BS EN 3745-506:2018

BSI Standards Publication

Aerospace series – Fibres and cables, optical, aircraft use – Test methods

Part 506: Impact resistance

bsi.

National foreword

This British Standard is the UK implementation of EN 3745-506:2018. It supersedes BS EN 3745-506:2009, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ACE/6, Aerospace avionic electrical and fibre optic technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

Published by BSI Standards Limited 2018

ISBN 978 0 580 51997 0

ICS 49.060; 49.090

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2018.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3745-506

November 2018

ICS 49.060; 49.090

Supersedes EN 3745-506:2009

English Version

Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 506: Impact resistance

Série aérospatiale - Fibres et câbles optiques à usage aéronautique - Méthodes d'essais - Partie 506 : Résistance à l'impact

Luft- und Raumfahrt - Faseroptische Leitungen für Luftfahrzeuge - Prüfverfahren - Teil 506: Schlagfestigkeit

This European Standard was approved by CEN on 26 February 2018.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 3745-506:2018 E

Contents Page

European foreword

This document (EN 3745-506:2018) 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 document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

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.

This document supersedes EN 3745-506:2009.

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

1 Scope

This document specifies a method to determine the ability of an optical fibre or cable to withstand impact under specified environmental conditions.

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 Preparation of specimens

Fibres coated by UV-curable acrylic resin can be cleaned (e.g. from cable filling compounds), without causing damage to the coating using any cleaning agent recommended by the manufacturer of the fibres. However the use of chlorine-based cleaning agents should be absolutely avoided, since they can attack the coating even after their use and in vapour phase.

lf 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. Attenuation should be measured, in accordance with EN 3745-301 method C, before the test.

Unless otherwise specified in the product standard, the following details shall be as stated in the technical specification:

a) the temperature at which test is carried out if other than standard;

b) the number and length of specimens;

c) the mass of the weight and the drop height, or alternatively the impact energy;

d) the radius *R* of the striking face;

e) the number of impacts;

f) the permissible change in attenuation after the test;

g) location of impacts on the sample (if not at the same location).