Australian STANDARD®

Railway signal cables

RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Train Control Systems Standard

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This Australian Standard® AS 7663 Railway signal cables was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

The Standard was approved by the Development Group and the Enter Standing Committee Standing Committee in Select SC approval date. On Select Board approval date the RISSB Board approved the Standard for release.

Choose the type of review

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

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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 Australian Standards developed by RISSB could also be withdrawn.

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RISSB RAIL INDUSTRY SAFETY AND STANDARDS BOARD

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Railway signal cables

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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7663 Railway signal cables. Membership of this Development Group consisted of representatives from the organisations listed on the inside cover of this document

This Standard supersedes AS 7663:2012

Objective

The objective of this Standard is to set out the minimum requirements for signalling cables to minimise the risk of asset failures and of harm to personnel working with, or in the vicinity of, signalling cables.

This Standard:

(a) supports mutual accreditation by infrastructure managers, operators and regulators;

(b) covers differing railway operations across Australia;

(c) identifies the risks (hazards) being controlled;

(d) ensures that cables of an appropriate standard are utilised in the Signalling System;

(e) supports a consistent approach in the use of Signalling Cables, enabling common cables to be used across state boundaries.

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.

Contents

Appendix Contents

1 Scope and general

1.1 Scope

This Standard specifies the criteria for designing, procuring and storing signalling cables on the Australian railway network.

This Standard covers the composition, types, packaging and acceptance criteria for railway signalling cables to ensure technical and safety integrity.

This standard is intended to be used by rail infrastructure managers (RIMs), designers of signalling systems, and manufacturers of signalling cables.

The types of signalling cables covered includes:

(a) power cables (external);

(b) multi-core cables (external);

(c) twisted pair cables (external);

(d) traction bonding cables;

(e) track connection cables;

(f) high frequency track circuit cables;

(g) quad axle counter cables;

(h) internal wiring;

(i) SSI data cables;

(j) fibre optic cables.

1.2 Exclusions

The following items are excluded from this Standard.

(a) Cable terminations.

(b) Telecommunications cables.

(c) Aerial cables.

1.3 Normative references

The following documents are referred to in this Standard.

- AS 1049: Telecommunications cables - insulation, sheath and jacket.
- AS 1125: Conductors in insulated electric cables and flexible cords.
- AS 1660: Test methods for electric cables, cords and conductors.
- AS 2857: Timber drums for insulated electric cables and bare conductors.
- AS 3808: Insulating and sheathing materials for electric cables.
- AS 5000.1: Electric cables - Polymeric insulated, Part 1: For working voltages up to and including 0.6 / 1(1.2) kV.
- AS 5000.3 Electric cables - Polymeric insulated - Multicore control cables.

- AS/ACIF S008: Requirements for customer cabling products.
- ITU-T G.652 Characteristics of a single-mode optical fibre and cable.
- IEC 60793-2 Optical Fibres – Part 2: Product specifications - General
- BR1932: Twin data link type polyethylene insulated and polyethylene sheathed cable for railway signalling (Network Rail UK).

NOTE: Documents for informative purposes are listed in Appendix F – Bibliography.

1.4 Terms and definitions

For the purposes of this document, the terms and definitions given in RISSB Glossary: https://www.rissb.com.au/products/glossary/ and the following apply:

(a) ***BoPET***

biaxially-oriented polyethylene terephthalate

(b) ***internal wiring***

wiring used solely within a location case between hardware items

(a) ***NATA***
National Association of Testing Authorities

(b) ***PVC***
poly vinyl chloride, a type of insulating material

(c) ***signalling cable***
an insulated electrical conductor, or group of conductors separately insulated and contained within the one or more insulating and protective sheaths forming part of the railway signalling system

2 General information

2.1 General

The RIM shall have documentation that details the physical properties of signalling cables to be used on its railway infrastructure. The RIM should classify the generic type of each of its signalling cables.

