



**SLOVENSKI STANDARD
SIST EN 3745-508:2004**

01-maj-2004

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 508: Torsion

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 508: Torsion

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 508: Torsion

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Série aérospatiale - Fibres et câbles optiques a usage aéronautique - Méthodes d'essais - Partie 508: Torsion

[SIST EN 3745-508:2004](#)

<https://standards.iteh.ai/catalog/standards/sist/8ae96297-ef4c-432c-abf5-084385f83804/sist-en-3745-508-2004>

Ta slovenski standard je istoveten z: EN 3745-508:2002

ICS:

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

SIST EN 3745-508:2004

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 3745-508:2004

<https://standards.iteh.ai/catalog/standards/sist/8ae96297-ef4c-432c-abf5-084385f83804/sist-en-3745-508-2004>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3745-508

June 2002

ICS 49.060

English version

**Aerospace series - Fibres and cables, optical, aircraft use - Test
methods - Part 508: Torsion**

Série aérospatiale - Fibres et câbles optiques à usage
aéronautique - Méthodes d'essais - Partie 508: Torsion

Luft- und Raumfahrt - Faseroptische Leitungen für
Luftfahrzeuge - Prüfverfahren - Teil 508: Torsion

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.

[SIST EN 3745-508:2004](https://standards.iteh.ai/catalog/standards/sist/8ae96297-ef4c-432c-abf5-084385f83804/sist-en-3745-508-2004)

<https://standards.iteh.ai/catalog/standards/sist/8ae96297-ef4c-432c-abf5-084385f83804/sist-en-3745-508-2004>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN 3745-508:2002 (E)**Foreword**

This document (EN 3745-508:2002) 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 checking the resistance to damage under torsion of an optical cable for aerospace applications.

2 Normatives 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 ¹⁾
EN 3745-100	Aerospace series – Fibres and cables, optical, aircraft use – Test methods – Part 100: General ²⁾
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
EN 3745-505	Aerospace series – Fibres and cables, optical, aircraft use – Test methods – Part 505: Tensile strength ²⁾

<https://standards.iteh.ai/catalog/standards/sist/8ae96297-ef4c-432c-abf5-084385f83804/sist-en-3745-508-2004>

3 Preparation of specimens

3.1 The specimens shall be terminated with a connecting system allowing connection to the Light Launch System (LLS) and Light Detection System (LDS) as defined in EN 2591-100.

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;
- number of cycles if not 100;
- load to be applied;
- maximum permissible variation of attenuation;
- maximum value of insertion loss;
- minimum value of the pulling test of the specimen at the end of the torsion test;
- distance (L) between the rotating grip and the fixed grip.

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

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

EN 3745-508:2002 (E)

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 test setup capable of applying the torsion load required by the test specification.

A typical arrangement is shown in figure 1.

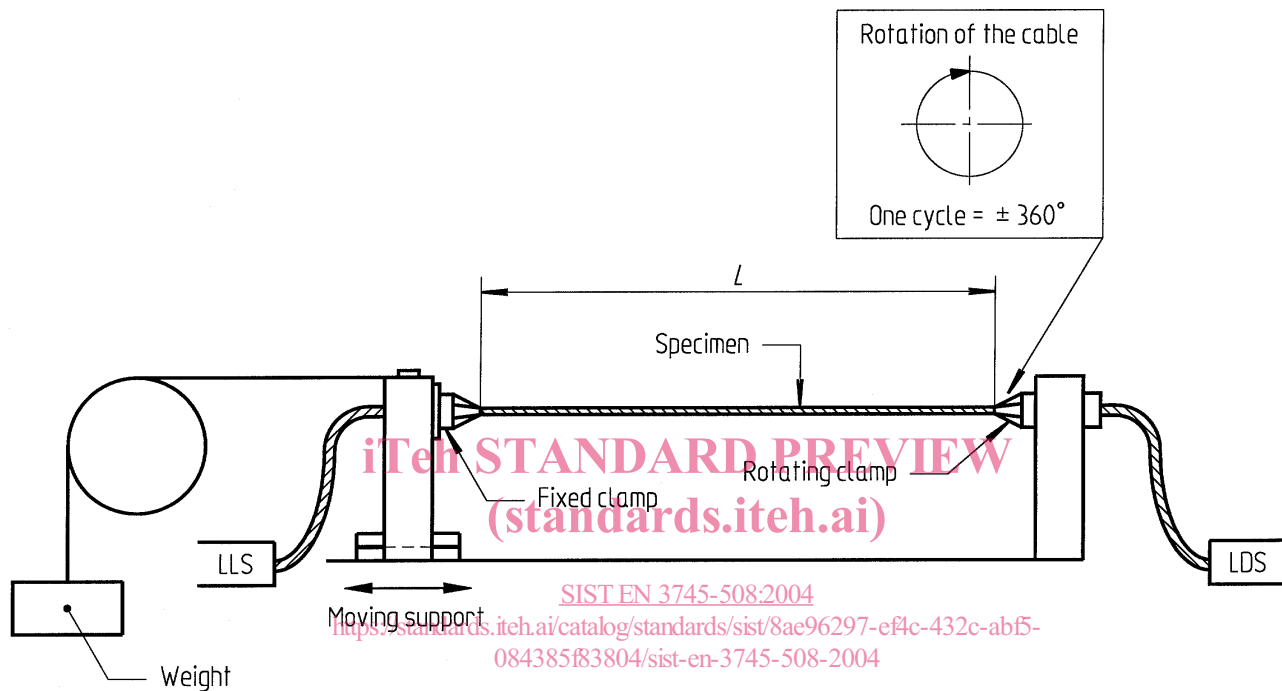


Figure 1

5 Method

5.1 Procedure

- Install the cable in the test equipment, at a zero angle of torsion.
- Connect the specimen to LLS and LDS.
- Zero the LDS.

Unless otherwise stated in the product standard, the following test shall apply :

- the cable shall be rotated first 360° in one direction then at 720° in the opposite direction. It shall then be returned to the starting position (360° in the first direction). This defines one cycle;
- the number of cycles shall be 100;
- the cyclic rate shall be 6 cycles/min.

The attenuation (EN 3745-301, method C) shall be monitored throughout the test.

5.2 Final measurements and requirements

- EN 3745-201
- EN 3745-505