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COAXIAL COMMUNICATION CABLES –

Part 9: Sectional specification for flexible RF coaxial cables

FOREWORD

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IEC 61196-9 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 second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

- a) Title: "RF flexible cables" is changed to "flexible RF coaxial cables",
- b) Clause 2: different standards are added,
- c) Subclauses 4.2 to 4.5: materials and construction details are added,

- d) Subclause 5.1: nominal characteristic impedance is added,
- e) Subclause 5.2: rated temperature range is added,
- f) Subclause 5.4: power rating is added,
- g) Subclause 5.4: bending radius is added,
- h) Clause 6: cable identification is revised,
- i) Clause 7: completely revised, different requirements or typical values are added,
- j) Annex A: Stress-crack resistance is added,
- k) Annex B: Vibrations is added.

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

Draft	Report on voting
46A1620/CDV	46A/1634/RVC

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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document 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 in the data related to the specific document. At this date, the document will be

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- withdrawn,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

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COAXIAL COMMUNICATION CABLES –

Part 9: Sectional specification for flexible RF coaxial cables

1 Scope

This part of IEC 61196 specifies the materials and cable construction for RF flexible coaxial communication cables with solid or with semi-air-spaced dielectric, IEC type designation, identification, marking and labelling, standard rating and characteristics, requirements of finished cables, quality assessment, delivery and storage, etc.

This document applies to RF flexible coaxial communication cables for use in mobile communication systems, microwave test equipment and other fields. It is read in conjunction with IEC 61196-1:2005.

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 60068-2-20:2021, *Environmental testing – Part 2-20: Tests – Test Ta and Tb: Test methods for solderability and resistance to soldering heat of devices with leads*

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 60811-607, *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*

IEC 60966-1:2019, *Radio frequency and coaxial cable assemblies – Part 1: Generic specification – General requirements and test methods*

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

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*

IEC 61196-1-102, *Coaxial communication cables – Part 1-102: Electrical test methods – Test for insulation resistance of cable dielectric*

IEC 61196-1-103, *Coaxial communication cables – Part 1-103: Electrical test methods – Test for capacitance of cable*

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 61196-1-108, *Coaxial communication cables – Part 1-108: Electrical test methods – Test for characteristic impedance, phase and group delay, electrical length and propagation velocity*

IEC 61196-1-110, *Coaxial communication cables – Part 1-110: Electrical test methods – Test for continuity*

IEC 61196-1-111, *Coaxial communication cables – Part 1-111: Electrical test methods – Stability of phase test methods*

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 61196-1-114, *Coaxial communication cables – Part 1-114: Electrical test methods – Test for inductance*

IEC 61196-1-116, *Coaxial communication cables – Part 1-116: Electrical test methods – Test for impedance with time domain reflectometry (TDR)*

IEC 61196-1-119, *Coaxial communication cables – Part 1-119: Electrical test methods – RF average power rating*

IEC 61196-1-126, *Coaxial communication cables – Part 1-126: Electrical test methods – Corona extinction voltage*

IEC 61196-1-201:2009, *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 cycling*

IEC 61196-1-212, *Coaxial communication cables – Part 1-212: Environmental test methods – UV stability*

IEC 61196-1-215, *Coaxial communication cables – Part 1-215: Environmental test methods – High temperature cable 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 61196-1-313, *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*

IEC 61196-1-317, *Coaxial communication cables – Part 1-317: Mechanical test methods – Test for crush resistance of cable*

IEC 61196-1-324, *Coaxial communication cables – Part 1-324: Mechanical test methods – Test for abrasion resistance of cable*

IEC 62037-4, *Passive RF and microwave devices, intermodulation level measurement – Part 4: Measurement of passive intermodulation in coaxial cables*

IEC 62153-4-3, *Metallic communication cable test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method*

IEC 62153-4-4, *Metallic communication cable test methods – Part 4-4: Electromagnetic compatibility (EMC) – Test method for measuring of the screening attenuation as up to and above 3 GHz, triaxial method*

IEC 62230, *Electric cables, Spark-test method*