Railway applicactions - Railway rolling stock cables having special fire performance - Standard wall - Part : Multicore cables

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50264-3:2003 sisaldab Euroopa standardi EN 50264-3:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 05.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50264-3:2003 consists of the English text of the European standard EN 50264-3:2002. This document is endorsed on 05.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: Part 3 of EN 50264 specifies requirements for, and constructions and dimensions of, multicore cables of the following types and voltage ratings: - 300 V/500 V Screened or unscreened (1 mm 2 , 1,5 mm 2 and 2,5 mm 2 , number of cores from 2 to 40) - 0,6 kV/1 kV Screened or unscreened, (1 mm 2 to 50 mm 2 , 2, 3 and 4 core)	**Scope:** Part 3 of EN 50264 specifies requirements for, and constructions and dimensions of, multicore cables of the following types and voltage ratings: - 300 V/500 V Screened or unscreened (1 mm 2 , 1,5 mm 2 and 2,5 mm 2 , number of cores from 2 to 40) - 0,6 kV/1 kV Screened or unscreened, (1 mm 2 to 50 mm 2 , 2, 3 and 4 core)

ICS 13.220.20, 29.060.20, 45.060.01

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

EUROPEAN STANDARD **EN 50264-3**

NORME EUROPÉENNE

EUROPÄISCHE NORM August 2002

ICS 13.220.20; 29.060.20; 45.060.01

English version

Railway applications - Railway rolling stock cables having special fire performance - Standard wall Part 3: Multicore cables

Applications ferroviaires - Câbles pour matériel roulant ferroviaire ayant des performances particulières de comportement au feu - Câbles à isolation d'épaisseur normale Partie 3: Câbles multiconducteurs

Bahnanwendungen - Kabel und Leitungen für Schienenfahrzeuge mit verbessertem Verhalten im Brandfall - Standard Isolierwanddicken Teil 3: Mehr- und vieladrige Leitungen

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 50264-3:2002 E

Foreword

This European Standard was prepared for Technical Committee CENELEC TC 20 “Electric cables” by Working Group 12 “ Railway cables” as part of the overall programme of work in 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 50264-3 on 2002-03-01.

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) 2003-07-01

- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-07-01

Annexes designated “informative” are given for information only.
In this standard annex A is informative.

Contents

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Introduction

EN 50264 covers cables with standard wall thickness of insulation , both sheathed and un-sheathed, based upon halogen free materials, for use in railway rolling stock. It is divided into 3 parts:

Part 1: General requirements;

Part 2: Single core cables;

Part 3: Multicore cables.

Special test methods referred to in EN 50264 are given in EN 50305. A Guide to use is given in (EN 50355 – under development).

Part 1, General requirements, contains a more extensive introduction to EN 50264, and should be read in conjunction with this Part 3.

1 Scope

Part 3 of EN 50264 specifies requirements for, and constructions and dimensions of, multicore cables of the following types and voltage ratings:

- 300 V/500 V Screened or unscreened (1 mm^2, 1,5 mm^2 and 2,5 mm^2, number of cores from 2 to 40)

- 0,6 kV/1 kV Screened or unscreened, (1 mm^2 to 50 mm^2, 2, 3 and 4 core)

NOTE 1 Not all conductor sizes or number of cores are specified for every type.

All cables have class 5 tin coated annealed copper conductors to HD 383, 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 seconds.

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. These requirements are specified to permit the cables to satisfy Hazard Levels 2, 3 or 4 of EN 45545-1.

NOTE 2 Requirements for the emission of smoke and gases are not specified for hazard level 1 of EN 45545-1.

NOTE 3 EN 45545-1 is still under development and should be consulted.

Part 3 of EN 50264 should be used in conjunction with Part 1, General requirements.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of these references apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 10002-1	Tensile testing of metallic materials - method of test at ambient temperature
EN 45545-1[1)]	Railway applications - Fire protection of railway vehicles - Part 1: General
EN 50264-1	Railway applications - Railway rolling stock cables having special fire performance - Standard wall - Part 1: General Requirements
EN 50264-2	Railway rolling stock cables having special fire performance - Standard wall - Part 2: Single core cables
EN 50265-2-1	Common test methods for cables under fire conditions - Test for resistance to vertical flame propagation for single insulated conductor or cable - Part 2-1: Procedures – 1 kW pre-mixed flame

[1)] At draft stage.

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 50267-2-1	Common test methods for cables under fire conditions - Tests on gasses evolved during combustion of materials from cables - Part 2-1: Procedures - Determination of the amount of halogen acid gas
EN 50267-2-2	Common test methods for cables under fire conditions - Tests on gases evolved during combustion of materials from cables - Part 2-2: Procedures - Determination of degree of acidity of gases for materials by measuring pH and conductivity
EN 50268-2	Common test methods for cables under fire conditions - Measurement of smoke density of electric cables burning under defined conditions - Part 2: Procedure
EN 50305	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 60684-2	Specification for flexible insulating sleeving - Part 2: Methods of test
EN 60811-1-1	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
EN 60811-1-2	Insulating and sheathing materials of electric cables - Common test methods - Part 1-2: General application - Thermal ageing methods
EN 60811-1-3	Insulating and sheathing materials of electric cables – Common test methods - Part 1-3: General application - Methods for determining the density Water absorption tests - Shrinkage test
EN 60811-1-4	Insulating and sheathing materials of electric cables - Common test methods - Part 1-4: General application – Tests at low temperature
EN 60811-2-1	Insulating and sheathing materials of electric and optical cables – Common test methods - Part 2-1: Method specific to elastomeric compounds – Ozone resistance, hot set and mineral oil immersion tests
HD 383	Conductors of insulated cables - First supplement: Guide to the dimensional limits of circular conductors

3 Definitions

For the purposes of this standard the definitions given in EN 50264-1 apply.

4 Rated voltage

The rated voltage for multicore cables shall be as follows:

a) 300 V/500 V (1 mm^2 to 2,5 mm^2) control cables

b) 0,6 kV/1 kV (1,5 mm^2 to 50 mm^2) power cables