

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Coaxial communication cables –  
Part 4: Sectional specification for radiating cables**

**Câbles coaxiaux de communication –  
Partie 4: Spécification intermédiaire pour câbles rayonnants**





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COMMISSION

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## CONTENTS

FOREWORD .....	4
1 Scope .....	6
2 Normative references .....	6
3 Terms and definitions .....	8
4 Materials and construction .....	9
4.1 General .....	9
4.2 Inner conductor .....	10
4.3 Dielectric .....	10
4.4 Outer conductor .....	10
4.5 Sheath .....	11
5 IEC type designation .....	11
5.1 Type name .....	11
5.2 Variant .....	11
6 Standard rating and characteristics .....	12
6.1 Nominal characteristic impedance .....	12
6.2 Rated temperature range .....	12
6.3 Operating frequency .....	12
6.4 Stop frequency band .....	12
6.5 Radiating characteristics .....	12
7 Identification, marking and labelling .....	13
7.1 Cable identification .....	13
7.2 Cable marking .....	13
7.3 Labelling .....	13
8 Requirements of finished cables .....	13
8.1 General .....	13
8.2 Electrical requirement of the finished cable (see Table 3) .....	14
8.3 Environmental requirement (see Table 4) .....	15
8.4 Mechanical requirement (see Table 5) .....	16
8.5 Fire performance requirement (see Table 6) .....	16
9 Quality assessment .....	17
10 Delivery and storage .....	17
Annex A (informative) The coupling loss around circumferential orientation of radiating cable .....	18
A.1 General .....	18
A.2 Terms and definitions .....	18
A.3 Test method .....	18
A.4 Calculation .....	19
A.5 Requirements .....	20
A.6 Test report .....	20
Annex B (informative) Radiation intensity around circumferential orientation of radiating cable .....	21
B.1 General .....	21
B.2 Terms and definitions .....	21
B.3 Test method .....	21
B.4 Calculation .....	22

B.5 Requirements ..... 23

B.6 Test report ..... 23

Bibliography ..... 24

  

Figure A.1 – Example of testing coupling loss around circumferential orientation of radiating cable (Y-Z) ..... 19

Figure A.2 – Example of coupling loss chart around circumferential orientation of radiating cable ..... 20

Figure B.1 – Example of testing arrangement of radiation intensity chart around circumferential orientation of radiating cable ..... 22

Figure B.2 – Example of radiation intensity chart around circumferential orientation of radiating cable ..... 23

  

Table 1 – Rated temperature ..... 12

Table 2 – Operating frequency ..... 12

Table 3 – Electrical requirement ..... 14

Table 4 – Environmental requirement ..... 15

Table 5 – Mechanical requirement ..... 16

Table 6 – Fire performance requirement ..... 17

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**COAXIAL COMMUNICATION CABLES –****Part 4: Sectional specification for radiating cables****FOREWORD**

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IEC 61196-4 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. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2015. This edition constitutes a technical revision.

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

- a) rewrote "1 Scope" to be consistent with other blank detail specifications of coaxial cables;
- b) updated different standards in "Clause 2 Normative references";
- c) added the definitions of uniformly radiating type cable, stop frequency band and link loss;
- d) added different materials and constructions in 4.2 to 4.5;
- e) added "Clause 5 IEC type designation";

- f) added a detailed rated temperature range of different materials in "6.2 Rated temperature range";
- g) added detailed frequencies in "6.3 Operating frequency range";
- h) added "6.4 Stop frequency band" and "6.5 Radiating characteristics";
- i) added different detail requirements or typical values in 8.2.4, 8.2.7, 8.2.8, 8.4.3 to 8.4.8;
- j) deleted "7.4.4 Ovality of outer conductor";
- k) added "8.2.11 Link loss", "8.4.9 Adhesion of dielectric", "8.4.10 Shrinkage for insulations", "8.4.11 Maximum pulling force of cable";
- l) used IEC 61196-1-123 and IEC 61196-1-124 in the electrical requirements to replace Annex A and Annex B respectively and deleted Annex A and Annex B;
- m) added "Figure A.1 Example of testing coupling loss around circumferential orientation of radiating cable (Y-Z)" in Annex A.

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

Draft	Report on voting
46A/1583/FDIS	46A/1598/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

This part of IEC 61196 is to be read in conjunction with IEC 61196-1:2005.

A list of all parts in 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 [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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## COAXIAL COMMUNICATION CABLES –

### Part 4: Sectional specification for radiating cables

#### 1 Scope

This part of IEC 61196 applies to radiating coaxial communication cables, and specifies the terms and definitions, material and construction, IEC type designation, standard rating and characteristics, identification, marking and labelling, requirements of finished cables, quality assessment, delivery and storage, etc. Radiating coaxial communication cables are widely used in wireless communication systems for long, narrow, semi-enclosed and indoor environments, such as high-speed railways, subways, tunnels, and indoor environments.

#### 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 60068-2-61, *Environmental testing – Part 2-61: Test methods: Test Z/ABDM: Climatic sequence*

IEC 60332-1-2, *Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame*

IEC 60754-1, *Test on gases evolved during combustion of materials from cables – Part 1: Determination of the halogen acid gas content*

IEC TS 60695-7-50<sup>1</sup>, *Fire hazard testing – Part 7-50: Toxicity of fire effluent – Estimation of toxic potency – Apparatus and test method*

IEC TS 60695-7-51<sup>2</sup>, *Fire hazard testing – Part 7-51: Toxicity of fire effluent – Estimation of toxic potency – Calculation and interpretation of test results*

IEC 60811-406, *Electric optical fibre cables – Test methods for non-metallic materials – Part 406: Miscellaneous tests – Resistance to stress cracking of polyethylene and polypropylene compounds*

IEC 60811-502, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 502: Mechanical tests – Shrinkage test for insulations*

IEC 61034-2, *Measurement of smoke density of cables burning under defined conditions – Part 2: Test procedure and requirements*

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<sup>1</sup> Withdrawn.

<sup>2</sup> Withdrawn.