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Train Control Systems Standard





This Australian Standard[®] AS 7664 Railway signalling cable routes, cable pits, and foundations was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Victrack Level Crossing Commission Victoria ARTC Queensland Rail Transport for NSW Channell Pty Ltd PTA WA Sydney Trains

The Standard was approved by the Development Group and the Train Control Systems Standing Committee in August, 2020. On September 22, 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.

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I commend this standard to the Australasian rail industry as it represents industry good practice and has been developed through a rigorous process.

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Deb Spring Exec. Chair / CEO Rail Industry Safety and Standards Board

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Railway signalling cable routes, cable pits, and foundations

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Approval

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This standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7664 Railway signalling cable routes, cable pits, and foundations. Membership of this Development Group consisted of representatives from the organisations listed on the inside cover of this document

This standard supersedes AS 7664:2012

Objective

The objective of this Standard is to set out the minimum requirements for:

- signalling cable routes, cable pits and for foundations at signals, gantries, location cases, equipment rooms, telephones and ground frames;
- (b) minimising the risk of asset failures;
- (c) minimising harm to personnel working with, or in the vicinity of, signalling cable routes and trackside infrastructure when such work is taking place outside the rail danger zone;

The standard is intended to:

- (a) provide a uniform basis for compliance with AS4292 railway safety management;
- (b) support mutual accreditation by infrastructure managers, operators and regulators;
- (c) cover differing rail operations across Australia;
- (d) identify the risks (hazards) being controlled;
- (e) ensure that appropriate cable routes and infrastructure foundations are installed in the signalling system;
- (f) support a consistent approach in the use of signalling cable routes, cable pits and signalling infrastructure foundations, enabling common practices to be used across state boundaries.

The standard excludes the requirements for other services (e.g. communications or power) and the rail infrastructure manager should consider these in the design and installation of signalling infrastructure.

Compliance

There are four types of provisions contained within Australian 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 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.

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.

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





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1 Introduction

1.1 Scope

This standard specifies the accepted criteria to be employed when designing, procuring or installing signalling cables routes, cable pits and signalling infrastructure foundations on the Australian rail network.

For the purpose of this standard signalling cables includes all cable used to interface with signalling infrastructure.

This standard covers the materials, types, design and installation requirements for signalling cable routes, cable pits and signalling infrastructure foundations to ensure technical and safety integrity.

This standard is intended to be used by rail infrastructure managers (RIMs), designers and installers of signalling systems (including communications for signalling purposes) and suppliers of signalling cable routes, cable pits and signalling infrastructure foundations.

This standard is intended to be applied for new installations and upgrades; it need not be applied retrospectively.

This standard also includes the requirements for the following:

- (a) Buried cable routes;
 - i. cables directly buried
 - ii. cables in conduits.
- (b) Surface cable routes;
 - i. ground level troughing;
 - ii. galvanised steel troughing;
 - iii. galvanised steel pipe used as conduit.
- (c) Multi duct systems.
- (d) Cable ladder routes.
- (e) Under track crossings (UTX).
- (f) Under road crossings (URX).
- (g) Cable pits.
- (h) Signal foundations.
- (i) Gantry foundations.
- (j) Ground frame foundations.
- (k) Location case and equipment room foundations.

Exclusions

The following items are excluded from this standard:

- (a) Aerial cable routes.
- (b) Communications cables in dedicated routes.
- (c) Rail line crossings for tail cables, track connections and bonding.
- (d) Dedicated HV routes.

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