



BSI Standards Publication

Electric and optical fibre cables — Test methods for non-metallic materials

Part 508: Mechanical tests — Pressure test at high temperature for insulation and sheaths

This is a preview of BS EN 60811-508:2012+A2:2023. [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN 60811-508:2012+A2:2023. It is identical to IEC 60811-508:2012, incorporating amendment 1:2017 and amendment 2:2023. It supersedes BS EN 60811-508:2012+A1:2017, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. 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 to Technical Committee GEL/20/17, Electric Cables - Low voltage.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

Date	Text affected
28 February 2018	Implementation of IEC amendment 1:2017 with CENELEC endorsement A1:2017
31 January 2024	Implementation of IEC amendment 2:2023 with CENELEC endorsement A2:2023

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EUROPÄISCHE NORM

December 2023

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English Version

**Electric and optical fibre cables - Test methods for non-metallic materials - Part 508: Mechanical tests - Pressure test at high temperature for insulation and sheaths
(IEC 60811-508:2012/A1:2017)**

Câbles électriques et à fibres optiques - Méthodes d'essai pour les matériaux non-métalliques - Partie 508: Essais mécaniques - Essai de pression à température élevée pour enveloppes isolantes et les gaines (IEC 60811-508:2012/A1:2017)

Kabel, isolierte Leitungen und Glasfaserkabel - Prüfverfahren für nichtmetallene Werkstoffe - Teil 508: Mechanische Prüfungen - Wärmedruckprüfungen für Isolierhüllen und Mäntel (IEC 60811-508:2012/A1:2017)

This European Standard was approved by CENELEC on 2012-04-17. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 20/1304/FDIS, future edition 1 of IEC 60811-508, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-508:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level (dop) 2013-01-17
by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document (dow) 2015-04-17
have to be withdrawn

This document supersedes Clause 8 of EN 60811-3-1:1995 + A1:1996 + A2:2001 (partially). Full details of the replacements are shown in Annex A of EN 60811-100:2012.

Significant technical changes with respect to EN 60811-3-1:1995 are as follows:

- re-statement of oven characteristics, especially relating to anti-vibration and to temperature control;
- enhanced detail as to the preparations and testing of flat cables;
- enhanced detail as to thickness and dimensional measurements.

See also the Foreword to EN 60811-100:2012.

This standard is to be read in conjunction with EN 60811-100.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60811-508:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60811-3-1:1985 NOTE Harmonized as EN 60811-3-1:1995 (not modified).

IEC 60811-203 NOTE Harmonized as 60811-203.

IEC 60811-401 NOTE Harmonized as 60811-401.

IEC 60811-501:2012 NOTE Harmonized as EN 60811-501:2012 (not modified).

Foreword to amendment A1

The text of document 20/1735/FDIS, future IEC 60811-508:2012/A1, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-508:2012/A1:2017.

The following dates are fixed:

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- latest date by which the document has to be implemented at national level (dop) 2018-05-25
by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document (dow) 2020-08-25
have to be withdrawn

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The text of the International Standard IEC 60811-508:2012/A1:2017 was approved by CENELEC as a European Standard without any modification.

European foreword to Amendment 2

The text of document 20/2130/FDIS, future IEC 60811-508/AMD2, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-508:2012/A2:2023.

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level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2026-12-07
document have to be withdrawn

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Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60811-508:2012/AMD2:2023 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60811-100	2012	Electric and optical fibre cables - Test methods for non-metallic materials - Part 100: General	EN 60811-100	2012
IEC 60811-201	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 201: General tests - Measurement of insulation thickness	EN 60811-201	-
IEC 60811-202	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 202: General tests - Measurement of thickness of non-metallic sheath	EN 60811-202	-

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INTRODUCTION

The IEC 60811 series specifies the test methods to be used for testing non-metallic materials of all types of cables. These test methods are intended to be referenced in standards for cable construction and for cable materials.

NOTE 1 Non-metallic materials are typically used for insulating, sheathing, bedding, filling or taping within cables.

NOTE 2 These test methods are accepted as basic and fundamental and have been developed and used over many years principally for the materials in all energy cables. They have also been widely accepted and used for other cables, in particular optical fibre cables, communication and control cables and cables for ships and offshore applications.

metallic materials —

Part 508: Mechanical tests - Pressure test at high temperature for insulation and sheaths

1 Scope

This Part 508 of IEC 60811 gives the procedure for a pressure test at high temperature, which typically applies to thermoplastic compounds used for insulating and sheathing materials.

NOTE 1 The method is principally intended for thermoplastic materials, but may be used for cross-linked materials when specifically required by the relevant cable standard.

NOTE 2 The test method is not recommended for thicknesses below 0,7 mm.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60811-100:2012, *Electric and optical fibre cables — Test methods for non-metallic materials — Part 100: General*

IEC 60811-201, *Electric and optical fibre cables — Test methods for non-metallic materials — Part 201: General tests — Measurement of insulation thickness*

IEC 60811-202, *Electric and optical fibre cables — Test methods for non-metallic materials — Part 202: General tests — Measurement of thickness of non-metallic sheaths*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60811-100 apply.

4 Test method

4.1 General

This part of IEC 60811 shall be used in conjunction with IEC 60811-100.

This standard gives the method for the pressure test at high temperature which applies to insulation and sheathing compounds.

All the tests shall be carried out not less than 16 h after the extrusion of the insulating or sheathing compounds.

4.2 Apparatus

4.2.1 Air oven

A2 Either an oven with natural air circulation or one with fan-assisted circulation may be used. If vibrations from a fan-assisted oven causes inconsistent results, an oven with natural air circulation shall be used instead. **A2**