Signalling cable and internal wiring not referred to in this Standard may be used if it meets the RIMs approved, documented specifications and requirements.

The typical structure of a signalling cable is illustrated in Appendix E.

2.2 Temporary or staged wiring

Temporary or staged cables shall comply with this Standard.

Temporary internal wiring should comply with this Standard.

3 Cable construction

3.1 Conductors

The RIM shall define and document the acceptable type and number of conductors for all cable approved for use in the network.

Conductors shall, as a minimum, be plain annealed copper conforming to AS 1125.

Conductor strand size shall be 0.5mm^2 however other sizes may be used if approved by the RIM.

Specific cable requirements are listed in Appendix B.

3.2 Insulation

Each core shall be insulated to conform with the requirements of AS 5000.1 and AS 3808.

All insultation shall be UV stabilized.

3.3 Sheaths

An inner concentric sheath shall be provided that conforms to AS 5000.1.

The inner sheath should be 5V-90 PVC.

A nylon jacket should be supplied to provide an insect resistant barrier for the cable sheath.

The nylon jacket shall be:

(a) type 11 or type 12 nylon;

(b) applied smoothly, closely and evenly over the sheath.

The colour of inner and outer sheaths shall be as per the RIM's requirements.

The colour of nylon jackets shall be black.

3.4 Identification

Signalling cables shall be identified on their outer sheath with information at 500 mm intervals in characters not less than 3 mm high.

The information shall include:

(a) manufacturer's name or identifying initials;

(b) date of manufacture;

(c) type of cable;

(d) conductor information;

(e) compliance with applicable standard/s;

(f) voltage and temperature rating.

Signalling cables shall be marked at 1 m intervals on the outer sheath with the progressive length starting from the inner end of the drum.

The progressive length markings shall be in numerals 5 mm high.

Additional identifying markings shall be applied as per the RIMs requirements.

4 Environmental conditions

Signalling cables need to be suitable for use within an operational railway environment.

Signalling cables shall be rated to withstand:

(a) relative humidity up to 100 %;

(b) total immersion in water, acidic solutions with low concentration, salty media;

(c) exposure to toxic materials, dirt, dust, grease, oil, hazardous gases;

(d) abrasion as a result of vibration and shock;

(e) continual direct exposure to UV radiation.

Signalling cables should be suitable for a temperature range of -10 °C to +90 °C.

5 Packaging

5.1 Introduction

Signalling cables are safety critical items of infrastructure and shall be transported and stored in a manner that minimises risk of damage.

5.2 Cable drums

Cable drums are an acceptable method for protecting signalling cables in transit or storage. Other means of storage may be used, taking into consideration the length of cable and its flexibility.

Cable drums should be constructed in a manner that minimises:

(a) the occupational safety risk during handling;

(b) the risk of damage to the cable;

(c) the risk of damage to the drum.

Signalling cables should be transported and stored on cable drums, conforming to AS 2857.

Cable drum width should not exceed 1000 mm.

Cable drum diameter should not exceed 1800 mm.

Cable drums should be marked with a distinctive arrow on each side of the drum indicating the direction in which the drum is to be rotated when being rolled from one location to another.

Signalling cable should be tightly coiled on the drum to prevent movement of the coils during transport and handling.

Signalling cable ends should be secured to prevent movement of the coils during transport and handling.

Timber battens should be secured around the drum perimeter in accordance with AS 2857.

Drums should be surrounded by a corrugated polypropylene sheet strapped as per table 5.1 below.

Table 5.1 – Diameter of cable drums

Diameter or weight of drum	Number of straps
Less than 750 mm and width less than 500 mm	1
Less than 900 mm and of gross weight less than 1 t	2
Greater than 900 mm or of gross weight greater than 1 t	3

A minimum of 500 mm of the inner length of cable should be brought out and firmly clamped to facilitate testing, and this end should be carefully protected from damage during transport and handling.

