

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

The European Standard EN 60811-2-1:1998, with the incorporation of amendment A1:2001, has the status of a British Standard

ICS 29.035.20

National foreword

This British Standard is the English language version of EN 60811-2-1:1998, including amendment A1:2001. It is identical with IEC 60811-2-1:1998, including amendment 1:2001. It supersedes BS EN 60811-2-1:1995 which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

The UK participation in its preparation was entrusted by Technical Committee GEL/20, Electric cables, to Subcommittee GEL/20/3, Insulation and sheath, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 10, an inside back cover and a back cover.

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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

(includes amendment A1:2001)
(IEC 60811-2-1:1998 + A1:2001)

Matériaux d'isolation et de gainage des câbles
électriques et optiques —
Méthodes d'essais communes —
Partie 2-1: Méthodes spécifiques pour les mélanges
élastomères —
Essais relatifs à la résistance à l'ozone, à
l'allongement à chaud et à la résistance à l'huile
(inclut l'amendement A1:2001)
(CEI 60811-2-1:1998 + A1:2001)

Isolier- und Mantelwerkstoffe für Kabel und isolierte
Leitungen —
Allgemeine Prüfverfahren —
Teil 2-1: Besondere Verfahren für Elastomere —
Ozonbeständigkeit, Wärmedehnung,
Ölbeständigkeit
enthält Änderung A1:2001)
(IEC 60811-2-1:1998 + A1:2001)

This European Standard was approved by CENELEC on 1998-08-01. Amendment A1 was approved by CENELEC on 2001-09-01. 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.

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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

The text of document 20/328/FDIS, future amendment to IEC 60811-2-1, prepared by IEC TC 20, Electric cables, was submitted to the IEC-CENELEC parallel vote.

The text of this document, together with that of IEC 60811-2-1:1986 and its amendments 1:1992 and 2:1993, was approved by CENELEC as EN 60811-2-1 on 1998-08-01.

This European Standard supersedes EN 60811-2-1:1995.

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) 1999-05-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2000-05-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex ZA is normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60811-2-1:1998 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document 20/469/FDIS, future amendment 1 to IEC 60811-2-1:1998, prepared by IEC TC 20, Electric cables, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60811-2-1:1998 on 2001-09-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2002-06-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2004-09-01

Annexes designated “normative” are part of the body of the standard. In this standard, Annex ZA is normative. Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 1:2001 to the International Standard IEC 60811-2-1:1998 was approved by CENELEC as an amendment to the European Standard without any modification.

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1 General

1.1 Scope

This standard specifies the test methods to be used for testing polymeric insulating and sheathing materials of electric and optical cables for power distribution and telecommunications, including cables used on ships ^[A1] and in offshore applications. ^[A1]

This standard gives the methods for the ozone resistance test, hot set test and mineral oil immersion test, which apply to elastomeric compounds.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60811. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60811 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60811-1-1:1993, *Common test methods for insulating and sheathing materials of electric cables — Part 1: Methods for general application — Section 1: Measurement of thickness and overall dimensions — Tests for determining the mechanical properties.*

IEC 60811-1-2:1985, *Common test methods for insulating and sheathing materials of electric cables — Part 1: Methods for general application — Section Two: Thermal ageing methods.*

^[A1] ISO 1817:1999, *Rubber, vulcanized — Determination of the effect of liquids.* ^[A1]

2 Test values

Full test conditions (such as temperatures, durations, etc.) and full test requirements are not specified in this standard, it is intended that they should be specified by the standard dealing with the relevant type of cable.

Any test requirements which are given in this standard may be modified by the relevant cable standard to suit the needs of a particular type of cable.

3 Applicability

Conditioning values and testing parameters are specified for the most common types of insulating and sheathing compounds and of cables, wires and cords.

4 Type tests and other tests

The test methods described in this standard are intended, in the first instance, to be used for type tests. In certain tests, where there are essential differences between the conditions for type tests and those for more frequent tests, such as routine tests, these differences are indicated.

5 Pre-conditioning

All the tests shall be carried out not less than 16 h after the extrusion or vulcanization (or cross-linking), if any, of the insulating or sheathing compounds.

If the test is carried out at ambient temperature, the test-pieces shall be kept for at least 3 h at a temperature of $23\text{ °C} \pm 5\text{ °C}$.

6 Test temperature

Unless otherwise specified, tests shall be made at ambient temperature.

7 Median value

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