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Edition 1.0 2022-09

INTERNATIONAL STANDARD

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Coaxial communication cables – Part 1-125: Electrical test methods – Test for equivalent relative permittivity and equivalent dissipation factor of dielectric



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COAXIAL COMMUNICATION CABLES –

Part 1-125: Electrical test methods – Test for equivalent relative permittivity and equivalent dissipation factor of dielectric

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IEC 61196-1-125 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories. It is an International Standard.

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

Draft	Report on voting
46A/1581/FDIS	46A/1596/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.

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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.

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.

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

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- replaced by a revised edition, or
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COAXIAL COMMUNICATION CABLES –

Part 1-125: Electrical test methods – Test for equivalent relative permittivity and equivalent dissipation factor of dielectric

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1 Scope

This part of IEC 61196 specifies the test method to determine the equivalent relative permittivity and dissipation factor of dielectric for coaxial cables. It is intended to provide the dielectric properties of finished cables.

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 61169-1, *Radio frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

IEC 61169-1-2:2019, *Radio-frequency connectors – Part 1-2: Electrical test methods – Insertion loss*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61196-1 and IEC 61169-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
relative permittivity
ε_r
ratio of the capacitance of a capacitor using that material as a dielectric, compared to a similar capacitor that has vacuum as its dielectric

3.2
equivalent relative permittivity
ε_e
relative permittivity for a complex medium