# IEC 60811-607

Edition 1.0 2012-03

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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## Electric and optical fibre cables – Test methods for non-metallic materials – Part 607: Physical tests – Test for the assessment of carbon black dispersion in polyethylene and polypropylene

## Câbles électriques et à fibres optiques – Méthodes d'essai pour les matériaux non-métalliques – Partie 607: Essais physiques – Essai pour l'évaluation de la dispersion du noir de carbone dans le polyéthylène et le polypropylène



IEC 60811-607:2012

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IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

## Part 607: Physical tests – Test for the assessment of carbon black dispersion in polyethylene and polypropylene

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## FOREWORD

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International Standard IEC 60811-607 has been prepared by IEC technical committee 20: Electric cables.

This Part 607 of IEC 60811 cancels and replaces Clause 13 of IEC 60811-4-1:2004, which is withdrawn. Full details of the replacements are shown in Annex A of IEC 60811-100:2012.

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

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

| FDIS | Report on voting |
|---|---|
| 20/1316/FDIS | 20/1366/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,
- withdrawn,
- replaced by a revised edition, or
- amended.

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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 607: Physical tests – Test for the assessment of carbon black dispersion in polyethylene and polypropylene

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## 1 Scope

This Part 607 of IEC 60811 specifies test methods for carbon black dispersion that are applicable specifically to PE and PP compounds, including cellular compounds and foam skin for insulation.

## 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*

ISO 18553:2002*, Method for the assessment of the degree of pigment or carbon black dispersion in polyolefin pipes, fittings and compounds*

## 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.

The assessment shall be carried out in accordance with ISO 18553. The method is suitable for use with granules of polyethylene or granule of polypropylene compound or extrusion of polyethylene or polypropylene (for example a sheath).

NOTE The method applies with less than 3 % carbon black content.

ISO 18553 gives two procedures for the preparation of test specimens. Either may be used, but the following recommendations apply:

– the compression procedure is primarily intended for use with polyethylene compounds, but may be used for extrusions;

– the microtome procedure is intended for use with polyethylene extrusions.

### 4.2 Procedure

Prepare the specified number of test specimens in accordance with ISO 18553.