

This is a preview of "BS EN 60811-501:2012". [Click here to purchase the full version from the ANSI store.](#)

BS EN 60811-501:2012



BSI Standards Publication

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

Part 501: Mechanical tests — Tests for determining the mechanical properties of insulating and sheathing compounds

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

raising standards worldwide™



This is a preview of "BS EN 60811-501:2012". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN 60811-501:2012. It is identical to IEC 60811-501:2012.

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Superseded standards are withdrawn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.

© The British Standards Institution 2012

Published by BSI Standards Limited 2012

ISBN 978 0 580 65323 0

ICS 29.035.01; 29.060.20

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2012.

Amendments issued since publication

Amd. No.	Date	Text affected
----------	------	---------------

EUROPÄISCHE NORM

June 2012

ICS 29.035.01; 29.060.20

Supersedes EN 60811-1-1:1995 (partially) + A1:2001 (partially)

English version

**Electric and optical fibre cables -
Test methods for non-metallic materials -
Part 501: Mechanical tests -
Tests for determining the mechanical properties of insulating
and sheathing compounds
(IEC 60811-501:2012)**

Câbles électriques et à fibres optiques -
Méthodes d'essai pour les matériaux
non-métalliques -
Partie 501: Essais mécaniques -
Détermination des propriétés mécaniques
des mélanges pour les enveloppes
isolantes et les gaines
(CEI 60811-501:2012)

Kabel, isolierte Leitungen und
Glasfaserkabel - Prüfverfahren
für nichtmetallene Werkstoffe -
Teil 501: Mechanische Prüfungen -
Prüfungen zur Bestimmung
der mechanischen Eigenschaften
von Isolier- und Mantelwerkstoffen
(IEC 60811-501:2012)

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.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

This is a preview of "BS EN 60811-501:2012". [Click here to purchase the full version from the ANSI store.](#)

The text of document 20/1297/FDIS, future edition 1 of IEC 60811-501, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-501:2012.

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) 2013-01-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-04-17

This document supersedes Clause 9 of EN 60811-1-1:1995 + A1:2001 (partially). Full details of the replacements are shown in Annex A of EN 60811-100:2012.

EN 60811-501:2012 includes the following significant technical change with respect to EN 60811-1-1:1995:

- the requirements for the (minimum) thickness of dumb-bell test pieces have changed.

See also the Foreword to EN 60811-100.

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 60811-501:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 60811-1-1:1993 NOTE Harmonized as EN 60811-1-1:1995 (not modified).

This is a preview of "BS EN 60811-501:2012". [Click here to purchase the full version from the ANSI store.](#)

(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	-
IEC 60811-203	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 203: General tests - Measurement of overall dimensions	EN 60811-203	-
IEC 60811-401	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven	EN 60811-401	-
IEC 60811-404	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 404: Miscellaneous tests - Mineral oil immersion tests for sheaths	EN 60811-404	-
IEC 60811-606	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 606: Physical tests - Methods for determining the density	EN 60811-606	-

This is a preview of "BS EN 60811-501:2012". [Click here to purchase the full version from the ANSI store.](#)

CONTENTS

INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 Test method	7
4.1 General.....	7
4.2 Insulation	7
4.2.1 General	7
4.2.2 Sampling	7
4.2.3 Preparation and conditioning of test pieces	7
4.2.4 Determination of cross-sectional area.....	9
4.2.5 Ageing treatment	11
4.2.6 Tensile testing procedure	11
4.2.7 Expression of results	11
4.3 Sheath	12
4.3.1 General	12
4.3.2 Sampling	12
4.3.3 Preparation and conditioning of test pieces	12
4.3.4 Determination of cross-sectional area.....	12
4.3.5 Ageing treatment	13
4.3.6 Tensile testing procedure	13
4.3.7 Expression of results	13
5 Test report.....	13
Annex A (informative) Principle of operation of a typical machine for preparing test pieces.....	16
Bibliography.....	17
Figure 1 – Dumb-bell test piece	14
Figure 2 – Small dumb-bell test piece	14
Figure 3 – Punch end showing groove	14
Figure 4 – Test pieces cut by grooved punch	15
Figure A.1 – Machine for preparing test pieces	16