



SLOVENSKI STANDARD

SIST EN 4830-002:2016

01-februar-2016

Aeronavtika - Konektorji, optični, pravokotni, modularni, za delovno temperaturo 125 °C, za kontakte po EN 4639-10X - 002. del: Specifikacija lastnosti

Aerospace series - Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN 4639-10X contacts - Part 002: Specification of performance

Luft- und Raumfahrt - Optischer Rechtecksteckverbinder, modular, Betriebstemperatur 125 °C, für EN 4639-10X-Kontakte - Teil 002: Leistungsdaten

Série aérospatiale - Connecteurs optiques rectangulaires, modulaires, température d'utilisation 125 °C, pour contacts EN 4639-10X - Partie 002: Spécification de performances

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Ta slovenski standard je istoveten z: EN 4830-002:2015

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 4830-002

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2015

ICS 49.090

English Version

**Aerospace series - Connectors, optical, rectangular,
modular, operating temperature 125 °C, for EN 4639-10X
contacts - Part 002: Specification of performance**

Série aérospatiale - Connecteurs optiques
rectangulaires, modulaires, température d'utilisation
125 °C, pour contacts EN 4639-10X - Partie 002:
Spécification de performances

Luft- und Raumfahrt - Optischer
Rechtecksteckverbinder, modular, Betriebstemperatur
125 °C, für EN 4639-10X-Kontakte - Teil 002:
Leistungsdaten

This European Standard was approved by CEN on 22 August 2015.

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

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European foreword

This document (EN 4830-002:2015) 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 June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

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, 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 4830-002:2015 (E)

1 Scope

This European Standard defines the material used in the manufacturing of EN 4830 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 4529-003, *Aerospace series — Elements of electrical and optical connection — Sealing plugs — Part 003: Class T — Product standard*

EN 4639-101, *Aerospace Series — Connectors, optical, rectangular, modular, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder — Part 101: Optical contact for cable EN 4641-100 — Operating temperatures between –65 °C and 125 °C — Product standard*

EN 4639-102, *Aerospace Series — Connectors, optical, rectangular, modular, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder — Part 102: Optical contact for cable EN 4641-102 — Operating temperatures between –55 °C and 100 °C — Product standard*

EN 4639-103, *Aerospace Series — Connectors, optical, rectangular, modular, multicontact, 1,25 diameter ferrule, with removable alignment sleeve holder — Part 103: Optical contact for cable EN 4641-101 — Operating temperatures between –55 °C and 150 °C — Product standard*¹⁾

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

EN 4830-001, *Aerospace series — Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN 4639-10X contacts — Part 001: Technical specification*

EN 4830-004, *Aerospace series — Connectors, optical, rectangular, modular, operating temperature 125 °C, for EN 4639-10X contacts — Part 004: Extraction tool — Product standard*

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⁾

TR 4684, *Aerospace series — Electrical and optical technology and component definitions*¹⁾

1) In preparation at the date of publication of this European Standard.

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in TR 4684 apply.

4 Description and codification of models

See Table 1.

Table 1

Environmental class	Description
W	Plug and receptacle with housing (shell) olive drab cadmium plated, aluminium alloy, 500 h resistance to salt mist, maximum operating temperature: 125 °C continuous.
F	Plug and receptacle with housing (shell) black nickel plated, aluminium alloy, conductive finish, 96 h resistance to salt mist, maximum operating temperature: 125 °C continuous.
J	Plug and receptacle with housing (shell) olive drab cadmium plated, composite material, conductive finish, 500 h resistance to salt mist, maximum operating temperature: 125 °C continuous.
M	Plug and receptacle with housing (shell) nickel plated composite material, conductive finish, 500 h resistance to salt mist, maximum operating temperature: 125 °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	Fibre	Outer diameter cable	EN designation cable
A	62,5 / 125	0,9 mm diameter	EN 4641-101
B	62,5 / 125	1,8 mm (tight structure)	EN 4641-100
C	62,5 / 125	1,8 mm (semi loose structure)	EN 4641-102

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5.3 Material

See Table 3.

Table 3

Sleeve	Description	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 pin	AISI 304L

5.4 Sleeve force

Under IEC 61300-3-33 test conditions, the sleeve force must be [1 N to 2,5 N].

5.5 Climatic conditions

Temperature range: – 55 °C to 125 °C.

Fluid resistance: see EN 4830-001.

Corrosion resistance: 500 h resistance to salt mist.

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 4639-101	EN 4641-100
EN 4639-102	EN 4641-102
EN 4639-103	EN 4641-101

7 Sealing plugs

Sealing plugs defined in EN 4529-003 N16 shall be used in the positions which correspond to unpopulated cavities.