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INTERNATIONAL STANDARD

Coaxial communication cables –
Part 1-208: Environmental test methods – Longitudinal pneumatic resistance

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FOREWORD

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International Standard IEC 61196-1-208 has been prepared by subcommittee 46A: Coaxiable cables, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
46A/922/FDIS	46A/929/RVD

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

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

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication 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- withdrawn,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 1-208: Environmental test methods – Longitudinal pneumatic resistance

1 Scope

This part of IEC 61196 details a method of test to determine the longitudinal pneumatic resistance of coaxial communication cables protected by gas pressurisation.

2 Normative references

The following referenced documents are indispensable for the application 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 60050-726, *International Electrotechnical Vocabulary – Transmission lines and waveguides*

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 definitions given in IEC 60050-726 and IEC 61196-1 apply.

4 Test method

4.1 Equipment

Pneumatic equipment to supply a regulated pressure of air to the test specimen, flow-meter, barometer and thermometer are needed. Other types of gas may be used if specified in the relevant cable specification.

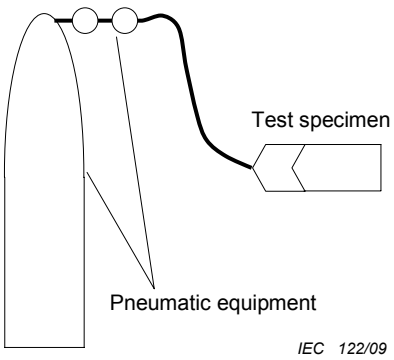

Figure 1 – Schematic test set-up

4.2 Test specimen

The specimen is that of finished cable having a sufficient length to carry out the test specified.

4.3 Procedure

The ambient temperature and barometric pressure shall be measured.

The test specimen shall have one end connected to a pressure regulated source providing a steady state flow of air or other types of gas if specified in the relevant cable specification with a dryness of ≤ 5 % RH at 20 °C. The other end of the cable shall be open to the atmosphere.

The pressure applied across the cable shall be 62 kPa ± 2 % and the steady state air flow shall be recorded using a flow-meter calibrated to ± 10 %. Other pressures may be applied in accordance with particular user requirements and/or as specified in the detail specification.

Only those air paths intended to be pressurised shall be used in the measurement.

A second measurement shall be made with the air flow direction reversed and the results shall be recorded separately.

The pneumatic resistance is derived from

$$\text{Pneumatic resistance} = \frac{60P_t}{f\ L} \cdot \frac{\text{kPa}}{\frac{\text{m}^3}{\text{s}} \cdot \text{m}} = \frac{60P_t}{f\ L}\ \text{kPa} \cdot \text{s} \cdot \text{m}^{-4}$$

where

P_t is the test pressure (kPa);

L is the specimen length (m);

f is the flow (m^3/s).

5 Requirements

5.1 General

The pneumatic resistance shall comply with the maximum value given in the relevant cable specification.

5.2 Details to be specified

The detail specification shall mention:

– maximum pneumatic resistance;
– specimen length;
– pressure, if different from 62 kPa.

6 Test report

The test report shall include:

– test conditions;
– ambient barometric pressure;
– ambient temperature;
– pneumatic resistance in both directions;

– pass/fail criteria and the evaluation in this regard.

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