



SLOVENSKI STANDARD
SIST EN 3745-401:2006
01-julij-2006

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Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 401:
Accelerated ageing

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil
401: Beschleunigte Alterung

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Série aérospatiale - Fibres et câbles optiques à usage aéronautique - Méthodes d'essais
- Partie 401 : Vieeillissement accéléré

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ICS:

49.060

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en

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ICS 49.060

English Version

Aerospace series - Fibres and cables, optical, aircraft use - Test
methods - Part 401: Accelerated ageing

Série aérospatiale - Fibres et câbles optiques à usage
aéronautique - Méthodes d'essais - Partie 401 :
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Luft- und Raumfahrt - Faseroptische Leitungen für
Luftfahrzeuge - Prüfverfahren - Teil 401: Beschleunigte
Alterung

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

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Foreword

This European Standard (EN 3745-401:2005) 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 a method to determine the effects of accelerated ageing on an optical fibre or cable.

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 inspection*

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

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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:

- the number of specimens;
- the number of turns around the mandrel;
- diameter of the mandrel;
- maximum permissible variation in attenuation;
- the temperature at which test is carried out;
- measurement intervals;
- time duration if not 168 h.

4 Apparatus

The test requires a suitable oven, a mandrel, a Light Launch System (LLS) and Light Detector System (LDS) as defined in EN 2591-100.

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

5 Method

5.1 Procedure

The specimen shall be wrapped around the mandrel the specified number of times. The specimen shall be fixed so as to remain in contact with the mandrel throughout each turn.

Connect the specimen to the LLS and LDS and obtain a reference attenuation measurement in accordance with EN 3745-301, method C.

Unless otherwise specified in the technical specification the specimen shall then be subjected to the required temperature for a period of 168 h. The test shall be carried out once, or the number of times specified in the product standard, on the same sample.

Attenuation shall be measured, at the intervals specified, during the test in accordance with EN 3745-301, method C.

5.2 Final measurements and requirements

Attenuation, during the test shall be within that specified.

After being returned to ambient temperature the following test shall then be carried out:

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

The sample shall then be removed from the mandrel and straightened and the following test shall then be carried out:

- EN 3745-201: Visual examination. [SIST EN 3745-401:2006](https://standards.iteh.ai/catalog/standards/sist/384099cc-ef6a-4879-a1ba-e32a09f71ea8/sist-en-3745-401-2006)

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