



**NSAI**  
Standards

Irish Standard  
I.S. EN 4532:2009

Aerospace series - Cables, optical,  
single core 200  $\mu\text{m}$ /280  $\mu\text{m}$  fibre, 2,5  
mm outer jacket - Technical  
specification

## I.S. EN 4532:2009

*Incorporating amendments/corrigenda issued since publication:*

<i>This document replaces:</i>	<i>This document is based on:</i> EN 4532:2009	<i>Published:</i> 18 February, 2009	
This document was published under the authority of the NSAI and comes into effect on: 31 March, 2009		ICS number: 49.060	
<b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	<b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie	<b>Price Code:</b> G
Údarás um Chaighdeáin Náisiúnta na hÉireann			

ICS 49.060

English Version

## Aerospace series - Cables, optical, single core 200 $\mu\text{m}$ /280 $\mu\text{m}$ fibre, 2,5 mm outer jacket - Technical specification

Série aérospatiale - Câbles, optiques, fibre 200  $\mu\text{m}$ /280  $\mu\text{m}$ , diamètre extérieur 2,5 mm - Spécification technique

Luft- und Raumfahrt - LWL-Kabel, 200  $\mu\text{m}$ /280  $\mu\text{m}$  Faser, 2,5 mm Aussendurchmesser - Technische Lieferbedingungen

This European Standard was approved by CEN on 5 October 2008.

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 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 Management Centre has the same status as the official versions.

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



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

---

## Contents

Page

Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	5
4 Description .....	5
4.1 Construction of type 'A' primary fibre (Jacketed fibre) .....	5
4.2 Construction of type 'B' single core cable .....	5
5 Cable characteristics.....	6
5.1 Optical performance of cable .....	6
5.2 Construction data of cable (Type B).....	6
5.3 Mechanical characteristics of cable (Type B).....	7
6 Fibre characteristics.....	7
6.1 Optical and material data of primary fibre .....	7
6.2 Geometrical data of primary fibre and concentricity of primary coating .....	8
7 Environmental conditions.....	8
7.1 Temperature range .....	8
7.2 Operating pressure range.....	8
7.3 Humidity.....	8
7.4 Nuclear radiation .....	8
8 Production acceptance (routine) tests .....	9
8.1 General.....	9
8.2 Group A – Production acceptance (routine) tests.....	9
8.3 Group B – Production verification (quality) tests.....	11
8.4 Group D – Qualification approval tests (cable type 'B').....	12
9 Additional test information .....	14
9.1 Repeatability of test results.....	14
9.2 Definition of full launch conditions .....	15
9.3 Full launch techniques.....	15
9.4 Additional requirements .....	15
9.5 Practical realisation.....	15
9.6 Test arrangement for low- and high- temperature tests.....	15
10 Marking and packaging requirements.....	16
10.1 Designation of type 'A' primary fibre .....	16
10.2 Designation of type 'B' cable.....	16
10.3 Marking of cable .....	16
10.4 Ordering information.....	17
10.5 Cable length .....	17
10.6 Storage reel .....	17

## **Foreword**

This document (EN 4532:2009) 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 August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This standard covers two cable types, Type A and Type B.

Type A, jacketed fibre, is intended for printed circuit board inter-connection applications inside equipment.

Type B, single core, is intended for general airframe and equipment inter-connection cable suitable for installation in all aircraft locations, with exception of power plant compartments.

These cables are particularly suitable for use in military aircraft as well as for general civil aircraft applications.

## 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 2591-306, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 306: Mould growth*

EN 2591-316, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 316: Ozone resistance*

EN 3733-001, *Aerospace series — Connector, optical, circular, single channel, coupled by self-locking ring, operating temperature up to 150 °C continuous — Part 001: Technical specification*<sup>1)</sup>

EN 3745-100\*, *Aerospace series — Fibres and cables, optical, aircraft use — Test methods — Part 100: General*

ISO 1817, *Rubber, vulcanized — Determination of the effect of liquids*

ISO 2574, *Aircraft — Electrical cables — Identification marking*

IEC 60793-1-1, *Optical fibres — Part 1-1: Measurement methods and test procedures — General and guidance*

IEC 60794-1-2, *Optical fibre cables — Part 1-2: Generic specification — Basic optical cable test procedures*

IEC 60874-1, *Connectors for optical fibres and cables — Part 1: Generic specification*

MIL-HDBK-454B, *General guidelines for electronic equipment*

---

\* And all applicable parts quoted.

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

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-