

Madalpingeliste jõukaablite isoleer-, mantli- ja kattematerjalid. Osa 0: Üldsissejuhatus

Insulating, sheathing and covering materials for low-voltage energy cables - Part 0: General introduction

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50363-0:2011 sisaldab Euroopa standardi EN 50363-0:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.03.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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English version

**Insulating, sheathing and covering materials for low-voltage energy
cables -
Part 0: General introduction**

Matériaux pour enveloppe isolante,
gainage et revêtement pour les câbles
d'énergie basse tension -
Partie 0: Introduction générale

Isolier-, Mantel- und
Umhüllungswerkstoffe für
Niederspannungskabel und -leitungen -
Teil 0: Allgemeine Einführung

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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 the Technical Committee CENELEC TC 20, Electric cables.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50363-0 on 2011-03-14.

This document supersedes EN 50363-0:2005.

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) 2012-03-14
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2014-03-14

Contents

	Page
1 Scope.....	5
2 Normative references	6
3 Terms and definitions	7
4 Testing.....	8
4.1 General.....	8
4.2 Sampling.....	8
4.3 Ambient temperature.....	8
5 Requirements.....	8
Bibliography.....	10
Table 1 — Parts for EN 50363.....	5
Table 2 — Test methods.....	9

Introduction

EN 50363 contains, in its various parts, the requirements for insulating, sheathing and covering materials that are used for harmonized low voltage energy cables in EN 50525.

The previous edition of EN 50363-0 (2005) showed, in its Annex A, the original location in HD 21 and HD 22 of each material and its place in the full series of EN 50363. For this second edition, this annex has been deleted.

The content of EN 50363 is not, and will not be, restricted only to materials for cables to EN 50525. Other materials for harmonized LV industrial cables may be included. Furthermore, the use of materials in EN 50363 for cables outside EN 50525 is not prohibited, but it is strongly recommended that expert advice be taken before such use, or before any proposal for incorporation into another standard.

1 Scope

EN 50363 contains, in its various parts, the requirements for insulating, sheathing and covering materials that are used for harmonized low voltage energy cables.

EN 50363 is published as this Part 0 together with a series of separately published parts as listed in Table 1 and these parts require that Part 0 be read in conjunction with them. It also includes a list of the test methods called up in the particular parts of the standard, with references to the current editions of other standards in which the relevant test methods are given.

Table 1 — Parts for EN 50363

Part number	Title	Compounds included
0	General introduction	-
1	Cross-linked elastomeric insulating compounds	EI 2, EI 3, EI 4, EI 6, EI 7
2-1	Cross-linked elastomeric sheathing compounds	EM 2, EM 3, EM 4, EM 6, EM 7, EM 9
2-2	Cross-linked elastomeric covering compounds	EM 5
3	PVC insulating compounds	TI 1, TI 2, TI 3, TI 4, TI 5
4-1	PVC sheathing compounds	TM 1, TM 2, TM 3, TM 4, TM 5,
4-2	PVC covering compounds	TM 6
5	Halogen-free, cross-linked insulating compounds	EI 5, EI 8
6	Halogen-free, cross-linked sheathing compounds	EM 8, EM 10
7	Halogen-free, thermoplastic insulating compounds	TI 6, TI 7
8	Halogen-free, thermoplastic sheathing compounds	TM 7
9-1 ^a	Miscellaneous insulating compounds – Cross-linked polyvinyl chloride (XLPVC)	XI 1
10-1 ^a	Miscellaneous sheathing compounds – Cross-linked polyvinyl chloride (XLPVC)	XM 1
10-2	Miscellaneous sheathing compounds – Thermoplastic polyurethane	TMPU
^a This part is proposed for withdrawal.		

Materials for use specifically in utility power cables are not covered by this EN. They can be found in HD 603, HD 604, HD 620, HD 621, HD 622, HD 626 and HD 627.

Materials for use specifically in communications cables are the responsibility of CENELEC TC 46X. At present such materials are given in EN 50290-2-20 to -2-30 inclusive.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>
EN 50267-2-1		Common test methods for cables under fire conditions – Tests on gases 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 50395		Electrical test methods for low voltage energy cables
EN 50396		Non electrical test methods for low voltage energy cables
EN 50525-3-11		Electric cables – Low voltage energy cables of rated voltages up to and including 450/750 V (U_0/U) – Part 3-11: Cables with special fire performance – Flexible cables with halogen-free thermoplastic insulation, and low emission of smoke
EN 60684-2		Flexible insulating sleeving – Part 2: Methods of test (IEC 60684-2)
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 (IEC 60811-1-1)
EN 60811-1-2		Insulating and sheathing materials of electric cables – Common test methods – Part 1-2: General application – Thermal ageing methods (IEC 60811-1-2)
EN 60811-1-3		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)
EN 60811-1-4		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)
EN 60811-2-1		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)
EN 60811-3-1		Insulating and sheathing materials of electric and optical cables – Common test methods – Part 3-1: Methods specific to PVC compounds – Pressure test at high temperature – Tests for resistance to cracking (IEC 60811-3-1)
EN 60811-3-2		Insulating and sheathing materials of electric and optical cables – Common test methods – Part 3-2: Methods specific to PVC compounds – Loss of mass test – Thermal stability test (IEC 60811-3-2)

EN 60811-4-1

Insulating and sheathing materials of electric and optical cables –
 Common test methods – Part 4-1: Methods specific to polyethylene and
 polypropylene compounds – Resistance to environmental stress cracking
 – Measurement of the melt flow index – Carbon black and/or mineral filler
 content measurement in polyethylene by direct combustion –
 Measurement of carbon black content by thermogravimetric analysis
 (TGA) – Assessment of carbon black dispersion in polyethylene using a
 microscope (IEC 60811-4-1)

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.

3.1

variation

difference between the median value after ageing and the median value without ageing expressed as a percentage of the latter

3.2

median value

when several test results have been obtained and ordered in an increasing or decreasing succession, middle value if the number of available values is odd, and mean of the two middle values if the number is even

3.3 Type of material/compound

3.3.1

cross-linked silicone rubber (SiR)

compound based on a poly-siloxane polymer which, when cross-linked, meets the requirements given in the particular specification

3.3.2

ethylene vinyl acetate rubber compound (EVA) or equivalent synthetic elastomer

cross-linked compound in which the elastomer is ethylene vinyl acetate or equivalent synthetic elastomer providing a compound with properties similar to EVA

3.3.3

ethylene-propylene rubber compound (EPR) or equivalent synthetic elastomer

cross-linked compound in which the elastomer is ethylene-propylene or equivalent synthetic elastomer providing a compound with properties similar to EPR

3.3.4

polychloroprene compound or equivalent synthetic elastomer

cross-linked compound in which the elastomer is polychloroprene (PCP) or equivalent synthetic elastomer providing a compound with properties similar to polychloroprene

3.3.5

chlorinated rubber compound

cross-linked compound in which the characteristic constituent is a synthetic chlorinated rubber, e.g. Polychloroprene (PCP), Chlorosulphonated Polyethylene (CSP), Chlorinated Polyethylene (CPE), etc.

3.3.6

polyvinyl chloride compound

PVC

combinations of materials of which polyvinyl chloride is the characteristic constituent, suitably selected proportioned and treated which meet the requirements given in the particular specification