



**SLOVENSKI STANDARD  
SIST EN 3745-507:2004**

**01-maj-2004**

**Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 507: Cut-through**

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 507: Cut-through

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 507: Kerbfestigkeit

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Série aérospatiale - Fibres et câbles optiques a usage aéronautique - Méthodes d'essais - Partie 507: Résistance a la coupure

<https://standards.iteh.ai/catalog/standards/sist/8a39f05b-1e86-4b70-965c-1249155fa5f2/sist-en-3745-507-2004>

**Ta slovenski standard je istoveten z: EN 3745-507:2002**

**ICS:**

49.060 Štejni inštrumenti in oprema za letalstvo in zrakoplovstvo  
Aerospace electric equipment and systems

**SIST EN 3745-507:2004**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 3745-507**

June 2002

ICS 49.060

English version

**Aerospace series - Fibres and cables, optical, aircraft use - Test  
methods - Part 507: Cut-through**

Série aérospatiale - Fibres et câbles optiques à usage  
aéronautique - Méthodes d'essais - Partie 507: Résistance  
à la coupure

Luft- und Raumfahrt - Faseroptische Leitungen für  
Luftfahrzeuge - Prüfverfahren - Teil 507: Kerbfestigkeit

This European Standard was approved by CEN on 1 March 2002.

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**

**EN 3745-507:2002 (E)****Foreword**

This document (EN 3745-507:2002) 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 December 2002, and conflicting national standards shall be withdrawn at the latest by December 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 resistance of an optical cable to the penetration of a cutting surface, for aerospace applications.

## 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 2591-100	Aerospace series – Elements of electrical and optical connection – Test methods – Part 100: General <sup>1)</sup>
EN 3745-100	Aerospace series – Fibres and cables, optical, aircraft use – Test methods – Part 100: General <sup>2)</sup>
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

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## 3 Preparation of specimens (standards.iteh.ai)

**3.1** The specimens shall be prepared according to the product standard.

If not yet 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** Unless specified in the technical specification, the following details shall be stated:

- type and length of cable ( $2 \pm 0,05$ ) m;
- load  $F$ : 20 N;
- rate of load application  $F$ : ( $50 \pm 10$ ) N/min;
- duration of load application  $F$ : 1 min.

**3.3** Temperature shall be specified in the product standard.

## 4 Apparatus

The apparatus shall comprise:

- a Light Launch System (LLS) as defined in EN 2591-100;
- a Light Detection System (LDS) as defined in EN 2591-100;
- a needle and its support (see figures 1 and 2);
- a climatic chamber;
- test equipment, on which the needle support is fixed.

The load shall be applied by the movable needle support leaning on a fixed plate.

1) Published as AECMA Prestandard at the date of publication of this standard

2) In preparation at the date of publication of this standard

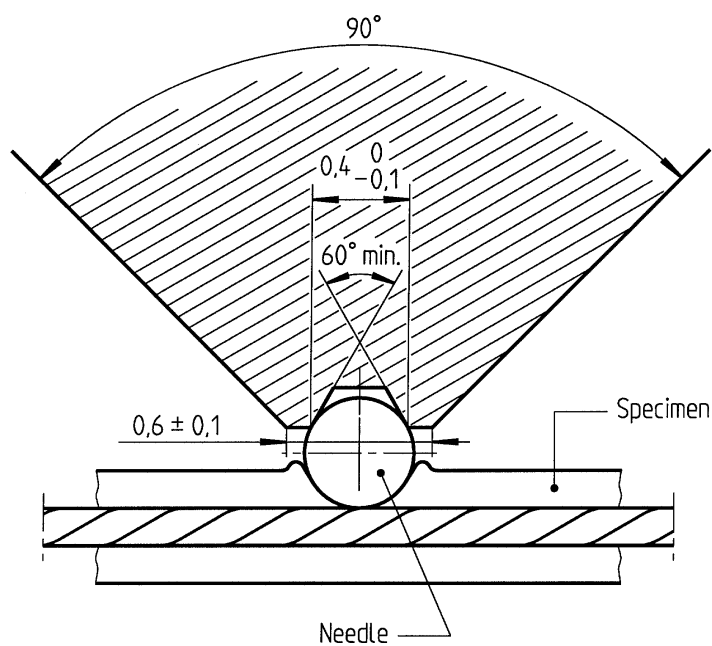


Figure 1

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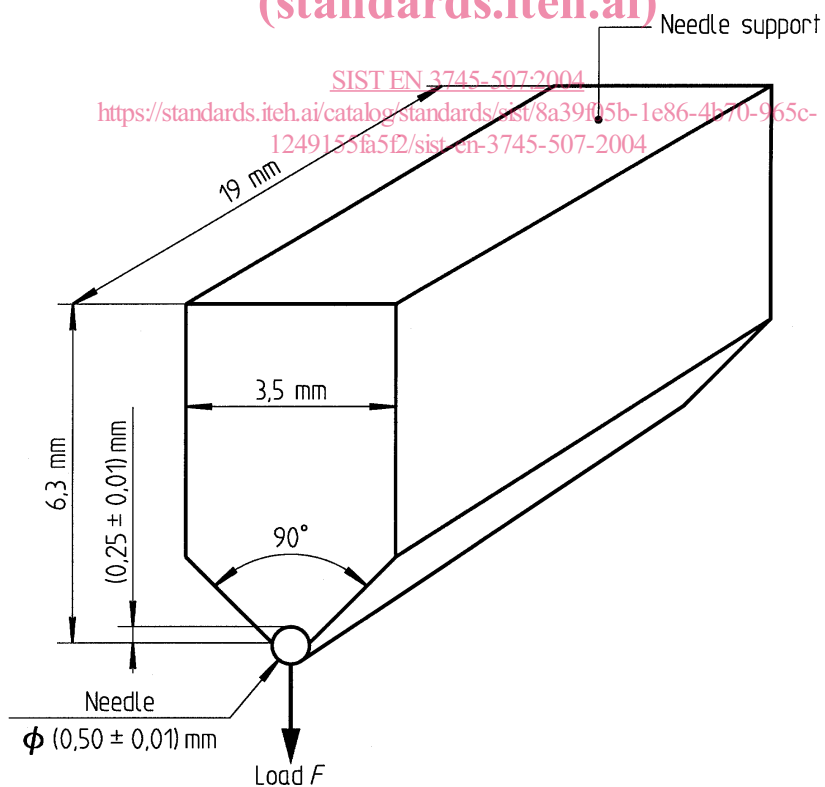


Figure 2

## 5 Methods

### 5.1 Initial measurements

- Visual examination of the jacket

### 5.2 Test sequence

- Install the specimen on the test equipment.
- Connect the specimen to LLS and LDS.
- Zero the attenuation – Apply the load with the specified speed and duration.
- Attenuation (EN 3745-301, method C) shall be monitored continuously during the test.

### 5.3 Final requirements and measurements

- EN 3745-201 – Evaluation of the breakage or non-breakage of the specimen

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