Stock Standard



This Australian Standard® AS 7533 Driving cabs was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

ARTC	Torrens Connect	Department of Transport (Vic)
Viva Health Group	John Holland Group	TfNSW
RTBU	UGL	Metro Trains
Pacific National		

The Standard was approved by the Development Group and the Rolling Stock Standing Committee in December, 2021. On December 23, 2021 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
Exec. Chair / CEO
Rail Industry Safety and Standards Board

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, Australian Standards developed by RISSB are periodically reviewed, and new editions published when required. Between editions, amendments may be issued. Australian Standards developed by RISSB could also be withdrawn.

It is important that readers assure themselves they are using a current Australian Standard developed by RISSB, which should include any amendments that have been issued since the Standard was published. Information about Australian Standards developed by RISSB, including amendments, can be found by visiting www.rissb.com.au.

RISSB welcomes suggestions for improvements and asks readers to notify us immediately of any apparent inaccuracies or ambiguities. Members are encouraged to use the change request feature of the RISSB website at: <http://www.rissb.com.au/products/>. Otherwise, please contact us via email at info@rissb.com.au or write to Rail Industry Safety and Standards Board, PO Box 518 Spring Hill Qld 4004, Australia.

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.

AS 7533:2021

Driving cabs

Document details

First published as: AS 7533:2021 Driving cabs

ISBN 978-1-76113-639-9

Document history

Publication Version	Effective Date	Reason for and Extent of Change(s)
2021	December 23, 2021	2021 Edition AS 7533:2021 Driving cabs This Standard supersedes: AS 7533.1:2013 - Australian Railway Rollingstock - Driving Cabs – Locomotives, AS 7533.3:2013 - Australian Railway Rollingstock - Driving Cabs – Passenger, AS 7533.4:2013 - Australian Railway Rollingstock - Driving Cabs - Infrastructure Maintenance

Approval

Name	Date
Rail Industry Safety and Standards Board	23/12/2021

Copyright

© 2021 RISSB

All rights are reserved. No part of this work can be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of RISSB, unless otherwise permitted under the Copyright Act 1968.

This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7533 Driving cabs. Membership of this Development Group consisted of representatives from the organizations listed on the inside cover of this document

Objective

The objective of this Standard is to describe requirements for the design of:

1. driving cabs in locomotives and passenger trains;
2. driving cabs/stations in infrastructure maintenance rolling stock (i.e., vehicles intended for use on rails).

The main purpose of the requirements is to provide a safe and operable driving cab.

The application of this Standard relies upon the adoption of the Human Factors principles outlined in AS 7470.

Significant technical changes include:

- a) combining the previous three-part publication into a single Standard to include locomotive rolling stock, passenger rolling stock and infrastructure maintenance rolling stock;
- b) clause numbering changes throughout to support the restructured document;
- c) addition requirements added to section 9 Exterior vision.

Compliance

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

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 conditions. 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.

Contents

1 Scope and general 5

 1.1 Scope 5

 1.2 Normative references..... 6

 1.3 Terms, abbreviations, and definitions..... 6

2 Human factors integration plan 8

3 General requirements 9

4 Anthropometric Data..... 10

5 Interior dimensions 11

6 Crew positions..... 11

7 Seating..... 12

8 Consoles/workstations..... 13

9 Exterior Vision 14

 9.1 General requirements 14

 9.2 Signal sighting principles..... 16

 9.3 Visibility of persons on track..... 16

 9.4 Rear vision..... 17

10 Interior vision 18

11 Glare 18

12 Controls and indicators 19

13 Speed indicating device..... 20

14 Alarms 20

 14.1 Alarm philosophy 20

 14.2 Application of alarms 21

 14.3 Design features of alarms 21

Appendix contents

Appendix A Hazard register 24

Appendix B Signal sighting - worked examples (normative) 27

Appendix C Bibliography 34

1 Scope and general

1.1 Scope

This document applies to the design of new locomotives, passenger, and infrastructure maintenance rolling stock. The document recognizes the importance of a structured approach to human factors integration through the application of appropriate knowledge, processes, and techniques, in order to enhance both safety and overall system performance.

This document applies to modified locomotives, passenger, and infrastructure maintenance rolling stock for components within the scope of the modification.

The interior environmental requirements for driving cabs/stations are not covered in this document – refer to AS 7513.

The structural requirements for driving cabs/stations are not covered in this document - refer to AS 7520.

The interior crashworthiness of driving cabs is not covered in this document - refer to AS 7521.

The access & egress requirements for driving cabs/stations are not covered in this document - refer to AS 7522.

Operation of rolling stock in regard to network safe working rules and route standards is not covered.

Remotely operated rolling stock are not covered.

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

This Standard is intended to compliment the rolling stock compliance certification process outlined in AS 7501.

This Standard is intended to be applied in conjunction with RIM(s) standard(s) applicable to the proposed network(s) of operation.

Road rail vehicles (RRVs) are within the scope, however only for their operation on the rail network. RRVs operating on public roads are out of scope – refer to AS 7502 and the Australian Design Rules (ADRs).