

SLOVENSKI STANDARD

SIST EN 4701-002:2017

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Nadomešča:

SIST EN 4701-002:2014

Aeronavtika - Konektorji, optični, pravokotni, modularni, za delovno temperaturo 125 °C, za kontakte po EN 4531-101 - 002. del: Specifikacija lastnosti

Aerospace series - Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN 4531-101 contacts - Part 002: Specification of performance

Luft- und Raumfahrt - Optischer Rechtecksteckverbinder in modularer Bauweise Betriebstemperatur 125 °C, für EN 4531-101 Kontakte - Teil 002: Leistungsdaten

Série aérospatiale - Connecteurs optiques rectangulaires, modulaires, température d'utilisation 125 °C, pour contacts EN 4531-101 - Partie 002: Specification de performances

Ta slovenski standard je istoveten z: EN 4701-002:2016

ICS:

31.220.10	Vtiči in vtičnice, konektorji	Plug-and-socket devices. Connectors
49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

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EUROPEAN STANDARD

EN 4701-002

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 49.090

Supersedes EN 4701-002:2013

English Version

Aerospace series - Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN 4531-101 contacts - Part 002: Specification of performance

Série aérospatiale - Connecteurs optiques
rectangulaires, modulaires, température d'utilisation
125 °C, pour contacts EN 4531-101 - Partie 002 :
Spécification de performances

Luft- und Raumfahrt - Optischer
Rechtecksteckverbinder in modularer Bauweise
Betriebstemperatur 125 °C, für EN 4531-101 Kontakte
- Teil 002: Leistungsdaten

This European Standard was approved by CEN on 29 July 2016.

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, 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: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 4701-002:2016) 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 European 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 April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.

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 4701-002:2013.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 4701-002:2016 (E)**1 Scope**

This European Standard defines the material used in the manufacturing of EN 4701 optical modules.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 4165-022, *Aerospace series — Connectors, electrical, rectangular, modular — Operating temperature 175 °C continuous — Part 022: Insertion/extraction tool for removal of modules — Product standard*

EN 4531-101, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by triple start threaded ring — Flush contacts — Part 101: Optical contact for EN 4641 multimode cable -55 °C to 125 °C — Product standard*

EN 4531-901, *Aerospace series — Connectors, optical, circular, single and multipin, coupled by triple start threaded ring — Flush contacts — Part 901: Filler plugs — Product standard*

EN 4641-100, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 100: Tight structure 62,5/125 µm, core GI fibre 1,8 mm outside diameter — Product standard*

EN 4641-101, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 101: Tight structure 62,5 µm core GI fibre 0,9 mm outside diameter — Product standard*

EN 4641-102, *Aerospace series — Cables, optical 125 µm outside diameter cladding — Part 102: Semi-loose 62,5/125 µm GI fibre nominal 1,8 mm outside diameter — Product standard*

EN 4641-103, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 103: Semi-loose, ruggedized simplex construction 62,5/125 µm GI fibre nominal 2,74 mm, outside diameter — Product standard*

EN 4641-104, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 104: Semi-loose, ruggedized duplex construction 62,5/125 µm GI fibre nominal, 4,95 mm outside diameter — Product standard*

EN 4641-105, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 105: Semi-loose, ruggedized quadraxial construction 62,5/125 µm GI fibre nominal, 5,72 mm outside diameter — Product standard*

EN 4641-301, *Aerospace series — Cables, optical 125 µm diameter cladding — Part 301: Tight structure 50/125 µm GI fibre nominal 1,8 mm outside diameter — Product standard*

EN 4701-001, *Aerospace series — Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN 4531-101 contacts — Part 001: Technical specification*

IEC 61300-3-33, *Fibre optic interconnecting devices and passive components — Basic test and measurement procedures — Part 3-33: Examinations and measurements — Withdrawal force from a resilient alignment sleeve using gauge pins* ¹⁾

1) Published by: IEC International Electrotechnical Commission (<http://www.iec.ch/>). Harmonized ad EN 61300-3-33.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 4701-001 apply.

4 Description and codification of compatible connectors (EN 4165)

See Table 1.

Table 1

Environmental class	Description
W	Plug and receptacle with housing (shell) olive drab cadmium plated, aluminium alloy, conductive finish, 500 h resistance to salt mist, rectangular grounded device, or not, maximum operating temperature: 175 °C continuous.
F	Plug and receptacle with housing (shell) black nickel plated, aluminium alloy, conductive finish, 96 h resistance to salt mist, rectangular grounded device, or not, maximum operating temperature: 175 °C continuous.
J	Plug and receptacle with housing (shell) olive drab cadmium plated, composite material, conductive finish, 500 h resistance to salt mist, plug with rectangular grounded device, or not, maximum operating temperature: 175 °C continuous.
M	Plug and receptacle with housing (shell) nickel plated composite material, conductive finish, 500 h resistance to salt mist, plug with rectangular grounded device, or not, maximum operating temperature: 175 °C continuous.

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5 Operating conditions

5.1 Optical performances

The optical performances are defined in the product standards in relationship with the used cable.

5.2 Permissible cables

Permissible cables are given in Table 2.

Table 2

Cable designation	Description
EN 4641-100	Fibre 62,5 / 125 – Outer diameter 1,8 mm
EN 4641-101	Fibre 62,5 / 125 – Outer diameter 0,9 mm
EN 4641-102	Fibre 62,5 / 125 – Outer diameter 1,8 mm
EN 4641-103	Fibre 62,5 / 125 – Outer diameter 2,74 mm
EN 4641-104	Fibre 62,5 / 125 – Outer diameter 4,95 mm
EN 4641-105	Fibre 62,5 / 125 – Outer diameter 5,72 mm
EN 4641-301	Fibre 50 / 125 – Outer diameter 1,8 mm

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5.3 Material

See Table 3.

Table 3

Sleeve	Description	Sleeve material
Male insert	Body	Thermoplastic — -55 °C to 125 °C
	Sealing device	Silicone elastomer
	Guiding pin	AISI 304L
Female insert	Sleeve	Zirconia ceramic or similar
	Body	Thermoplastic — -55 °C to 125 °C
	Sealing device	Silicone elastomer
	Centring cavity	AISI 304L

5.4 Ferrule withdrawal force

Under IEC 61300-3-33 test conditions, the ferrule withdrawal force shall be between [1,9 N to 3,5 N].

5.5 Climatic conditions

Temperature range: -55 °C to 125 °C.

Fluid resistance: see EN 4701-001.

Corrosion resistance: See Table 1 (class F, only 96 h).

5.6 Mechanical conditions

Mechanical endurance: 500 mated and unmated cycles.

6 Terminus sub-assembly

Removable terminus which can be used with the various classes of connectors are defined in the product standards.

Product standard	EN cable specification
EN 4531-101	EN 4641-100

7 Filler plugs

Filler plugs defined in EN 4531-901 shall be used in the positions which correspond to unpopulated cavities.

8 Tooling

See EN 4165-022.