Railway applications - Railway rolling stock power and control cables having special fire performance -- Part 2-2: Cables with crosslinked elastomeric insulation - Multicore cables

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50264-2-2:2008 sisaldab Euroopa standardi EN 50264-2-2:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 50264-2-2:2008 consists of the English text of the European standard EN 50264-2-2:2008.
Standard on kinnitatud Eesti Standardikeskuse 19.08.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 19.08.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 27.06.2008.	Date of Availability of the European standard text 27.06.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 13.220.20, 29.060.20, 45.060.01

Võtmesõnad: color codes, designation, designations, electrical testing, electrical tests, equipment specifications, fire tests, marking, product specification, protectors, safety devices, sheaths, testing, tests, thickness

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50264-2-2

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ICS 13.220.20; 29.060.20; 45.060.01

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English version

Railway applications - Railway rolling stock power and control cables having special fire performance - Part 2-2: Cables with crosslinked elastomeric insulation - Multicore cables

Applications ferroviaires - Câbles de puissance et de contrôle à comportement au feu spécifié pour matériel roulant ferroviaire - Partie 2-2: Câbles à enveloppe isolante réticulée - Câbles multiconducteurs

Bahnanwendungen - Starkstrom- und Steuerleitungen für Schienenfahrzeuge mit verbessertem Verhalten im Brandfall - Teil 2-2: Leitungen mit vernetzter elastomerer Isolierung - Mehr- und vieladrige Leitungen

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by Working Group 12, Railway cables, of the Technical Committee CENELEC TC 20, Electric cables, as part of the overall programme of work in the Technical Committee CENELEC TC 9X, Electrical and electronic applications for railways.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50264-2-2 on 2008-03-01.

This European Standard supersedes EN 50264-3:2002.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2009-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-03-01

Contents

Tables

Introduction

The EN 50264 series covers a range of cables, based upon halogen free materials, for use in railway rolling stock. It is divided into 5 parts under the generic title *"Railway applications - Railway rolling stock power and control cables having special fire performance"*:

– Part 1 General requirements;

– Part 2-1 Cables with crosslinked elastomeric insulation – Single core cables;

– Part 2-2 Cables with crosslinked elastomeric insulation – Multicore cables;

– Part 3-1 Cables with crosslinked elastomeric insulation with reduced dimensions – Single core cables;

– Part 3-2 Cables with crosslinked elastomeric insulation with reduced dimensions – Multicore cables.

Information regarding selection and installation of cables, including current ratings can be found in EN 50355 and EN 50343. The procedure for selection of cable cross-sectional area, including reduction factors for ambient temperature and installation type, is described in EN 50343.

Special test methods referred to in EN 50264 are given in EN 50305.

Part 1, "*General requirements"*, contains a more extensive introduction to EN 50264, and should be read in conjunction with this Part 2-2.

1 Scope

EN 50264-2-2 specifies requirements for, and constructions and dimensions of, multicore cables of the following types and voltage ratings:

- 300/500 V screened or unscreened (1 mm², 1,5 mm² and 2,5 mm², number of cores from 2 to 40);
- 0,6/1 kV screened or unscreened (1,5 mm² to 50 mm², 2, 3 and 4 cores).

NOTE Not all conductor sizes or number of cores are specified for every type.

All cables have class 5 tinned copper conductors to EN 60228, halogen-free insulation and halogen-free sheath. They are for use in railway rolling stock as fixed wiring, or wiring where limited flexing in operation is encountered. The requirements provide for a continuous conductor temperature not exceeding 90 °C and a maximum temperature for short circuit conditions of 200 °C based on a duration of 5 s.

Under fire conditions the cables exhibit special performance characteristics in respect of maximum permissible flame propagation (flame spread) and maximum permissible emission of smoke and toxic gases.

EN 50264-2-2 should be read in conjunction with Part 1 "*General requirements*".

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 10002-1	Metallic materials – Tensile testing – Methods of test at ambient temperature
EN 50264-1:2008	Railway applications – Railway rolling stock power and control cables having special fire performance – Part 1: General requirements
EN 50266-2-4	Common test methods for cables under fire conditions – Test for vertical flame spread of vertically-mounted bunched wires or cables – Part 2-4: Procedures – Category C
EN 50266-2-5	Common test methods for cables under fire conditions – Test for vertical flame spread of vertically-mounted bunched wires or cables – Part 2-5: Procedures – Small cables – Category D
EN 50305:2002	Railway applications – Railway rolling stock cables having special fire performance – Test methods
EN 50334	Marking by inscription for the identification of cores of electric cables
EN 60228	Conductors of insulated cables (IEC 60228)
EN 60332-1-2	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame (IEC 60332-1-2)
EN 60811-1-1:1995	Insulating and sheathing materials of electric and optical cables – Common test methods – Part 1-1: General application – Measurement of thickness and overall dimensions – Tests for determining the mechanical properties (IEC 60811-1-1:1993)

EN 60811-1-2:1995	Insulating and sheathing materials of electric cables – Common test methods – Part 1-2: General application – Thermal ageing methods (IEC 60811-1-2:1985 + A1:1989 + corr. May 1986)
EN 60811-1-3:1995	Insulating and sheathing materials of electric and optical cables – Common test methods – Part 1-3: General application – Methods for determining the density – Water absorption tests – Shrinkage test (IEC 60811-1-3:1993)
EN 60811-1-4:1995	Insulating and sheathing materials of electric and optical cables – Common test methods – Part 1-4: General application – Tests at low temperature (IEC 60811-1-4:1985 + A1:1993 + corr. May 1986)
EN 60811-2-1:1998	Insulating and sheathing materials of electric and optical cables – Common test methods – Part 2-1: Methods specific to elastomeric compounds – Ozone resistance, hot set and mineral oil immersion tests (IEC 60811-2-1:1998)
EN 61034-2	Measurement of smoke density of cables burning under defined conditions – Part 2: Procedure and requirements (IEC 61034-2)
HD 308	Identification of cores in cables and flexible cords

3 Definitions

For the purposes of this document, the terms and definitions given in EN 50264-1 apply.

4 Rated voltage

The rated voltage for multicore cables shall be as follows:

a) 300/500 V (1 mm² to 2,5 mm²) control cables;

b) 0,6/1 kV (1,5 mm² to 50 mm²) power cables.

5 Marking and identification

5.1 Marking of cable

Cables shall be marked with the following:

- manufacturer's name;
- EN reference;
- voltage rating (U_o);
- number of cores and conductor size;
- a code designation according to Annex A.

If a cable is screened, an additional letter, S, shall be added.

An example of a complete mark is:

XYZ EN 50264-2-2 300 V 37 x 1,5 FF S