Aerospace series - Cables, electrical, aircraft use - Test methods - Part 305: Overload resistance

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 3475-305:2002 sisaldab Euroopa standardi EN 3475-305:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 12.07.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 3475-305:2002 consists of the English text of the European standard EN 3475-305:2002. This document is endorsed on 12.07.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard specifies a method of measuring the resistance to overload of finished cables. It shall be used together with EN 3475-100.	**Scope:** This standard specifies a method of measuring the resistance to overload of finished cables. It shall be used together with EN 3475-100.

ICS 49.060

Võtmesõnad: aerospace transport, air transport, aircraft, cables, electric cables, electric conductors, electrical, electrical cords, overload, overload (electric), overload capacity, specification (approval), specifications, testing

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English version

Aerospace series - Cables, electrical, aircraft use - Test methods - Part 305: Overload resistance

Série aérospatiale - Câbles électriques à usage aéronautique - Méthodes d'essais - Partie 305: Tenue aux surcharges

Luft- und Raumfahrt - Elektrische Leitungen für Luftfahrt, Verwendung - Prüfverfahren - Teil 305: Überlastbarkeit

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.

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

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Foreword

This document (EN 3475-305:2002) has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries 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 standards, either by publication of an identical text or by endorsement, at the latest by August 2002, and conflicting national standards shall be withdrawn at the latest by August 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 measuring the resistance to overload 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

Each specimen having 0,75 m to 1 m useful length between the supports, shall be installed horizontally in front of a screen and lightly stretched at the ends to avoid any slack during the test.

The test shall be carried out at ambient temperature in a chamber where the whole unit shall be sheltered from draughts. An extraction shall be provided but only operated after completion of the test.

To identify the appearance of smoke, a screen with black and white horizontal bands or any other device shall be used.

4 Method

The purpose of this test shall be to check that there is no smoke emission for an overload level bringing the conductor to a temperature T_1, and that for an overload bringing the conductor to a temperature T_2, there is neither ignition nor disappearance of the insulation. The temperatures T_1 and T_2 shall be specified in the product standard.

The test shall be performed on size 0,60 mm^2 only.

The temperatures shall be determined by measuring the variation of the voltage drop in the central part of the cable (2/3 of the useful length maximum) between the voltage application points.

$$\frac{\Delta U_\theta}{\Delta U_{20}} = \frac{R_\theta}{R_{20}} = 1 + 0{,}004\ (\theta - 20)$$

First regulate the current to a value I_1, which raises the temperature of the conductor to T_1, for a period of 30 min (temperature defined in the product standard).

The current shall then be increased to a second value I_2 for 15 min, bringing the temperature of the conductor to T_2 (temperature defined in the product standard).

5 Requirements

At T_1 : no visible smoke or smell or appreciable change of colour;

At T_2 : no visible deterioration of the insulation (peeling, cracking, stripping of the conductor) no spontaneous combustion and no visible smoke.