SLOVENSKI STANDARD
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Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 402: Temperature cycling

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 402: Temperaturzyklus

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Série aérospatiale - Fibres et câbles optiques à usage aéronautique - Méthodes d'essais - Partie 402 : Cyclage en température

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

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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.

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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 3745-402:2005) 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of an identical text or by endorsement, at the latest by May 2006, and conflicting national standards shall be withdrawn at the latest by May 2006.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 for temperature cycling of an optical 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 3745-100, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 100: General*[1]

3   Preparation of specimens

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.

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

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3.2   Unless specified in the technical specification, the following details shall be stated:

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— high/low temperatures;

— duration of extreme temperatures and rates of change;

— storage bend radius;

— number of cycles.

4   Apparatus

The apparatus shall comprise:

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

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[1]   In preparation at the date of publication of this standard.

5 Method

Place the specimen in the climatic chamber (at time t_o).

Bring the temperature level to T_A value during period (t_1-t_p).

Maintain at T_A temperature during period (t_2-t_1).

Change the temperature to T_B during period (t_3-t_2).

Maintain at T_o temperature during period (t_4-t_3).

Change the temperature to ambient temperature during period (t_5-t_4).

Maintain at ambient temperature during period (t_6-t_5). These 7 phases constitute one basic cycle (see Figure 1) whose parameters are given in the product specification.

Unless otherwise specified in the product standard:

Rate of temperature variation: 5 °C/min

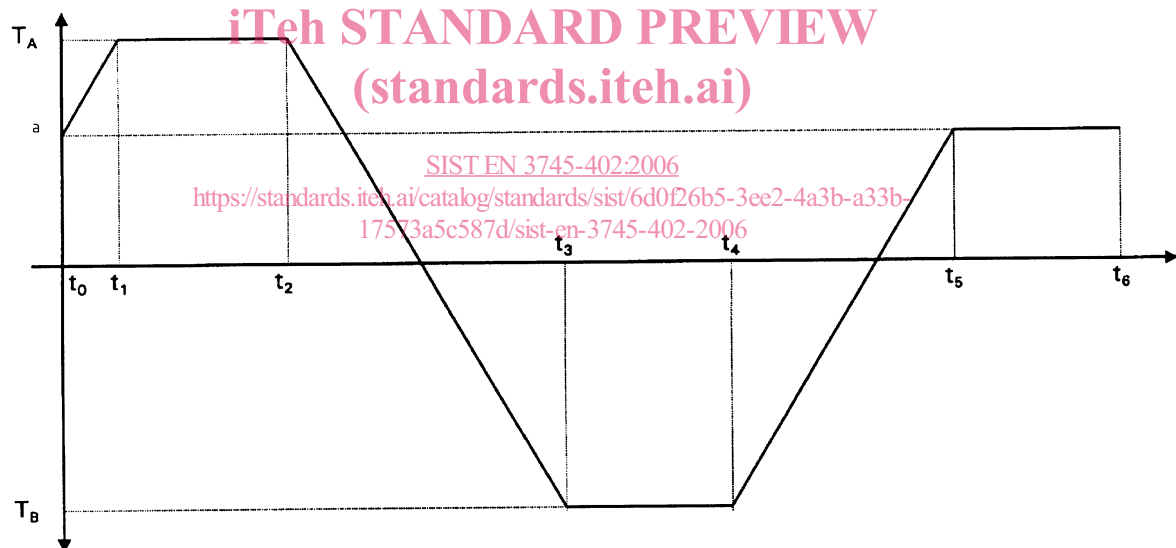(t_2-t_1) = (t_4-t_3) = (t_6-t_5) = 30 min

Figure 1 — Basic cycle