Coaxial communication cables –
Part 5: Sectional specification for CATV trunk and distribution cables
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COAXIAL COMMUNICATION CABLES –

Part 5: Sectional specification for CATV trunk and distribution cables

FOREWORD

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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:

<table>
<thead>
<tr>
<th>FDIS</th>
<th>Report on voting</th>
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<td>46A/1351/FDIS</td>
<td>46A/1357/RVD</td>
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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- withdrawn,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.
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 SMATV cable networks.

This document specifies the test procedures and requirements for trunk and distribution cables for temperatures between −40 °C and +65 °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 60811-605, 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 61196-1-102, Coaxial communication cables – Part 1-102: Electrical test methods – Test for insulation resistance of cable dielectric

IEC 61196-1-105, Coaxial communication cables – Part 1-105: Electrical test methods – Test for withstand voltage of cable dielectric

IEC 61196-1-106, Coaxial communication cables – Part 1-106: Electrical test methods – Test for withstand voltage of cable sheath


IEC 61196-1-112, Coaxial communication cables – Part 1-112: Electrical test methods – Test for return loss (uniformity of impedance)

IEC 61196-1-113, Coaxial communication cables – Part 1-113: Electrical test methods – Test for attenuation constant

IEC 61196-1-115, Coaxial communication cables – Part 1-115: Electrical test methods – Test for regularity of impedance (pulse/step function return loss)

IEC 61196-1-201, Coaxial communication cables – Part 1-201: Environmental test methods – Test for cold bend performance of cable

IEC 61196-1-203, Coaxial communication cables – Part 1-203: Environmental test methods – Test for water penetration of cable

IEC 61196-1-206, Coaxial communication cables – Part 1-206: Environmental test methods – Climatic sequence

IEC 61196-1-209, Coaxial communication cables – Part 1-209: Environmental test methods – Thermal ageing

IEC 61196-1-301, Coaxial communication cables – Part 1-301: Mechanical test methods – Test for ovality

IEC 61196-1-302, Coaxial communication cables – Part 1-302: Mechanical test methods – Test for eccentricity

IEC 61196-1-308, Coaxial communication cables – Part 1-308: Mechanical test methods – Test for tensile strength and elongation for copper-clad metals

IEC 61196-1-310, Coaxial communication cables – Part 1-310: Mechanical test methods – Test for torsion characteristics of copper-clad metals

IEC 61196-1-313, Coaxial communication cables – Part 1-313: Mechanical test methods – Adhesion of dielectric and sheath

IEC 61196-1-314, Coaxial communication cables – Part 1-314: Mechanical test methods – Test for bending

IEC 61196-1-316, Coaxial communication cables – Part 1-316: Mechanical test methods – Test of maximum pulling force of cable
4 Materials and cable construction

4.1 Cable construction
The cable construction shall be in accordance with Subclauses 4.2 to 4.6 and the requirements stated in the relevant detail specification.

4.2 Inner conductor

4.2.1 Conductor material
Subclause 4.4.1 of 61196-1:2005 applies. The conductor material shall be as stated in the relevant cable detail specification.

4.2.2 Conductor construction
The conductor shall consist of a single strand or tube. In addition, 4.4.1 of IEC 61196-1:2005 applies. The centre conductor diameter shall be stated in the relevant detail specification. The tolerance on the centre conductor shall be ±0.03 mm for conductors with a diameter ≤4 mm.

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1 An IEC test procedure for UV stability is under consideration.