



SLOVENSKI STANDARD SIST EN 3475-304:2004

01-maj-2004

**Aerospace series - Cables, electrical, aircraft use - Test methods - Part 304:
Surface resistance**

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 304: Surface resistance

Luft- und Raumfahrt - Elektrische Leitungen für Luftfahrt, Verwendung - Prüfverfahren - Teil 304: Oberflächewiderstand

Série aérospatiale - Câbles électriques a usage aéronautique - Méthodes d'essai - Partie 304: Résistance de surface

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Ta slovenski standard je istoveten z: EN 3475-304:2002

ICS:

49.060 Štejni sistemski opremljenosti za letalstvo in zrakoplovstvo
Aerospace electric equipment and systems

SIST EN 3475-304:2004

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3475-304

January 2002

ICS 49.060

English version

**Aerospace series - Cables, electrical, aircraft use - Test
methods - Part 304: Surface resistance**

Série aérospatiale - Câbles électriques à usage
aéronautique - Méthodes d'essai - Partie 304: Résistance
de surface

Luft- und Raumfahrt - Elektrische Leitungen für Luftfahrt,
Verwendung - Prüfverfahren - Teil 304:
Oberflächewiderstand

This European Standard was approved by CEN on 5 August 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN 3475-304:2002) has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2002, and conflicting national standards shall be withdrawn at the latest by July 2002.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard : Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies a method of testing the surface resistance of finished cables.

It shall be used together with EN 3475-100.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 3475-100 Aerospace series – Cables, electrical, aircraft use – Test methods – Part 100: General

3 Preparation of specimens

Specimens 0,15 m in length shall be taken from the finished cable.

The prepared specimens shall be cleaned in order to remove any contamination. After cleaning they shall at no time be touched by bare fingers.

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4 Apparatus

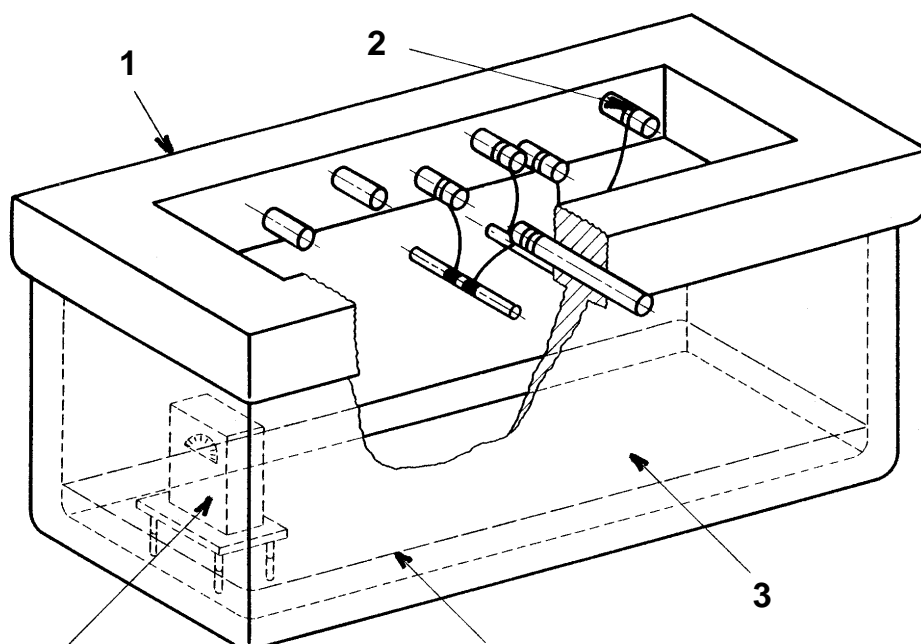
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The test arrangement is shown schematically in figure 1.

Electrodes spaced 25 mm apart shall be applied to the insulation on both sides of the middle of each specimen by winding on several turns of fine tinned copper wire or metallic tape. The ends shall be long enough to make connection with the cables entering the test chamber.

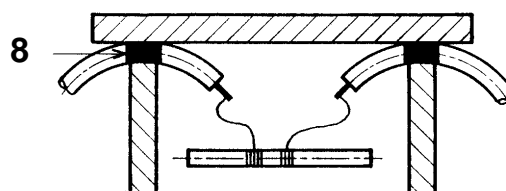
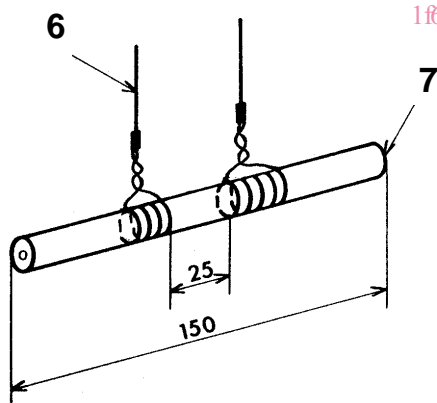
Dimensions in mm



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Other cable outlet arrangement

Key

- | | | | |
|---|------------------------|---|------------------------------|
| 1 | Cover seal (not shown) | 5 | Humidity measuring equipment |
| 2 | Cable Ø 1,5 | 6 | Electrode |
| 3 | Glass container | 7 | Specimen |
| 4 | Level of solution | 8 | Seal |

Figure 1 – Device proposed for testing surface resistance

5 Method

5.1 Environmental conditions

The environmental conditions of the test chamber shall be as follows:

- relative humidity (95 ± 5) %;
- ambient temperature.

5.2 Electrodes

The electrodes shall ensure good electrical contact with the surface of the specimen.

5.3 Procedure

Solder the electrodes to the conductors so that their ends are at least 25 mm from the internal walls of the test chamber, and keep them in the above conditions for 96 h. After this time apply a voltage of between 200 Vd.c. and 500 Vd.c. for 1 min and measure the resistance between the electrodes.

Then, voltage of 2 500 Vr.m.s. at between 40 Hz and 60 Hz frequency shall be applied for 1 min between the electrodes.

5.4 Requirements

At the completion of the application of the voltage between 200 Vd.c. and 500 Vd.c. the resistance between the electrodes shall be measured. (standards.iteh.ai)

The surface resistance shall be calculated by multiplying the measured values in megohms by the diameter of the specimen in mm.

After the application of the second voltage (2 500 V), there shall be no spark breakdown, no smoke, no sign of burning, no cracking, etc.

After waiting for a period of 15 min to 20 min, the surface resistance shall be measured again and the value obtained, multiplied by the diameter of the specimens in mm, shall not be lower than the value stated in the technical specification.