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Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 510: Bending test

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 3745-510:2025 sisaldab Euroopa standardi EN 3745-510:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.12.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 3745-510:2025 consists of the English text of the European standard EN 3745-510:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 10.12.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 49.090

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EUROPEAN STANDARD

**EN 3745-510**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2025

ICS 49.090

Supersedes EN 3745-510:2017

English Version

## Aerospace series - Fibres and cables, optical, aircraft use - Test methods - Part 510: Bending test

Série aérospatiale - Fibres et câbles optiques à usage  
aéronautique - Méthodes d'essais - Partie 510 : Essai  
de courbure

Luft- und Raumfahrt - Faseroptische Leitungen für  
Luftfahrzeuge - Prüfverfahren - Teil 510: Biegeprüfung

This European Standard was approved by CEN on 5 October 2025.

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, Türkiye and United Kingdom.



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

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## European foreword

This document (EN 3745-510:2025) has been prepared by ASD-STAN.

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, 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 June 2026, and conflicting national standards shall be withdrawn at the latest by June 2026.

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 3745-510:2017.

EN 3745-510:2025 includes the following significant technical changes with respect to EN 3745-510:2017:

- general editorial improvements for clarity and coherence;
- revision of 4.2 Method A and 4.3 Method B to harmonize with “Number and length of specimen(s)”;
- revision of 4.3 Method B to add the number of loops around the mandrel “10 loops if not otherwise specified between the parties”.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: 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, Türkiye and the United Kingdom.

## 1 Scope

This document specifies a method of determining the attenuation variation of an optical cable during mechanical bending under load at the maximum and minimum operating temperatures.

## 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 3745-201, *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

No terms and definitions are listed in this document.

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

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

## 4 Preparation of specimens

### 4.1 General

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 specified in EN 2591-100.