The signalling cable outer end should be firmly clamped in position, and the position clearly marked on the drum.

The cable ends shall be sealed to prevent the ingress of moisture to the cable.

Where the packaging arrangements for smaller sizes of signalling cables and wires may be suitable for shrink-wrapped spools, these arrangements should be specified by the RIM.

If alternative means of transportation or storage of cables is needed RIM approval should obtained.

5.3 Drum labelling

Identification of signalling cable stored on cable drums ensures efficient material management and identification of the correct type.

Labelling shall be:

(a) waterproof and permanently fixed to the side of the drum;

(b) legible for the recommended storage life of the drum as specified by the OEM.

Labelling should be UV resistant where possible.

Cable drums should be clearly labelled with the following information.

(a) Order number.

(b) Drum number.

(c) Maximum hauling tension.

(d) Manufacturers name.

(e) Date of manufacture.

(f) Type of cables (type, number of cores and conductor size).

(g) Permissible conductor operating temperature e.g. V-90.

(h) Rated operating voltage.

(i) Length of cable on the drum.

(j) Weight of cable and drum.

(k) The words 'RAILWAY – SIGNAL".

(l) Other labelling as specified by the RIM

6 Acceptance

6.1 Quality assurance

Signalling cables shall be procured with appropriate quality assurance to demonstrate compliance with the requirements of this Standard and any specific RIM requirements.

6.2 Testing

6.2.1 General

To provide assurance that supplied signalling cables meet the requirements of this Standard cable testing shall be conducted and the results of the tests listed in this section be recorded.

The method of testing signalling cables shall be in accordance with AS 1660.

Quad axle counter and twisted pair cables shall comply with the electrical characteristics defined in AS/ACIF S008.

The RIM should document the requirements for any additional tests as required.

6.2.2 Conductor tests

Conductors shall meet the requirements of AS 1125.

The resistance of each conductor shall be recorded.

6.2.3 Insulation tests

Insulation shall meet the requirements of AS 3808.

Insulation resistance (as applicable) shall be recorded between:

(a) cores to core;

(b) cores to screen / shield;

Insulation resistance between cores to earth and screen / shield to earth shall be carried out during the installation phase.

6.2.4 Sheath tests

Sheaths shall meet the requirements of AS 3808.

6.2.5 Spark tests

Spark tests (as applicable) shall be performed on:

(a) insulated cores;

(b) separation layers;

(c) sheath over metallic layers.

To pass the test the cable shall meet the testing requirements of AS 1660.3

6.2.6 High voltage tests

High voltage tests shall be performed in accordance with the requirements of AS 5000.1.

To pass the test, there shall be no breakdown of insulation.

6.2.7 Insulation shrink back testing

Shrinkback tests shall be performed on samples of insulated conductors in accordance with AS 1049.2

Test pieces shall be taken from the centre of a 1.5 m sample and then trimmed to length in accordance with the instructions specified in AS 1049.2

To pass the sample, the difference between the distances between the marks before the heat treatment and after the heating and cooling described in AS/NZS 1660.2.1.

(a) Multicore twisted pair & combination control cables shall not exceed 10 mm.

(b) PVC insulated power cables shall not exceed 6 % of the insulation length of the test section prior to the heat treatment.

6.3 Certification responsibilities

The supplier shall supply signalling cables with the test information as specified by the RIM.

Type tests in accordance with AS 5000.1shall be conducted on samples of insulation material, insulated core and sheath material.

The supplier shall ensure that type test certificates are from an accredited laboratory[1].

Tests should include the following:

(a) Conductor resistance:

i. Minimum conductor resistance (Ω/km at 20 °C).

ii. Maximum conductor resistance (Ω/km at 20 °C).

iii. Drain wire resistance (Ω/km at 20 °C).

