SLOVENSKI STANDARD

SIST EN 3745-306:2006

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Aeronavtika ï Optiļ na vlakna in kabli za uporabo v zraļ nih plovilih ï Preskusne metode ï 306. del: Spreminjanje duģenja med ciklil nimi temperaturnimi spremembami

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 306: Variation of attenuation during temperature cycling

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 306: Dämpfungsänderung bei Temperaturwechsel

Série aérospatiale - Fibres et câbles optiques a usage aéronautique - Méthodes d'essais - Partie 306 : Variation de l'atténuation en température

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Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 306: Variation of attenuation during temperature cycling

Série aérospatiale - Fibres et câbles optiques à usage aéronautique - Méthodes d'essais - Partie 306 : Variation de l'atténuation en température

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 306: Dämpfungsänderung bei Temperaturwechsel

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Contents

Foreword

This European Standard (EN 3745-306:2005) 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of an identical text or by endorsement, at the latest by May 2006, and conflicting national standards shall be withdrawn at the latest by May 2006.

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1 Scope

This standard specifies a method for checking the variation of attenuation of an optical cable during temperature cycling.

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*

EN 3745-402, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 402: Temperature cycling*

3 Preparation of specimens

3.1 Specimens shall be prepared as 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.

The specimens shall be loosely coiled with the bend radius not smaller than specified storage radius.

3.2 Unless otherwise indicated in the technical specification the following details shall be specified:

— type and length of cable/fibre;

— maximum permitted variation in attenuation;

— temperature cycling (see EN 3745-402);

— storage bend radius.

4 Apparatus

— a Light Launch System (LLS) as defined in EN 2591-100;

— a Light Detector System (LDS) as defined in EN 2591-100;

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

— climatic chamber capable of temperature control of ± 2 °C.

5 Method

5.1 Procedure

Connect the specimen to LLS.

Coil it with the specified bend radius.

Connect the specimen to LDS.

Measure the variation of attenuation (EN 3745-301, method C) continuously throughout the test.

Perform the specified cycle numbers of temperature cycling in accordance with EN 3745-402.

5.2 Final measurements and requirements

The maximum increase in attenuation shall not exceed the specified value.

Examine the test specimen for damage in accordance with EN 3745-201 — Visual examination.