NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 17737.102-2018

Coaxial communication cables -- Part 1-102: Electrical test methods -- Test for insulation resistance of cable dielectric

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Foreword

GB/T 17737 "Coax Cable" has been or is planned to release the following parts.

--- Part 1. General rules, definitions and requirements;

---Part 1-100. General requirements for electrical test methods;

--- Part 1-101. Electrical test method Conductor DC resistance test;

--- Part 1-102. Electrical test method cable dielectric insulation resistance test;

--- Part 1-1-3. Electrical test method for cable capacitance test;

--- Part 1-1-4. Electrical test method for the capacitance stability test of cables;

--- Part 1-105. Electrical test method for withstand voltage test of cable media;

---Parts 1-106. Electrical test method - Withstand voltage test for cable sheathing;

--- Part 1-107. Electrical test method cable trembling charge level (mechanical induction noise) test;

--- Part 1-108. Electrical test methods for characteristic impedance, phase delay, group delay, electrical length and propagation speed test;

--- Part 1-110. Electrical test method continuity;

--- Part 1-111. Stability test of phase constants of electrical test methods;

--- Part 1-112. Electrical test method return loss (impedance consistency) test;

--- Part 1-113. Electrical test method attenuation constant test;

--- Part 1-114. Electrical test method inductance;

--- Part 1-115. Electrical test method impedance uniformity (pulse/step function return loss) test;

--- Part 1-161. Electrical test method TDR method to measure characteristic impedance;

--- Part 1-119. Electrical test methods - RF rated power;

--- Part 1-122. Electrical test method Crosstalk test between coaxial cables;

This part is part 1-102 of GB/T 17737.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method equivalent to IEC 61196-1-102.2005 "Coaxial Communication Cables Part 1-102. Electrical Test Methods

Cable dielectric insulation resistance test.

This section has made the following editorial changes.

--- Will "l--- cable length, the unit is kilometers (km)." Corrected to "l--- cable length, the unit is meters (m)." (see 4.5).

1 Scope

This part of GB/T 17737 applies to coaxial communication cables. It specifies the test method for determining the insulation resistance of a coaxial cable.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

Coaxial communication cables - Part 1. General rules, definitions and requirements (IEC 61196-1.2005,

IDT)

3 Terms and definitions

The terms and definitions defined in GB/T 17737.1-2013 apply to this document.

4.1 Principle

The purpose of this test is to determine the DC insulation resistance of the medium between the inner conductor of the cable and the outer conductor (or shield), or to determine the cable guide.

DC insulation resistance of the medium between the body and the additional shield or metal component.

4.2 Test equipment

Test equipment includes.

---DC power supply. greater than 80Vd.c., no more than 500Vd.c.

---Megohmmeter. The range is not less than 2 x 105Mohm.

4.3 Sample preparation

The test shall be carried out on the delivery length of the finished cable, after pretreatment at a temperature of 15 ° C to 35 ° C and checking the continuity of the conductor.

Both ends of the conductor should be stripped of insulation.

4.4 steps

Unless otherwise specified, the insulation resistance shall be measured between the inner and outer conductors and/or between the outer conductor and the additional metal component. If the cable is in question

Not specified in the specification, the test voltage should be 500V and the charging time should be at least 1min.

4.5 Results

The insulation resistance is expressed in Mohm.km. When the length of the sample is not 1000m, the measured value shall be corrected as follows.

R=Rm.

In the formula.

R --- corrected insulation resistance in megaohm kilometers (Mohm.km);

Rm---Measurement of insulation resistance in megaohms (Mohm);

l --- Cable length in meters (m).

5 test report

The test report should give the following test conditions.

--- Temperature, in degrees Celsius (°C);

--- Sample length in meters (m);

--- Test voltage in volts (V).

The measured value and the correction value of the insulation resistance are recorded, and the correction value is in units of megaohms (Mohm.km).

6 requirements

The correction value of the insulation resistance shall comply with the relevant sub-specification or detailed specification.

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