(b) Insulation resistance:

[1] Within the Australian railway industry NATA is the accepted body for providing accreditation to laboratories.

i. Core to core (MΩ/km at 20 °C).
ii. Core to screen/shield (MΩ/km at 20 °C).
iii. Core to earth (MΩ/km at 20 °C).
iv. Screen/shield to earth (MΩ/km at 20 °C).

(c) High voltage tests:
i. Test voltage.
ii. Test duration.

(d) Spark tests:
i. On cores.
ii. Between cores.
iii. Between cores and earth.

(e) Core numbering tests.

6.4 Management

Any supplied signalling cable not compliant with the requirements of this standard shall be quarantined and not installed on railway infrastructure.

Appendix A Hazard register

Hazard number	Hazard
6.24.1.9	Wrong type of materials being fitted
9.2.1.1	Excessive voltage drop
9.2.2.2	Leakage between circuits
9.2.2.3	Lack of spare cores
9.2.2.4	Low frequency / mains induction
9.4.1.3	Communications interface and design

Appendix B Cable specific requirements

B.1 Signaling cable

Signalling cables described in this Standard shall be rated at 0.6/1kV.

Signalling cables should be supplied with a PVC sacrificial outer sheath, conforming to AS 5000.3.

To minimise the risk of error in connecting the cable the core insulation shall be red in colour. For two core cables the second core shall be either black or white in colour.

B.2 High frequency screened track circuit cable

This cable may be used for the following applications:

(a) ATP / telemetry cables.

(b) Audio frequency track circuits.

(c) High voltage impulse cables.

High frequency track circuit cable conductors shall, as a minimum, have the following properties.

(a) Annealed and un-tinned.

(b) Laid up with a length of lay between 28 mm and 45 mm.

The cores shall be covered with a polyester backed aluminum tape 0.05 mm thick giving 100 % coverage at the prescribed minimum bending radius of the cable.

One conductor's insulation should be black in colour, and the other white in colour.

Insultation shall be V-90-PVC.

The conductive side of the screen shall face the centre of the cable.

A drain wire shall be provided for a robust electrical contact with the screen. The drain wire shall have the following properties:

(a) Be of tinned annealed copper to AS 1125.

(b) 7/0.25 mm conductors.

(c) Be provided continuously throughout the cable.

(d) Be positioned immediately under, and in good electrical contact with, the screen.

Non-hygroscopic cable filler should be used.

B.3 Quad core axle counter cable

Quad axle counter cable conductors shall be arranged in a star-quad construction.

Within the star quad construction, one pair shall have one conductor insulation coloured blue, the other conductor insulation coloured white. The other pair shall have one conductor insulation coloured black, the other conductor insulation coloured red.

B.4 Internal wiring

Internal wiring is wiring suitable for use in relay based interlockings in safety critical applications and computer based interlockings in general applications.

The safety critical nature of the application means that it is important that internal wiring:

(a) provides robust insulation that can be demonstrated to withstand physical damage and abuse during installation and alteration of wiring;

(b) is flexible with high abrasion resistance;

(c) has stable insulation ensuring that movement of insulation away from wire ends is minimal due to environmental and installation factors.

The RIM shall document the requirements for internal wiring.

The RIM should document the requirements for plug coupler connections for computer-based interlocking's.

The nominal radial thickness of the insulation and nylon jacket shall be not less than 0.8 mm.

The maximum radial thickness shall be such that the overall nominal diameter of the finished cable, including nylon jacket, does not exceed 3.2 mm at any point.

The insulation shall be;

(a) formulated to prevent plasticiser from seeping out from the cable ends where high storage temperatures (above 80 °c) are expected;

(b) a minimum of V-90 PVC in accordance with AS 5000.1;

(c) black in colour.

B.5 Fire safe cables

Type X-90 XLPE insulated cables should be used where fire safe cables are required. Type HFS-90-TP or HFS-75-TP multicore sheathed cable may also be used.

