

**PS: IEC 61196-1-102 /2014**  
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## **PAKISTAN STANDARD**

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**COAXIAL COMMUNICATION CABLES – PART 1-102:  
ELECTRICAL TEST METHODS – TEST FOR INSULATION  
RESISTANCE OF CABLE DIELECTRIC.**



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**PAKISTAN STANDARDS AND QUALITY CONTROL AUTHORITY,  
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**PS: IEC 6196-1-102/2014**

**PAKISTAN STANDARD SPECIFICATION  
FOR  
COAXIAL COMMUNICATION CABLES –  
PART 1-102: ELECTRICAL TEST METHODS –  
TEST FOR INSULATION RESISTANCE OF CABLE DIELECTRIC**

**0 FOREWORD**

- 0.1 This Pakistan Standard was adopted by Standards Development Centre / Pakistan Standards and Quality Control Authority (PSQCA), after the draft prepared by the Technical Committee for “**Cables, wires and waveguides (ESTC-9)**” had been approved and endorsed by the National Standards Committee for Electronics on 11-11-2014.
- 0.2 This Pakistan Standard is an adoption of IEC Publication IEC 61196-1-102-2005: Coaxial communication cables – Part 1-102: Electrical test methods – Test for insulation resistance of cable dielectric.
- 0.3 This Standard has been prepared and finalized after taking into consideration the views and suggestions put forwarded by the representative section of technologists, manufacturers and utilizing agencies.
- 0.4 This Standard is subject to periodical review in order to keep pace with the changing requirements and latest development in the industry. Any suggestion for improvement will be recorded and placed before the revising committee in due course.
- 0.5 This Standard covers the technical provisions and it does not purport to include all the necessary provisions of a contract.
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## COAXIAL COMMUNICATION CABLES –

### Part 1-102: Electrical test methods – Test for insulation resistance of cable dielectric

#### 1 Scope

This part of IEC 61196 applies to coaxial communication cables. It specifies test methods for determining the insulation resistance of coaxial cables.

#### 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 61196-1:2005, *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 apply.

#### 4 Test for insulation resistance of dielectric

##### 4.1 Principle

The purpose of the test is to determine the d.c. insulation resistance of the insulation material between the inner conductor and the outer conductor or screen or the d.c. insulation resistance of an insulating material between the outer conductor and additional screens or metallic elements of a cable.

##### 4.2 Test equipment

A d.c. power supply  $>80$  V d.c. and  $\leq 500$  V d.c., unless otherwise specified.

A megohmmeter with a range  $\geq 2 \cdot 10^5$  M $\Omega$ .

##### 4.3 Preparation of test specimen

The test shall be carried out on a delivery length of finished cable, after preconditioning at a temperature between 15 °C and 35 °C and checking of the continuity of the conductors. The conductor ends shall be stripped of insulation.

#### 4.4 Procedure

Unless otherwise specified, the insulation resistance shall be measured between inner and outer conductor and/or between the outer conductor and additional metallic elements. If it is not specified in the relevant cable specification, the test voltage shall be 500 V and the minimum period of electrification shall be 1 min.

#### 4.5 Expression of results

The insulation resistance shall be expressed in M& km. When the test length differs from 1 000 m, the measured value shall be corrected as follows:

$$R = R_m \frac{l}{1\,000} \quad \text{in M\& km}$$

where

$R$  is the corrected insulation resistance in M& km;

$R_m$  is the insulation resistance measured, in M& km;

$l$  is the cable length, in km.

#### 5 Test report

The test report shall give the following test conditions:

- temperature, in °C;
- CUT length, in m;
- test voltage, in V

and record the measured and the corrected value of the insulation resistance in M& km.

#### 6 Requirement

The corrected value of the insulation resistance shall comply with that indicated in the relevant sectional or detail specification.