

AS 7531:2015



Lighting and Visibility



Rolling Stock Standard



This Australian Standard® AS 7531 Lighting and Visibility was prepared by a RISSB Development Group consisting of representatives from the following organisations:

Evans & Peck	Pacific National	KiwiRail
WeidMuller	UGL Limited	ASA
ATHRA	Toshiba	Rio Tinto

The Standard was approved by the Development Group and the Rolling Stock Standing Committee in June, 2015 and subsequently by the Development Advisory Board (DAB) in June, 2015. On June 19, 2015 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, which includes an independent validation. 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.



Kevin Taylor
Chief Executive Officer
Rail Industry Safety and Standards Board

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Document Control

Identification

Document Title

AS 7531:2015 Lighting and Visibility

Document History

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2015	June 19, 2015	Consolidated four versions. Updated references to hazards Adjusted some content to make it easier to measure compliance with the performance requirements, Adjusted some content to ensure that the standard is technology-agnostic.
2007	17/12/2007	Change from Code Management Company to RISSB Title change to AS 7531.1:2007, AS 7531.2:2007, AS 7531.3:2007. AS 7531.4:2007.
2006	10/8/2006	First edition

Approval

Name	Date
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1 Introduction

1.1 Purpose

This document is to provide requirements for lighting and rolling stock visibility.

While this standard was developed for AS Document compliance, the process can be used for compliance with any standards.

1.2 Scope

This documents applies to new and existing Locomotive, Freight, Passenger and Infrastructure Maintenance Rolling Stock.

This document is applicable for rolling stock operating up to 160 km/h nominal maximum speed.

The document covers the design, construction and maintenance of rolling stock.

Operation of rolling stock is not covered.¹

Rolling stock used on light rail, cane railway and monorail networks are not covered.²

Tourist and heritage rolling stock is required to comply with this standard wherever it operates on mainline railway infrastructure, or where there is an interface with vehicles or pedestrians. Where it is not reasonably practicable for tourist and heritage rolling stock to comply with a requirement of this standard then alternative means of controlling the risks needs to be applied. For avoidance of doubt, risks to safety need to be eliminated so far as is reasonably practicable in accordance with the Rail Safety National Law.

1.3 Compliance

There are two types of control contained within RISSB Standards:

- (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 Rolling Stock Operator, Rail Infrastructure Manager and/or Rail Safety Regulator.

Recommended requirements are to be considered when compliance with the standards is being assessed.

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

¹ Operation of rolling stock is covered in the Operations section of the Code.

² Currently excluded.

1.4 Referenced documents

1.4.1 Normative references

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

- (a) AS 1680.2.1 Interior lighting - Circulation spaces and other general areas
- (b) AS 1680.2.2 Interior lighting - Office and screen-based tasks
- (c) AS 1680.2.4 Interior lighting - Industrial tasks and processes
- (d) AS/NZS 1906.1 Retroreflective materials and devices for road traffic control purposes - Retroreflective sheeting
- (e) AS/NZS 1906.4 Retroreflective materials and devices for road traffic control purposes - High visibility materials for safety garments
- (f) AS 2700 Colour standards for general purposes
- (g) AS 4292 Railway safety management
- (h) AS 7501 Railway rolling stock - Rolling stock acceptance
- (i) APTA standard SS-PS-004-99 Standard for low-location access path marking
- (j) Disability Standards for Accessible Public Transport (DSAPT)
- (k) UK RSSB standard GM/RT 2483 Visibility requirements for trains
- (l) "BS EN 13272:2012 Railway applications — Electrical lighting for rolling stock in public transport systems"
- (m) Australian Government Australian Design Rules for road vehicles (ADR)
- (n) US Code of Federal Regulations 49 CFR 221.14 Rear end marking device – Passenger, commuter & freight trains
- (o) US Code of Federal Regulations 49 CFR 229.125 Headlights and auxiliary lights
- (p) US Code of Federal Regulations 49 CFR 229.133 Interim locomotive conspicuity measures - Auxiliary external lights
- (q) Rail Safety National Law (South Australia) 2012

1.5 Definitions

Access Lighting: Lighting of access equipment e.g. ladders and steps.

Cane Railway Network: A railway system dedicated to hauling harvested sugar cane from farms to a raw sugar factory. Typically 610 mm gauge.

Chromaticity: An objective specification of the quality of a colour regardless of its luminance, that is, as determined by its hue and colourfulness (or saturation, chroma, intensity, or excitation purity).

Coupler Lighting: Lighting of inter-vehicle coupling equipment.

Crew Car: Passenger Carriage fitted out for use by train crew.

Emergency Lighting: Lighting, powered from a separate source (e.g. battery) to the vehicle's main power source, providing illumination for evacuation purposes.

Flashing Beacon: Rotating beacon light or strobe light.