B.6 SSI data cables

Solid State Interlocking (SSI) data cable is used exclusively for forming data link connections with Solid State Interlocking configurations.

SSI data cables should be in accordance with BR 1932.

SSI data cables shall, as a minimum:

(a) comply with AS/ACIF S008;

(b) be a single twisted pair cable;

(c) be insulated with V105 PVC, in accordance with AS 1049.1

The insulation on one core shall be coloured red, the other shall be coloured blue.

The pair insulation shall:

(a) be polypropylene UL style 1589;

(b) have a minimum average diameter of 7 mm;

(c) be enclosed with a helically wrapped aluminium / polyester tape.

Moisture barrier tape shall have a minimum average thickness of 0.35 mm, comprising an aluminium layer of nominal thickness 0.15 mm.

In addition to the cable characteristics detailed in Appendix D capacitance between each conductor and moisture barrier shall be balanced within 4pF/m.

B.7 Quad axle counter cable

A flexible conductive tape or screen with a drain wire shall be incorporated in the construction of the cable that complies with the OEM specifications.

B.8 Multi-core cables

The insulation on each core shall be black or white in colour.

Each core shall be identified in accordance with AS 5000.3, with core numbering starting from "one" or “1” and with white on black or black on white identification letters or numbers.

B.9 Composite cables

Composite signal cable shall consist of 3 cores of 7/0.85 with red, black and white PVC insultation. Any number of smaller cores of 1/1.38 mm plain annealed copper may be included.

Larger cores shall be identified by the numbers 1 to 3, the smaller cores shall be numbered from 4 upwards.

A black PVC sheath shall be applied over the core bundle.

An outer sheath may be included, coloured in accordance with RIM requirements.

B.10 Twisted pair cables

Each pair shall be identified in accordance with AS 5000.3 and uniquely identified alphabetically or numerically, starting from "1" or ”one”, with 2 mm high text with white on black or black on white.

For every pair, the cores’ insulation shall be coloured black and the other white.

For other twisted pair cables, the RIM shall document the identification colours for the pairs.

B.11 Track connection cables

The insulation and the conductor shall be separated by a BoPET type barrier tape wound on the conductor.

The insulation shall be coloured orange. Other coloured insultation may be used provided the cable is laid within a flexible orange conduit.

Galvanized steel track connection cables shall, as a minimum, have the following properties:

(a) Type HD-90-CSP insulation or equivalent.

(b) Conform to AS 5000 mechanical requirements.

(c) Radial thickness of the insulation shall conform to AS 5000, taking the conductor area as being 4.52 mm^2.

Copper or stainless steel track connection cables shall, as a minimum, have the following properties:

(a) Type HD-90-CSP insulation or equivalent.

(b) Conform to AS 5000 mechanical requirements.

Aluminium track connection cables for tuning units shall, as a minimum, have the following properties:

(a) Type HD-90-CPE insulation.

(b) PVC.

B.12 Traction bonding cables

The insulation and the conductor shall be separated by a BoPET type barrier tape wound on the conductor.

Copper traction bonding cables insulating material shall have the following properties:

(a) Type HD-90-CSP insulation, or equivalent.

(b) Conform to AS 5000 mechanical requirements.

Aluminium traction bonding cables insulating material shall have the following properties.

(a) Type R-90-CSP insulation or equivalent.

(b) Conform to AS 5000 mechanical requirements.

Appendix C Fibre optic cables

Fibre optic cable is primarily used for telecommunication and high-speed data transfer purposes.

Fibre optic cable may have any number of fibres and tubes as specified by the RIM.

Fibre optic cable shall;

(a) be completely metal free;

(b) be constructed to prevent water ingress;

(c) meet the requirements of:

i. AS/ACIF S008;

ii. IEC 60793-2;

iii. ITU-T G.652.

(d) have a sacrificial sheath provided.

Fibre optic cable shall be clearly identified by lettering on the cable. This lettering should include the words “Fibre Optic Cable” marked every metre.

