



**NSAI**  
Standards

Irish Standard  
I.S. EN 3745-404:2019

Aerospace series - Fibres and cables,  
optical, aircraft use - Test methods - Part  
404: Thermal shock

**I.S. EN 3745-404:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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## National Foreword

I.S. EN 3745-404:2019 is the adopted Irish version of the European Document EN 3745-404:2019, Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 404: Thermal shock

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

**EN 3745-404**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2019

ICS 49.090

Supersedes EN 3745-404:2005

English Version

**Aerospace series - Fibres and cables, optical, aircraft use -  
Test methods - Part 404: Part 404: Thermal shock**

Série aérospatiale - Fibres et câbles optiques à usage  
aéronautique - Méthodes d'essais - Partie 404 : Partie  
404 : Choc thermique

Luft- und Raumfahrt - Faseroptische Leitungen für  
Luftfahrzeuge - Prüfverfahren - Teil 404: Teil 404:  
Thermischer Schock

This European Standard was approved by CEN on 14 July 2019.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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<b>Contents</b>		<b>Page</b>
<b>European foreword .....</b>		<b>3</b>
<b>1</b>	<b>Scope.....</b>	<b>4</b>
<b>2</b>	<b>Normative references.....</b>	<b>4</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>4</b>
<b>4</b>	<b>Preparation of specimens .....</b>	<b>4</b>
<b>5</b>	<b>Apparatus.....</b>	<b>5</b>
<b>6</b>	<b>Method .....</b>	<b>5</b>

## **European foreword**

This document (EN 3745-404:2019) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-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 ASD, 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 March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 3745-404:2005.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## EN 3745-404:2019 (E)

### 1 Scope

This document specifies a method to determine the effects of thermal shock on an optical fibre or cable.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

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*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 4 Preparation of specimens

**4.1** If not at standard test conditions, the specimens shall be subjected to standard test conditions and stabilised at these conditions for 24 h as defined in EN 3745-100.

**4.2** The following details shall be specified if not already included in the product standard:

- the number of specimens;
- the number of temperature cycles, if not four cycles;
- maximum permissible variation in attenuation;
- the upper and lower temperatures at which test is carried out;
- relative humidity during the test;
- diameter of the coil.



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