

AS 1085.21:2020



Railway track material Part 21: Turnouts, switches and crossings

RiSSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Infrastructure Standard



This Australian Standard® AS 1085.21 Railway track material Part 21: Turnouts, switches and crossings was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Arc Infrastructure
BHP Billiton
Rio Tinto
Vossloh

ARTC
John Holland Group
Transport for NSW
Wabtec

Aurizon Network
Martinus Rail
VAE Rail Systems

The Standard was approved by the Development Group and the Infrastructure Standing Committee in May, 2020. On June 23, 2020 the RISSB Board approved the Standard for release.

This Standard was issued for public consultation

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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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 1085.21 Railway track material Part 21: Turnouts, switches and crossings. Membership of this Development Group consisted of representatives from the organisations listed on the inside cover of this document

Objective

The objective of this Standard is to provide information and requirements for the design and manufacture of turnouts, switches and crossings, and their components.

Turnout switches and crossings are vital track components that allow and control the safe diversion of rail vehicles from one track to another or to cross other tracks.

This Standard is Part 21 of the AS 1085 (Railway track material) series. It also complements AS 7642 which applies to the management of turnouts, switches and crossings during other stages of the asset's lifecycle such as installation and maintenance.

This Standard has been revised to include the different plate types applicable to each zone for resilient fastening systems.

Compliance

There are two types of control contained within Australian Standards developed by RISSB:

1. Requirements.
2. Recommendations.

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 recognise 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.

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.

Controls in RISSB standards address known railway hazards are addressed in Appendix A.

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Preview

1 Scope and general

1.1 Scope

This Standard specifies requirements for the design and manufacture of turnouts, switches and crossings, and their components.

This Standard does not cover management of turnouts, switches and crossings during other stages of the asset's lifecycle such as installation and maintenance.

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 1085.1 Railway track materials, Part 1: Steel rails
- AS 1085.2 Railway track materials, Part 2: Fishplates
- AS 1085.3 Railway track materials, Part 13: Sleeper plates
- AS 1085.4 Railway track materials, Part 4: Fishbolts and nuts
- AS 1085.12 Railway track materials, Part 12: Insulated joint assemblies
- AS 1085.14 Railway track materials, Part 14: Prestressed concrete sleepers
- AS 1085.17 Railway track materials, Part 17: Steel sleepers
- AS 1442 Carbon steels and carbon-manganese steels—Hot rolled bars and semi-finished products.
- AS 1816 Metallic materials.
- AS 1830 Grey cast iron.
- AS 1831 Ductile cast iron.
- AS 1988 Welding of ferrous castings.
- AS 2074 Cast steels.
- AS 2205.1 Methods for destructive testing of welds in metal, Part 1: Macro metallographic test for cross-section examination.
- AS/NZS 1252 High strength steel bolts with associated nuts and washers for structural engineering.
- AS/NZS 1554.1 Structural steel welding, Part 1: Welding of steel structures.
- AS/NZS 3679.1 Structural steel, Part 1: Hot-rolled bars and sections.
- AWS 5.13 Specification for Surfacing Electrodes for Shielded Metal Arc Welding.
- AWS 5.21 Specification for Bare Electrodes and Rods for Surfacing.