The sacrificial sheath should be white in colour.

Appendix D Cable characteristics

AS 7663 Clause	Cable	Nominal Thickness insulation (mm)	Nominal Thickness sheath (mm)	Nominal thickness Nylon (mm)	Nominal overall diameter (mm)	Maximum conductor resistance (Ω/km)	AS 1125 Nominal resistance (Ω/lm)	Mutual capacitance (pF/m at 10 kHz)	Characteristic impedance (Ω at 10 Mhz)
2.3	Power cables (external), 1 core, 7/0.85 mm	1.0	1.4	0.3	8.1 ± 0.2	6.0	4.61	-	-
2.3	Power cables (external), 2 core, 7/0.85 mm	1.0	1.4,1.4	0.3	16.3 ± 0.4	6.0	4.61	-	-
2.3	Power cables (external), 1 core, 7/1.70 mm	1.0	1.4	0.3	10.6 ± 0.3	1.5	1.15	-	-
2.3	Power cables (external), 2 core, 7/1.70 mm	1.0	1.4,14.	0.4	21.6 ± 0.6	1.5	1.15	-	-
2.3	Power cables (external), 1 core, 19/1.78 mm	1.4	1.4	0.3	15.2 ± 0.4	0.495	0.387	-	-
2.3	Power cables (external), 2 core, 19/1.178 mm	1.0	14,1.4	0.4	30.3	0.495	0.387	-	-
2.4	Multi-core cables (External), 6 core, 7/0.5 mm	0.8	2.0, 3.0	0.4	21.2 ± 0.6	-	-	-	-
2.4	Multi-core cables (external), 15 core, 7/0.5 mm	0.8	2.0, 3.0	0.4	26.5 ± 0.7	-	-	-	-
2.4	Multi-core cables (external), 25 core, 7/0.5 mm	0.8	2.0, 3.0	0.5	30.6 ± 0.9	-	-	-	-
2.4	Multi-core cables (external), 50 core, 7/0.5 mm	0.8	2.0, 3.0	0.5	37.5 ± 1.1	-	-	-	-

AS 7663 Clause	Cable	Nominal Thickness insulation (mm)	Nominal Thickness sheath (mm)	Nominal thickness Nylon (mm)	Nominal overall diameter (mm)	Maximum conductor resistance (Ω/km)	AS 1125 Nominal resistance (Ω/lm)	Mutual capacitance (pF/m at 10 kHz)	Characteristic impedance (Ω at 10 Mhz)
2.5	Twisted pair cables (external)	-	-	0.5 ±0.1	-	-	-	-	-
2.6	Traction bonding cables, 608/0.5mm	3.5 minimum	-	-	-	0.22	-	-	-
2.6	Traction bonding cables, 962/0.5 mm	3.5 minimum	-	-	-	0.16	-	-	-
2.6	Traction bonding cables, 925/0.5 mm	3.5 minimum	-	-	26.8 ± 0.7	0.205	-	-	-
2.6	Traction bonding cables, 1525/0.5 mm	3.5 minimum	-	-	32.3 ± 0.7	0.124	-	-	-
2.7	Track connection cables, 84/0.3 mm	3.5 minimum	-	-	-	3.0	-	-	-
2.7	Track connection cables, 7/19/0.26 mm	ASC81	-	-	-	28.0 ± 1.5	-	-	-
2.8	High Frequency track circuit cables	0.8	2.0 ± 0.3	0.5 ± 0.1	-	-	-	-	-
2.9	Quad axle counter cables	-	-	0.2	-	-	-	-	-
2.10	Internal cabling, 7/0.4 mm	0.7	-	0.15(+0.15, -0.05)	2.9	-	-	-	-
2.10	Internal cabling, 24/0.20 mm	0.5 minimum	0.4 minimum	-	2.95 ± 0.15	-	-	-	-
2.10	Internal cabling, 32/0.20 mm	0.8 minimum	0.4 minimum	-	2.95 ± 0.15	-	-	-	-
2.11	SSI data cables	0.8	5.0	0.5	19.0	14.0	-	≤ 55	100 ± 10

