SLOVENSKI STANDARD
SIST EN 4701-002:2014

01-februar-2014

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

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

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

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

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Foreword

This document (EN 4701-002:2013) 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of an identical text or by endorsement, at the latest by November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

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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 4641-100 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 µm/125 µm GI fibre 1,8 mm outside diameter — Product standard* 1)

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 — Ferrule withdrawal force* 2)

3 Terms and definitions

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

1) Published as ASD-STAN Prestandard at the date of publication of this standard (www.asd-stan.org).

2) Published by: IEC International International Electrotechnical Commission http://www.iec.ch/.

4 Description and codification of compatible connectors (EN4165)

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.

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

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 Sleeve force

Under IEC 61300-3-33 test conditions, the sleeve force must be [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: 500 h resistance to salt mist, except for class F only 96 h.

5.6 Mechanical conditions

Mechanical endurance: 500 mated and unmated cycles.

6 Contacts sub-assembly

Removable contacts 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.