

# INTERNATIONAL STANDARD

---

**Coaxial communication cables –  
Part 5: Sectional specification for CATV trunk and distribution cables**





**THIS PUBLICATION IS COPYRIGHT PROTECTED**  
**Copyright © 2018 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

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

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

#### **About the IEC**

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

#### **About IEC publications**

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

#### **IEC Catalogue - [webstore.iec.ch/catalogue](http://webstore.iec.ch/catalogue)**

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

#### **IEC publications search - [webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)**

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

#### **IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)**

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

#### **Electropedia - [www.electropedia.org](http://www.electropedia.org)**

The world's leading online dictionary of electronic and electrical terms containing 21 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

#### **IEC Glossary - [webstore.iec.ch/glossary](http://webstore.iec.ch/glossary)**

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

#### **IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)**

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

# INTERNATIONAL STANDARD

---

**Coaxial communication cables –  
Part 5: Sectional specification for CATV trunk and distribution cables**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

---

ICS 33.120.10

ISBN 978-2-8322-5258-1

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	7
4 Materials and cable construction .....	7
4.1 Cable construction .....	7
4.2 Inner conductor.....	7
4.2.1 Conductor material .....	7
4.2.2 Conductor construction.....	7
4.3 Dielectric .....	8
4.4 Outer conductor or screen .....	8
4.5 Sheath.....	8
4.6 Completed cable.....	9
5 Standard ratings and characteristics.....	9
6 Identification and marking.....	9
6.1 Cable identification .....	9
6.2 Cable marking.....	9
6.3 Labelling.....	9
7 Tests for completed cables.....	9
7.1 General.....	9
7.2 Electrical testing of the finished cable .....	9
7.3 High-frequency electrical and transmission test procedures and requirements.....	10
7.4 Environmental test procedures and requirements of the finished cable .....	11
7.5 Test procedures and requirements of mechanical characteristics of the finished cable.....	12
7.6 Fire performance .....	13
8 Quality assessment .....	13
9 Delivery and storage.....	13
Annex A (informative) Cable types .....	14
Table 1 – Low-frequency and DC test procedures and requirements.....	10
Table 2 – High-frequency electrical and transmission test procedures and requirements .....	10
Table 3 – Environmental test procedures and requirements of the finished cable.....	11
Table 4 – Test procedures and requirements of mechanical characteristics of the finished cable .....	12
Table 5 – Fire performance requirements.....	13
Table A.1 – Distribution and trunk cables – Preferred nominal dimensions and ratings .....	14

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## COAXIAL COMMUNICATION CABLES –

Part 5: Sectional specification for CATV trunk  
and distribution cables

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, accept IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61196-5 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories.

This third edition cancels and replaces the second edition published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition:

- a) 1 Scope: revised, frequency range extended to 2 000 MHz;
- b) 4.3 Dielectric: life expectancy of the dielectric is proved by oxidative induction time (OIT) test before and after ageing according to IEC 60811-410;
- c) Annex A: Table A.1, Cable types added.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
46A/1351/FDIS	46A/1357/RVD

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

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

This International Standard is to be used in conjunction with IEC 61196-1:2005.

A list of all parts of the IEC 61196 series, published under the general title *Coaxial communication cables*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

## COAXIAL COMMUNICATION CABLES –

### Part 5: Sectional specification for CATV trunk and distribution cables

#### 1 Scope

This part of IEC 61196, which is a sectional specification, applies to coaxial cables for analogue and digital one- and two-way signal transmission, e.g. for cable networks for television signals, sound signals and interactive services in accordance with IEC 60728-1, IEC 60728-1-1, IEC 60728-101, IEC 60728-10, ISO/IEC 11801-1 and ISO/IEC 11801-4. This includes also the transmission of BCT signals provided by a CATV, MATV or S/MATV cable networks.

This document specifies the test procedures and requirements for trunk and distribution cables for temperatures between  $-40\text{ °C}$  and  $+65\text{ °C}$  and in the frequency range of 5 MHz to 2 000 MHz.

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60096-0-1, *Radio Frequency cables – Part 0-1: Guide to the design of detail specifications – Coaxial cables*

IEC 60728-1, *Cable networks for television signals, sound signals and interactive services – Part 1: System performance of forward paths*

IEC 60811-410, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 410: Miscellaneous tests – Test method for copper-catalyzed oxidative degradation of polyolefin insulated conductors*

IEC 60811-605, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 605: Physical tests – Measurement of carbon black and/or mineral filler in polyethylene compounds*

IEC 61196-1:2005, *Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements*

IEC 61196-1-1, *Coaxial communication cables – Part 1-1: Capability approval for coaxial cables*

IEC 61196-1-101, *Coaxial communication cables – Part 1-101: Electrical test methods – Test for conductor d.c. resistance of cable*