SLOVENSKI STANDARD
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Conduit systems for electrical installations -- Part 2-3: Particular requirements for flexible conduit systems

Conduit systems for cable management -- Part 2-3: Particular requirements for flexible conduit systems

Installationsrohrsysteme zum Führen von Leitungen für elektrische Energie und für Information -- Teil 2-3: Besondere Anforderungen für flexible Elektroinstallationsrohrsysteme

Systèmes de conduits pour la gestion du câblage -- Partie 2-3: Règles particulières pour les systèmes de conduits souples

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English version

Conduit systems for electrical installations
Part 2-3: Particular requirements for flexible conduit systems

Systèmes de conduits pour installations électriques
Partie 2-3: Règles particulières pour les systèmes de conduits souples

Elektroinstallationsrohrsysteme für elektrische Installationen
Teil 2-3: Besondere Anforderungen für flexible Elektroinstallationsrohrsysteme

This European Standard was approved by CENELEC on 1994-12-06. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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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 European Standard has been prepared by CENELEC Technical Committee TC 113, Cable Management Systems.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50086-2-3 on 1994-12-06.

This Part 2-3 specifies particular requirements for flexible conduit systems.

A conduit system which complies with this standard, is deemed safe for use.

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) 1995-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-12-01

For products which have complied with the relevant national standard before 1996-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-12-01.

This Part 2-3 supplements or modifies the corresponding clauses of EN 50086-1:1993, Conduit systems for electrical installations, Part 1: General requirements.

Where a particular clause or subclause of Part 1 is not mentioned in this Part 2-3, that clause or subclause applies as far as is reasonable. Where this Part 2-3 states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

Subclauses, tables and figures which are in addition to those in Part 1 are numbered starting with 101. Annexes which are in addition to those in Part 1 are labelled AA, BB, etc.

Contents

1 Scope

This clause of Part 1 is applicable, except as follows:

Addition:

This standard specifies the requirements for flexible conduit systems.

Conduit systems which are used as an integral part of other equipment also have to be tested according to the relevant standard for that equipment.

2 Normative references

This clause of Part 1 is applicable.

3 Definitions

This clause of Part 1 is applicable.

4 General requirements

This clause of Part 1 is applicable.

5 General conditions for tests

This clause of Part 1 is applicable.

6 Classification

This clause of Part 1 is applicable, except as follows:

6.1.3.1, 6.1.3.2 and 6.1.3.3 are not applicable.

7 Marking and documentation

This clause of Part 1 is applicable, except as follows:

Addition:

7.1.101 The conduit shall be marked in accordance with 7.1 at regular intervals along its length of preferably 1 m but not longer than 3 m. Where this is technically impractical, the mark shall be on a label attached to the product at each end.

Compliance is checked by inspection.

7.1.102 The manufacturer shall document for the system the minimum inside diameter, the minimum bend radius and the classification in accordance with clause 6.

Compliance is checked by inspection.

8 Dimensions

Replacement:

8.1 Threads shall comply with EN 60423.

Compliance is checked by means of the gauges specified in EN 60423.

8.2 The minimum inside diameter of the conduit system shall be declared by the manufacturer.

Compliance is checked by measurement.

9 Construction

This clause of Part 1 is applicable.

10 Mechanical properties

This clause of Part 1 is applicable, except as follows:

10.1 Mechanical strength

10.1.1 Addition:

NOTE: Very light flexible conduts should not be considered as providing adequate mechanical protection and should not be used within the construction of buildings.

10.4 Bending test

This subclause of Part 1 is not applicable.

10.5 Flexing test

10.5.101 An assembly of conduit with a terminating fitting, assembled in accordance with the manufacturer's instructions, shall be subjected to a flexing test by means of the apparatus shown in figure 101.

10.5.102 The test shall be made on six samples of conduit of an appropriate length. Three of the samples shall be tested at the declared transport, permanent application and installation temperature in accordance with table 1 with a tolerance of ± 2 °C. The other three samples shall be tested at the declared permanent application and installation temperature in accordance with table 2 with a tolerance of ± 2 °C.

10.5.103 The sample shall be fixed to the oscillating member by means of the terminating fitting as shown in figure 101, so that when the conduit is at the middle of its travel, the axis of the conduit is vertical and passes through the axis of the oscillation. The apparatus with the sample shall be conditioned for 2 h or until the sample has attained the declared temperature, whichever period is the longer.

10.5.104 The oscillating member shall be moved backwards and forwards through a total angle of 180 ° divided equally about the vertical axis. The assembly shall be subjected to 5 000 flexings at a rate of 40 ± 5 flexings per minute. A flexing constitutes starting from the vertical position, one continuous cycle of movement of essentially sinusoidal form.

10.5.105 After the test, the sample shall show no sign of disintegration, nor shall there be any cracks visible to normal or corrected vision without magnification.

10.6 Collapse test

This subclause of Part 1 is not applicable.

10.7 Tensile strength

This subclause of Part 1 is applicable, except as follows:

10.7.3 Replacement:

For conduit systems where tensile strength is not declared, the tensile strength of the joint shall comply with classification 1 in table 6.

11 Electrical properties

This clause of Part 1 is applicable, except as follows:

11.5 Bonding test

Replacement:

A sample of conduit and terminating fitting shall be assembled in accordance with the manufacturers instructions and figure 103. A current of 25 A, having a frequency of 50 Hz to 60 Hz, derived from an a.c. source having a no-load voltage not exceeding 12 V, shall be passed through the assembly for 1 min (+5/0) s, after which the voltage drop shall be measured between the points shown in figure 103 and the resistance calculated from the current and this voltage drop.

The resistance shall not exceed 0,05 Ω.

Where special devices are required for the coupling of conduit and terminating fitting, it shall be sufficient to remove the protective coating from the conduit, or the protective finish shall be removed in accordance with the manufacturer's instructions before the voltage is applied.

12 Thermal properties

This clause of Part 1 is applicable, except as follows:

12.2.4 Replacement:

The load is then removed and immediately after its removal it shall be possible to pass the appropriate gauge, in accordance with figure 102, through the conduit under its own weight and without any initial speed, with the sample in the vertical position.

13 Fire effects

This clause of Part 1 is applicable.

14 External influences

This clause of Part 1 is applicable, except as follows:

14.1.1.2 Addition:

When tested for first numeral 5 or 6, the assembly shall be tested as a category 2 enclosure.