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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

TB 10092-2017

**Code for Design of Concrete Structures of Railway Bridge and
Culvert
(English Translation)**

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Foreword

TB/T 1484 Cables on board rolling stock is divided into the following parts.

- Part 1. Standard wall insulation cables up to AC 3 kV;
- Part 2. Thin wall insulation cables;
- Part 3. 30 kV Ethylene propylene rubber insulation single-phase electric power cables;
- Part 4. Low-smoke halogen-free flame retardant cables for communications and network.

This Part is Part 1 of TB/T 1484.

This Part is drafted according to the rules provided in GB/T 1.1-2009.

This Part, together with Part 2, replaces TB/T 1484.1-2001 Specification for railway locomotive and vehicle cables for booking - Part 1. insulation cables up to 3 kV. The main technical changes, compared with TB/T 1484.1-2001, are as follows.

- Revise TB/T 1484.1-2001 Specification for railway cables on board rolling stock for booking - Part 1. insulation cables up to 3 kV into Specification for cables on board

rolling stock - Part 1. Standard wall insulation cables up to AC 3 kV and Specification for cables on board rolling stock - Part 2. thin wall insulation cables;

- Add that the group C shall not exceed 150°C in the working temperature classification (See 4.1.3; 4.3 in version 2001);
- Add the model naming rules and specification limit (See 4.2 and 4.3);
- Add the nominal thickness of insulation and the structure size of single insulated wire (See 4.4.2);
- Add the water absorbability determination and acidic-alkali resistance determination for sheath (See 5.2.5 and 5.2.6; Chapter 6 in version 2001);
- Delete continuous heat resistance (See 6.1.2 in version 2001);
- Delete tin-coating inspection item (See 9.1.2 in version 2001);
- Modify the requirements for rubbing resistance of surface markings (See 5.2.10; 6.6.2 in version 2001);
- Modify mechanical properties test indicators after oil resistant test (See 8.4.2.4; 9.2.4 in version 2001);

Specification for cables on board rolling stock -

Part 1. Standard wall insulation cables up to AC 3 kV

1 Scope

This Part specified the technical requirements, test methods and inspection rules of standard wall insulation cables up to AC 3 kV for cables on board rolling stock (including CRH train).

This Part applies to board rolling stocks (including CRH train); other rolling stocks can refer to this Part.

2 Normative references

The following documents are indispensable for application of this document. For the dated documents so quoted, only the dated versions apply to this document. For the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB 252-2000 Light diesel fuels

GB/T 2900.10-2001 Electrotechnical vocabulary - Electric cables (IEC 60050-461.1984, IDT)

GB/T 2951.11-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 11.Methods for general application - Measurement of thickness and overall dimensions - Tests for determining the mechanical properties (IEC 60811-1-1.2001, IDT)

GB/T 2951.12-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 12.Methods for general application - Thermal ageing methods (IEC 60811-1-2.1985, IDT)

GB/T 2951.13-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 13.Methods for general application - Measurement for determining the density - Water absorption tests - Shrinkage test (IEC 60811-1-3.2001, IDT)

GB/T 2951.14-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 14.Methods for general application - Test at low temperature (IEC 60811-1-4.1985, IDT)

GB/T 2951.21-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 21.Methods specific to elastomeric compounds - Ozone resistance, hot set and mineral oil immersion tests (IEC 60811-2-1.2001, IDT)

GB/T 3048.4-2007 Test methods for electrical properties of electric cables and wires - Part 4.Test of DC resistance of conductors

GB/T 3048.5-2007 Test methods for electrical properties of electric cables and wires - Part 5.Test of insulation resistance

GB/T 3048.8-2007 Test methods for electrical properties of electric cables and wires - Part 8.AC voltage test

GB/T 3048.9-2007 Test methods for electrical properties of electric cables and wires - Part 9.Spark test of insulated cores

GB/T 3956-2008 Conductors of insulated cables (IEC 60228.2004, IDT)

GB/T 4909.2-2009 Test methods for bare wires - Part 2.Measurement of dimensions

GB/T 4909.3-2009 Test methods for bare wires - Part 3.Tensile test

GB/T4909.11-2009 Test methods for bare wires - Part 11.Test for adherence of coating

GB/T 4910-2009 Tinned round copper wire

GB/T 6995 Markings for electric wires and cables

GB/T 12528-2008 Rail vehicle cables with rated voltages up to and including 3kV

GB/T 17650.1-1998 Test on gases evolved during combustion of materials from cables
- Part 1.Determination of the amount of halogen acid gas (idt IEC 60754-2.1991)

GB/T 17650.2-1998 Test on gases evolved during combustion of materials from cables
- Part 2.Determination of degree of acidity of gases by measuring pH and conductivity
(idt IEC 60754-2.1991)

GB/T 17651.2-1998 Measurement of smoke density of cables burning under defined conditions - Part 2.Test procedure and requirements (idt IEC 61034-2.1997)

GB/T 18380.12-2008 Test on electric and optical fibre cables under fire conditions -
Part 12.Test for vertical flame propagation for a single insulated wire or cable -
Procedure for 1kW pre-mixed flame (IEC 60332-1-2.2004, IDT)

GB/T 18380.35-2008 Tests on electric and optical fibre cables under fire conditions -
Part 35.Test for vertical flame spread of vertically-mounted bunched wires or cables -
Category C (IEC 60332-3-24.2000, IDT)

SH/T 0139-1995 Axle oil

EN 50305.2002 Railway applications - Railway rolling stock cables having special fire performance - Test methods

3 Terms and definitions

For the purpose of this document, the terms and definition determined in GB/T 2900.10-2001 AND the following terms and definitions shall apply.

3.1

Rated voltage