

Juhis madalpingeliste harmoneeritud kaablite kasutamiseks

Guide to use low voltage harmonized cables

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-HD 516 S2:2001 sisaldab Euroopa standardi HD 516 S2:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.07.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-HD 516 S2:2001 consists of the English text of the European standard HD 516 S2:1997.</p> <p>This document is endorsed on 12.07.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD 516 S2

November 1997

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Supersedes HD 516 S1:1990 and its amendments

Descriptors: Electric cable, low-voltage, guide to use

English version

Guide to use of low voltage harmonized cables

Guide d'emploi des câbles harmonisés
à basse tension

Leitfaden für die Verwendung
harmonisierter
Niederspannungsstromleitungen

This Harmonization Document was approved by CENELEC on 1997-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning such national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Foreword

This Harmonization Document was prepared by Technical Committee CENELEC TC 20, Electric cables.

HD 516 was originally published by CENELEC in April 1990.

This second edition incorporates all published amendments, plus new matter agreed by TC 20 at its meetings in Lisbon (November 1991) and Oslo (June 1992). In addition, the specific guidance originally given in Appendices 1 to HD 21.1 and HD 22.1 has been transferred to this HD, together with information relating to all newly published Parts of HD 21 and HD 22 up to September 1995.

The text of the draft was submitted to the CENELEC Unique Acceptance Procedure and approved by CENELEC as HD 516 S2 on 1997-07-01.

The following dates were fixed:

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|---|--|-------|------------|
| - | latest date by which the existence of the HD has to be announced at national level | (doa) | 1997-12-01 |
| - | latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement | (dop) | 1998-06-01 |
| - | latest date by which the national standards conflicting with the HD have to be withdrawn | (dow) | 1998-06-01 |

For products which have complied with HD 516 S1:1990 and its amendments A1:1991, A2:1992, A3:1993, A4:1992, A5:1993 and A6:1993 before 1998-06-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-06-01.

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Introduction

The aim in publishing this Harmonisation Document is to inform users of the properties and limiting conditions of electric cables, and thereby to avoid misuse of the cables.

The document gives guidance to equipment manufacturers, installers and end-users on the properties of harmonised low voltage electric cables, and the limitations considered necessary in order to safeguard life, buildings and goods.

The information is given as limiting values and illustrated by examples, which cannot be exhaustive but nevertheless indicate ways by which safety can be obtained. In specific cases where guidance is not given, nor is deducible from the general information given, it is recommended that the specific advice of TC 20 be sought.

1 Scope

This HD provides a guide to the proposed safe use of harmonised electric cables as presently covered in the various parts of:

HD 21 - Polyvinyl chloride insulated cables of rated voltage up to and including 450/750 V.

HD 22 - Rubber insulated cables of rated voltage up to and including 450/750 V.

These cables should only be used within the limits given and in the manner described in this HD. This HD should be read in conjunction with other HDs or ENs relating to particular types of equipment or installation conditions.

Legal or statutory requirements do take precedence over the guidance given in this document.

2 Normative references

HD 516 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 any of these publications apply to HD 516 only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

HD 21 Polyvinyl chloride insulated cables of rated voltage up to and including 450/750 V

HD 22 Rubber insulated cables of rated voltage up to and including 450/750 V

HD 384.2 International electrotechnical vocabulary
Chapter 826: Electrical installation of buildings

HD 384.3 Electrical installations of buildings - Part 3: Assessment of general characteristics

HD 384.4.43 Part 4: Protection for safety - Chapter 43: Protection against overcurrent

HD 384.5.523 Part 5: Selection and erection of electrical equipment
Chapter 52: Wiring systems
Section 523: Current-carrying capacities

HD 405.1 Tests on electric cables under fire conditions
Part 1: Test on a single vertical insulated wire or cable

- IEC 287 Electric cables - Calculation of the current rating (100 % load factor)
- R064.001 CENELEC report on current carrying capacities in conductors and cables

3 **Definitions**

The meaning and sense of the terms used in this HD are as defined in HD 384.2, relevant product specifications, or Annex A of this HD unless otherwise stated.

4 **Requirements for Safety**

4.1 **Fundamental requirements**

- 4.1.1 Safety of a cable means that the product does not present an unacceptable risk of danger to life or property whilst being used in its intended manner.

The intended usage of the cables is given in Tables 1A, 1B, 2A and 2B.

- 4.1.2 Unless otherwise stated, cables should not be used for any other purpose than the transmission and distribution of electricity.

- 4.1.3 The test methods, test parameters and requirements described in HD 21 and HD 22 are only for the purposes of checking design with respect to safety and quality assurance. They should not be regarded as providing guidance that the cables are suitable for service under conditions equivalent to the test conditions.

4.2 **General requirements**

- 4.2.1 All conductors and cables should be selected so as to be suitable for the voltages and currents likely to occur under all conditions which are or should have been anticipated in the equipment or installation or that part thereof in which they are used.

- 4.2.2 Cables should be so constructed, installed, protected, used and maintained to prevent danger so far as it is reasonably practical.

- 4.2.3 The limiting conditions under which the cables can reasonably be expected to operate safely under normal circumstances are given in Tables 3A, 3B, 4A and 4B to this HD.

These conditions are those considered capable of ensuring a length of life in service which has been accepted as reasonable by experience of the particular type of cable and in particular conditions of use. The duration of acceptable performance of a particular type of cable depends upon the type of use, installation or electrical apparatus and on the particular combination of influences relating thereto. For example, the duration of acceptable performance considered as reasonable for a cable used in a fixed installation, for the distribution of electricity in a building, is more than that for a flexible cord.