SLOVENSKI STANDARD

SIST EN 3745-513:2006

01-julij-2006

Aeronavtika ï Optiļ na vlakna in kabli za uporabo v zraļ nih plovilih ï Preskusne metode ï 513. del: Odpornost proti drobljenju

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 513: Crush resistance

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 513: Querdruckfestigkeit

Série aérospatiale - Fibres et câbles optiques a usage aéronautique - Méthodes d'essais - Partie 513 : Résistance a l'écrasement

Ta slovenski standard je istoveten z: **EN 3745-513:2005**

ICS:

49.060

SIST EN 3745-513:2006 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3745-513

November 2005

ICS 49.060

English Version

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 513: Crush resistance

Série aérospatiale - Fibres et câbles optiques à usage aéronautique - Méthodes d'essais - Partie 513 : Résistance à l'écrasement

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 513: Querdruckfestigkeit

This European Standard was approved by CEN on 19 September 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

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

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

Ref. No. EN 3745-513:2005: E

Contents

Foreword

This European Standard (EN 3745-513:2005) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-STAN).

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 May 2006, and conflicting national standards shall be withdrawn at the latest by May 2006.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

1 Scope

This standard specifies a method to determine the ability of an optical fibre cable to withstand crushing under specified environmental conditions.

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.

EN 2591-100, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 100: General*

EN 3745-100, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 100: General*[1)]

EN 3745-201, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 201: Visual examination*

EN 3745-301, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 301: Attenuation*

3 Preparation of specimens

3.1 If not at standard test conditions, the specimens shall be subjected to standard test conditions and stabilized at these conditions for 24 h as defined in EN 3745-100.

3.2 The following details shall be specified if not already included in the product standard:

— temperatures at which test is to be carried out;

— humidity at which test is to be carried out;

— number and length of specimens;

— the compressive force to be applied;

— diameter of mandrel if used;

— maximum permissible variation in attenuation during and after test;

— duration of application of the load.

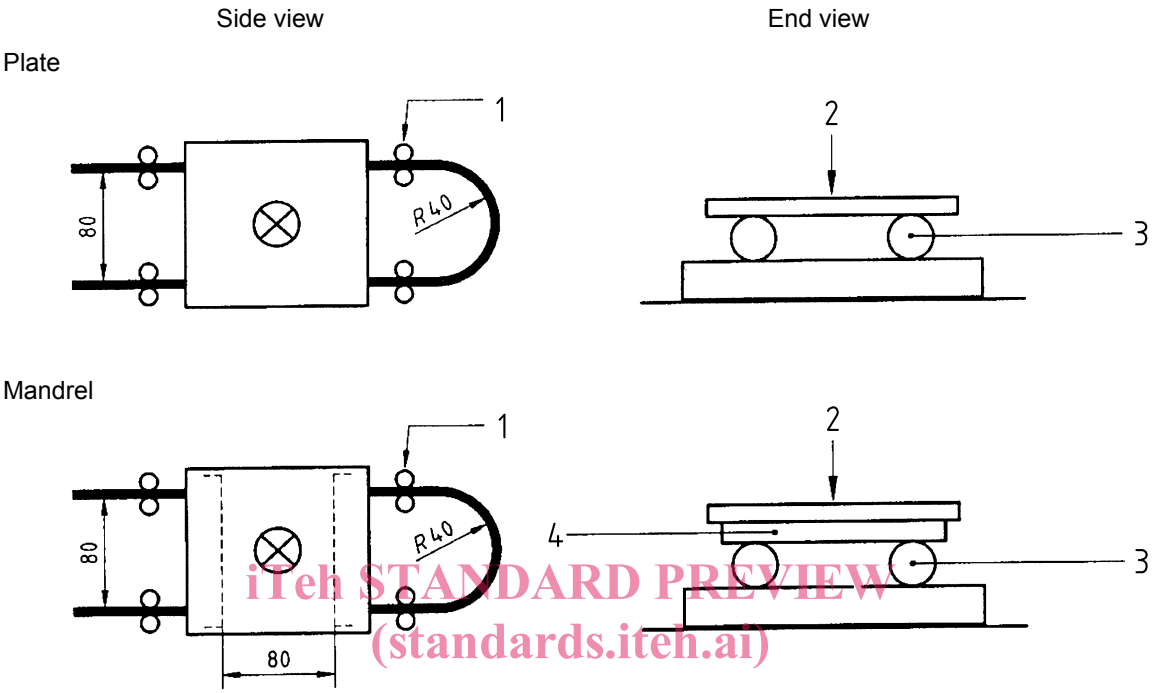
4 Apparatus

The apparatus shall allow a sample to be crushed between a flat steel base plate and a movable steel plate which applies the crushing force uniformly over a 100 mm length of the sample. The plates shall be suitably radiused to prevent sharp edges digging into the specimen. A mandrel can be used instead of the steel plate if

1) In preparation at the date of publication of this standard.

required. Suitable apparatus is shown in Figure 1. The Light Launch System (LLS) and the Light Detector System (LDS) are defined in EN 2591-100. A suitable oven capable of temperature control ± 2 °C, and if necessary, capable of controlling the relative humidity during the test.

Dimensions in millimetres



Key
1 Guide
2 Load
3 Specimen
4 Mandrel

Figure 1 — Test methods

5 Method

5.1 Procedure

The variation of attenuation (EN 3745-301, method C) shall be monitored continuously throughout the test.

Connect the specimen to the LLS and the LDS.

Place the specimen in the test fixture.

With no load applied, obtain a reference power measurement on the LDS.

The load shall then be applied gradually avoiding shock to the specimen.

Maintain the load for the specified time.

Take a power measurement on the LDS.

Remove the load.

When the load has been fully removed allow the specimen to recover for 15 min.

Measure the final attenuation in accordance with EN 3745-301, method C.

5.2 Final measurements and requirements

After removal of the load the following tests should be carried out:

— EN 3745-201: Visual examination;

— EN 3745-301: Attenuation, method C, maximum change in attenuation shall be within that specified.