



**SLOVENSKI STANDARD**  
**SIST EN 3745-202:2006**  
**01-julij-2006**

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a YtcXYË`&\$&`XY`·AYfYj`U\_Yb

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 202:  
Fibre dimensions

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil  
202: Faserabmessungen

**iTeh STANDARD PREVIEW**

Série aérospatiale - Fibres et câbles optiques à usage aéronautique - Méthodes d'essais  
- Partie 202 : Dimensions de la fibre

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**Ta slovenski standard je istoveten z: EN 3745-202:2005**

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**ICS:**

49.060

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ICS 49.060

English Version

**Aerospace series - Fibres and cables, optical, aircraft use - Test  
methods - Part 202: Fibre dimensions**

Série aérospatiale - Fibres et câbles optiques à usage  
aéronautique - Méthodes d'essais - Partie 202 :  
Dimensions de la fibre

Luft- und Raumfahrt - Faseroptische Leitungen für  
Luftfahrzeuge - Prüfverfahren - Teil 202: Faserabmessun-  
gen

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.

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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**

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## Foreword

This European Standard (EN 3745-202:2005) 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.

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## 1 Scope

This standard specifies several methods for measuring the diameter of an optical fibre or cable, the non-circularity and the concentricity of the fibre core/cladding on an optical fibre.

## 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*<sup>1)</sup>

EN 188000, *General specification for optical fibres*

## 3 Preparation of specimens

**3.1** The specimen shall comprise a length of the optical fibre or cable to be measured. The fibre ends shall be prepared in accordance with EN 2591-100. The length of specimen shall be  $(3 \pm 0,5)$  m unless otherwise specified in 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** The following detail shall be specified if not already included in the product standard:

— type of fibre/cable from which the specimen was taken.

## 4 Apparatus

The apparatus shall be as defined in the selected test method in EN 188000.

For method B, the Light Launch System used shall be as specified in EN 2591-100 with an angular size  $> 110$  % of the fibre numerical aperture and a spot size  $> 110$  % of fibre core diameter.

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

## 5 Method

### 5.1 Method A: Refracted near field

The test method shall conform to EN 188000 method 101. This test may be used to measure the following characteristics of the fibre:

- diameter of core;
- diameter of cladding;
- non circularities;
- concentricity errors.

### 5.2 Method B: Near field light distribution

The test method shall conform to EN 188000 method 102. This test may be used to measure the following characteristics of the fibre:

- diameter of core;
- diameter of cladding;
- non circularities;
- concentricity errors.

### 5.3 Method C: Four concentric circles

The test method shall conform to EN 188000 method 103. This test may be used to measure the following characteristics of the fibre:

- non circularities;
- concentricity errors.

### 5.4 Method D: Mechanical diameter measurement

The test method shall conform to EN 188000 method 104. This test may be used to measure the following characteristics of the fibre:

- diameter of cladding;
- diameter of coatings;
- diameter of jacket;
- non circularities.

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