

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Electric and optical fibre cables – Test methods for non-metallic materials –  
Part 508: Mechanical tests – Pressure test at high temperature for insulation and  
sheaths**

**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  
les enveloppes isolantes et les gaines**



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IEC 60811-508

Edition 1.2 2023-11  
CONSOLIDATED VERSION

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INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 29.035.01, 29.060.20

ISBN 978-2-8322-7792-8

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## CONTENTS

|  |    |
|--|----|
| FOREWORD.....  | 3  |
| INTRODUCTION.....  | 5  |
| 1 Scope.....   | 6  |
| 2 Normative references .....   | 6  |
| 3 Terms and definitions .....  | 6  |
| 4 Test method .....  | 6  |
| 4.1 General .....  | 6  |
| 4.2 Apparatus.....   | 7  |
| 4.2.1 Air oven.....  | 7  |
| 4.2.2 Indentation device .....   | 7  |
| 4.3 Insulation .....   | 7  |
| 4.3.1 Sample and test piece preparation .....                                | 7  |
| 4.3.2 Procedure.....   | 7  |
| 4.4 Sheath .....   | 9  |
| 4.4.1 Sample and test piece preparation for sheaths .....                    | 9  |
| 4.4.2 Procedure.....   | 10 |
| 5 Test report.....   | 11 |
| Annex A (normative) Calculation of the compressing force.....                | 16 |
| Annex B (informative) Recommended performance requirement .....              | 18 |
| Bibliography.....  | 19 |
| <br>   |    |
| Figure 1 – Indentation device.....   | 12 |
| Figure 2 – Measurement of indentation .....                                  | 12 |
| Figure 3 – Measurement of indentation for small test pieces .....            | 13 |
| Figure 4 – Flat cable with a flat smaller side .....                         | 14 |
| Figure 5 – Indentation device for flat cables with a flat smaller side ..... | 15 |
| <br>   |    |
| Table A.1 – General value for <i>k</i> .....                                 | 16 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**ELECTRIC AND OPTICAL FIBRE CABLES –  
TEST METHODS FOR NON-METALLIC MATERIALS –**

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

FOREWORD

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**IEC 60811-508 edition 1.2 contains the first edition (2012-03) [documents 20/1304/FDIS and 20/1353/RVD], its amendment 1 (2017-07) [documents 20/1735/FDIS and 20/1740/RVD] and its amendment 2 (2023-11) [documents 20/1735/FDIS and 20/1740/RVD].**

**In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.**

International Standard IEC 60811-508 has been prepared by IEC technical committee 20: Electric cables.

Significant technical changes with respect to the previous edition 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 IEC 60811-100:2012.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

A list of all the parts in the IEC 60811 series, published under the general title *Electric and optical fibre cables – Test methods for non-metallic materials*, can be found on the IEC website.

The committee has decided that the contents of this document and its amendments will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
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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.

# ELECTRIC AND OPTICAL FIBRE CABLES – TEST METHODS FOR NON-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.