Appendix E Cable construction

The construction of a cable is illustrated in the figure below:

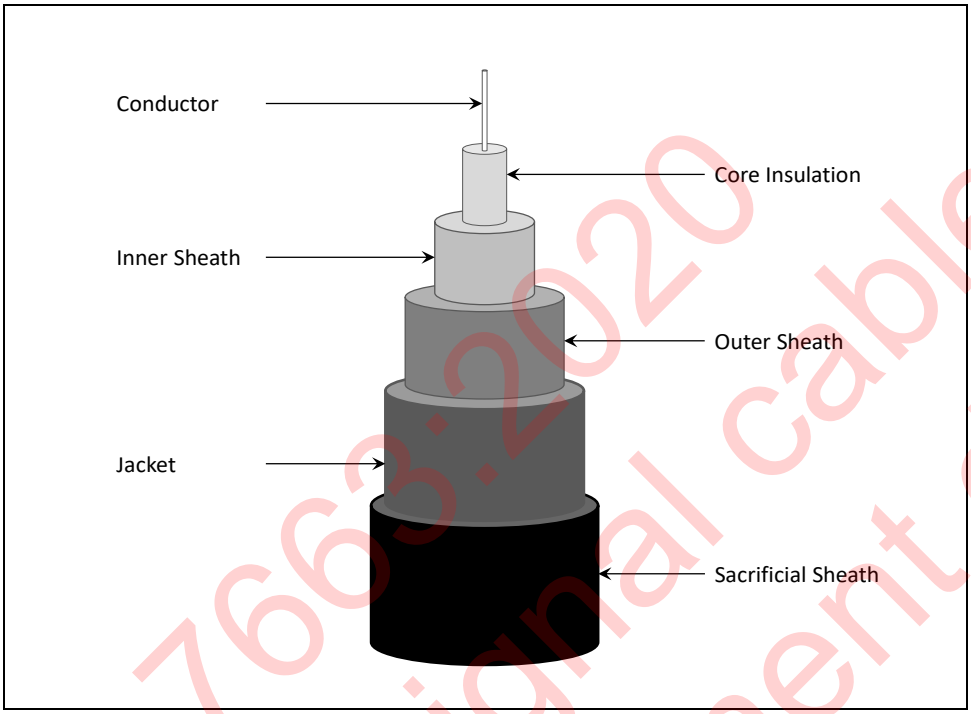

Figure E:1 Cable construction

Appendix F Bibliography

The following referenced documents are used by this Standard for information only:

(a) AS 1574: Copper and copper alloys - wire for electrical purposes.

About Rail Industry Safety and Standards Board

The Rail Industry Safety and Standards Board is a not for profit company limited by guarantee. Wholly owned by its funding members, RISSB is required to apply the whole of its income and assets to achieving the objects listed in its constitution.

RISSB is responsible for the development and management of Standards, Rules, Codes of Practice and Guidelines for the Australian rail industry.

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The Standards development process is rigorous and transparent.

Authors work with RISSB's Standards Development Managers and Development Groups to ensure that products are acceptable to industry. Standing Committees oversee this work and ensure that proper governance and process is followed. The products are exposed to the public and industry for comment and validated by an independent validator.

Once agreed by the Development Groups, Standing Committees and Validator, the drafts are passed to the RISSB Board for approval.

The same process is used in developing other RISSB products, although Guidelines are not exposed to the public for comment or validated, given their non-binding nature.

Standards Development and Accreditation Committee

RISSB is accredited by the Standards Development and Accreditation Committee (SDAC), and all Standards produced by RISSB since 31 July 2007 are published as Australian Standards.

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