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NSAI Standards

Irish Standard
I.S. EN 60811-401:2012&A1:2017

Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven

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I.S. EN 60811-401:2012&A1:2017 is the adopted Irish version of the European Document EN 60811-401:2012, Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven

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NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60811-401:2012/A1

November 2017

ICS 29.035.01; 29.060.20

English Version

Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven (IEC 60811-401:2012/A1:2017)

Câbles électriques et à fibres optiques - Méthodes d'essai pour les matériaux non-métalliques - Partie 401: Essais divers - Méthodes de vieillissement thermique - Vieillissement en étuve à air (IEC 60811-401:2012/A1:2017)

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European foreword

The text of document 20/1733/FDIS, future IEC 60811-401:2012/A1, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-401:2012/A1:2017.

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) 2018-05-25
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NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60811-401

June 2012

ICS 29.035.01; 29.060.20

Supersedes EN 60811-1-2:1995 (partially) + A2:2000 (partially)

English version

Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven

(IEC 60811-401:2012)

Câbles électriques et à fibres optiques - Méthodes d'essai pour les matériaux non-métalliques - Partie 401: Essais divers - Méthodes de vieillissement thermique - Vieillissement en étuve à air (CEI 60811-401:2012)

Kabel, isolierte Leitungen und Glasfaserkabel - Prüfverfahren für nichtmetallene Werkstoffe - Teil 401: Sonstige Prüfungen - Thermische Alterungsverfahren - Alterung im Wärmeschrank (IEC 60811-401:2012)

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Foreword

The text of document 20/1285/FDIS, future edition 1 of IEC 60811-401, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60811-401:2012.

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This document supersedes 8.1 and 8.4 of EN 60811-1-2:1995 + A2:2000 (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 60811-1-2:1995 + A2:2000, but see the Foreword to EN 60811-100:2012.

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

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

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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.

Publication	Year	Title	EN/HD	Year
IEC 60228	-	Conductors of insulated cables	EN 60228	-
IEC 60811-100	2012	Electric and optical fibre cables - Test methods for non-metallic materials - Part 100: General	EN 60811-100	2012
IEC 60811-409	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 409: Miscellaneous tests - Loss of mass test for thermoplastic insulations and sheaths	EN 60811-409	-
IEC 60811-501	-	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	EN 60811-501	-
IEC 60811-504	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 504: Mechanical tests - Bending tests at low temperature for insulation and sheaths	EN 60811-504	-

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IEC 60811-401

Edition 1.0 2012-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven

FOREWORD

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International Standard IEC 60811-401 has been prepared by IEC technical committee 20: Electric cables.

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There are no specific technical changes with respect to the previous edition, but see the Foreword to IEC 60811-100:2012.

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The text of this standard is based on the following documents:

FDIS	Report on voting
20/1285/FDIS	20/1334/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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 publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
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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.

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

Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven

1 Scope

This Part 401 of IEC 60811 specifies the procedure for ageing in an air oven, which typically applies to crosslinked and thermoplastic compounds used for insulating and sheathing materials.

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 60228, *Conductors of insulated cables*

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

IEC 60811-409*, Electric and optical fibre cables – Test methods for non-metallic materials – Part 409: Miscellaneous tests – Loss of mass test for thermoplastic insulations and sheaths*

IEC 60811-501*, 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 60811-504*, Electric and optical fibre cables – Test methods for non-metallic materials – Part 504: Mechanical tests – Bending tests at low temperature for insulation and 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.

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

An ageing treatment in an air oven may be required by the relevant cable standard:

a) for prepared test pieces of insulating or sheathing material only (see 4.2.3.2);
b) for prepared test pieces of cores (conductor and insulation) (see 4.2.3.2 and 4.2.3.3 if necessary);

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