

BS EN 60811-203:2012



BSI Standards Publication

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

Part 203: General tests — Measurement of overall dimensions

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### National foreword

This British Standard is the UK implementation of EN 60811-203:2012. It is identical to IEC 60811-203:2012.

In the UK, the relationship between the supersessions of BS EN 60811 series can be summarized as follows.

BS EN 60811-100 together with	Supersedes -
-201, -202, -203, -501	BS EN 60811-1-1:1995
-301, -302, -411, -601, -602, -603, -604	BS EN 60811-5-1:2000
-401, -412	BS EN 60811-1-2:1995
-402, -502, -503, -606	BS EN 60811-1-3:1995
-403, -404, -507	BS EN 60811-2-1:1998
-405, -409	BS EN 60811-3-2:1995
-406, -511, -605, -607	BS EN 60811-4-1:2004
-407, -408, -410, -510, -512, -513	BS EN 60811-4-2:2004
-504, -505, -506	BS EN 60811-1-4:1995
-508, -509	BS EN 60811-3-1:1995

Superseded standards are withdrawn

The UK participation in its preparation was entrusted by Technical Committee GEL/20, Electric cables, to Subcommittee GEL/20/17, Electric Cables - Low voltage.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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### Amendments issued since publication

Amd. No.	Date	Text affected
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English version

**Electric and optical fibre cables -  
Test methods for non-metallic materials -  
Part 203: General tests -  
Measurement of overall dimensions  
(IEC 60811-203:2012)**

Câbles électriques et à fibres optiques -  
Méthodes d'essai pour les matériaux non-  
métalliques -  
Partie 203: Essais généraux -  
Mesure des dimensions extérieures  
(CEI 60811-203:2012)

Kabel, isolierte Leitungen und  
Glasfaserkabel -  
Prüfverfahren für nichtmetallene  
Werkstoffe -  
Teil 203: Allgemeine Prüfungen -  
Messung der Außenmaße  
(IEC 60811-203:2012)

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 20/1282/FDIS, future edition 1 of IEC 60811-203, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-203:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-01-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-04-16

This document supersedes 8.3 of EN 60811-1-1:1995 + A1:2001 (partially). Full details of the replacements are shown in Annex A of EN 60811-100:2012.

There are no technical changes with respect to EN 60811-1-1:1995 + A1:2001, but see 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 60811-203:2012 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

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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 203: General tests – Measurement of overall dimensions

### 1 Scope

This Part 203 of IEC 60811 gives the methods for measuring overall dimensions and is applicable to all types of cable, circular and flat.

### 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*

### 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.

Unless otherwise specified, tests shall be carried out at room temperature.

The measurement of the overall dimensions over the insulation of cores or over the sheath may be required as individual tests or as steps in the procedure for carrying out other tests.

The methods used in 4.2 below are for general use, except where the procedure for a particular test specifies a different or alternative method.

In each case, the method of selecting samples shall be in accordance with the relevant cable standard.

#### 4.2 Measuring procedure

The measuring procedure shall be as follows:

- a) For cables with overall dimensions not exceeding 25 mm, the measurements shall be made by means of a micrometer, a profile projector or similar apparatus, in two directions perpendicular to each other.

For measurements made in the course of routine tests, it is permissible to use a dial micrometer or a vernier calliper, care being taken to limit the pressure.



- b) If the overall diameter exceeds 25 mm, the circumference of the cable shall be measured by means of a measuring tape, and the diameter shall be calculated. Alternatively, a direct reading diameter tape can be used.
- c) For flat cables, the measurements shall be made along the major and minor axes of the cross-section by means of a micrometer, a profile projector or similar apparatus.

Unless otherwise specified in the relevant cable design standard, the reading shall be made to one decimal place of a millimetre for dimensions up to and including 25 mm, and to the nearest 0,5 mm for dimensions exceeding 25 mm.

#### **4.3 Evaluation of the measurement results**

The results shall be evaluated as specified in the test requirements of the relevant cable standard.

### **5 Test report**

The test report shall be in accordance with that given in IEC 60811-100.

## Bibliography

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*  
(withdrawn)

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