

Vervangt NEN-EN 50362:2000 Ontw.

Nederlandse norm

NEN-EN 50362 (en)

Beproevingmethode voor het functiebehoud bij brand van niet-beschermde dikke sterkstroom- en stuurstroomkabels voor gebruik in noodcircuits

Method of test for resistance to fire of larger unprotected power and control cables for use in emergency circuits

ICS 13.220.40; 29.060.20

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Als Nederlandse norm is aanvaard:
 - EN 50362:2003, IDT

PREVIEW

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 Normcommissie NEC 20 "Draad en Kabel voor elektrische sterkstroominstallaties"

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Nederlands voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 50200	NEN-EN 50200	Beproevingmethode voor het functiebehoud bij brand van niet-beschermde dunne kabels voor gebruik in noodcircuits (en)
EN 60269-3	NEN 10269-3	Laagspanningssmeltveiligheden - Deel 3: Aanvullende eisen voor smeltveiligheden voor gebruik door niet-deskundige personen (smeltveiligheden voornamelijk voor huishoudelijke en soortgelijke toepassingen) (en,fr)
EN 60584-1	NEN 10584-1	Thermokoppels - Deel 1: Referentietabellen (en,fr)
EN 60695-4	NEN 10695-4	Brandbaarheid van elektrotechnische producten - Deel 4: Terminologie op het gebied van brandbeproevingen (en,fr)

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Preview

English version

**Method of test for resistance to fire of larger unprotected power and control cables for use in emergency circuits**

Méthode d'essai de résistance au feu des câbles de contrôle et d'énergie de grande dimension non protégés pour utilisation dans les circuits de secours

Prüfung des Isolationserhaltes im Brandfall von Kabeln und Leitungen mit großen Durchmessern für die Verwendung in Notstromkreisen bei ungeschützter Verlegung

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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 was prepared by the Technical Committee CENELEC TC 20, Electric cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50362 on 2002-12-01.

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) 2003-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-12-01

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Preview

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1 Scope

This European Standard specifies a test method for cables designed to have intrinsic resistance to fire and intended for use as emergency circuits.

The standard is applicable to power and control cables for emergency circuits of rated voltage not exceeding 0,6/1 kV.

The test method is intended for cables with an overall diameter exceeding 20 mm. Cables of smaller diameter shall be tested in accordance with EN 50200.

The test method is based on the direct impingement on the cable of the flame from a propane burner giving a constant temperature attack of a notional 842 °C and under the influence of mechanical impact.

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 any of these publications 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 (including amendments).

EN 50200	Method of test for resistance to fire of unprotected small cables for use in emergency circuits
EN 60269-3	Low voltage fuses — Part 3: Supplementary requirements for fuses for use by unskilled persons (fuses mainly for domestic and similar applications)
EN 60584-1	Thermocouples — Part 1: Reference tables
EN 60695-4	Fire hazard testing — Part 4: Terminology concerning fire tests

3 Definitions

For the purposes of this standard, the definitions given in EN 60695-4 apply.

4 Duration of survival

4.1 Time

The duration of survival, measured in minutes, to the point of failure shall be recorded for each cable tested up to a maximum survival time of 120 min, or the required survival time given in the particular cable standard.

4.2 Point of failure

The criteria for determining the point of failure shall be as follows:

- the voltage is not maintained during the test duration, as indicated by fuse failure or by interruption of the circuit breaker;
- a conductor ruptures during the test duration, as indicated by the lamp extinguishing.

Failure by either one of the criteria listed shall be sufficient to show failure for that cable.

5 Test environment

The test shall be carried out in a suitable chamber with facilities for disposing of any noxious gases resulting from the burning. Sufficient ventilation shall be available to sustain the flame for the duration of the test.

The chamber and test apparatus shall be in the range 10 °C to 40 °C at the start of each test.

The same ventilation and shielding conditions shall be used in the chamber during both the verification and cable test procedures.

NOTE 1 The test given in this standard involves the use of dangerous voltages and temperatures. Suitable precautions should be taken against shock, burning, fire and explosion risks that may be involved and against any noxious fumes that may be produced.

NOTE 2 An example of a suitable chamber is the 3 m smoke cube as specified in EN 50268-1.

NOTE 3 Shields, such as those described in EN 50268-1, may need to be placed in an appropriate position to protect the burner from draughts that may influence the flame geometry.

6 Test apparatus

6.1 Test equipment

The test equipment consists of the following:

- a) a test ladder on to which the cable is mounted, comprising steel framework fastened to a rigid support as described in 6.2;
- b) a continuity checking and voltage withstand arrangement as described in 6.3;
- c) a source of heat comprising a horizontally mounted ribbon burner as described in 6.4;
- d) a shock producing device as described in 6.5;
- e) a test wall equipped with thermocouples for verification of the source of heat as described in Clause 7.

A general arrangement of the test equipment is shown in Figures 1, 2 and 3.

6.2 The test ladder and its mounting

The test ladder consists of a steel framework as shown in Figure 1. The two central vertical elements of the ladder are adjustable in order to accommodate different sizes of cable under test. The test ladder is approximately 1 200 mm long and 600 mm high, and the total mass of the test ladder shall be (18 ± 1) kg. Ballast, if required, shall be placed on the steel supports.

Each horizontal element shall have a mounting hole not more than 200 mm from each end, the exact position and diameter being determined by the particular supporting bush and supporting framework used. The test ladder shall be fastened to a rigid support by four bonded rubber bushes of hardness 50 to 60 Shore A fitted between the horizontal steel elements of the ladder and the support framework, as shown in Figures 1 and 2 so as to allow movement under impact.

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