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Responsible committee: ACE/6 Aerospace avionic electrical and fibre optic technology

Interested committees:

Title: Draft BS EN 3646-002 Aerospace series. Connectors, electrical, circular, bayonet coupling, operating temperature 175 °C or 200 °C continuous. Part 002: Specification of performance and contact arrangements.

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

Aerospace series - Connectors, electrical, circular, bayonet
coupling, operating temperature 175 °C or 200 °C
continuous - Part 002: Specification of performance and
contact arrangements

Série aérospatiale - Connecteurs électriques circulaires
à accouplement par baïonnettes, température
d'utilisation 175 °C ou 200 °C continu - Partie 002:
Spécification de performances et arrangements des
contacts

Luft- und Raumfahrt - Elektrische Rundsteckverbinder
mit Bajonettkupplung, Betriebstemperatur 175 °C oder
200 °C konstant - Teil 002: Leistungsdaten und
Kontaktanordnungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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European foreword

This document (prEN 3646-002:2024) 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 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 is currently submitted to the CEN Enquiry.

This document will supersede EN 3646-002:2007.

This document includes the following significant technical changes with respect to EN 3646-002:2007:

- update of normative references;
- editorial revision of the document.

Introduction

This family of connectors is derived from MIL-DTL-26482 series 2, the NAS 1599 with which it is intermateable.

1 Scope

This document specifies the performances and contact arrangements groups for bayonet coupling circular connectors, intended for use in an operating temperature range of $-65\text{ }^{\circ}\text{C}$ to $175\text{ }^{\circ}\text{C}$ or $200\text{ }^{\circ}\text{C}$ continuous.

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 2591-209, *Aerospace series - Elements of electrical and optical connection - Test methods - Part 209: Current temperature derating*

EN 3197, *Aerospace series - Design and installation of aircraft electrical and optical interconnection systems*

EN 3646 (all parts), *Aerospace series — Connectors, electrical, circular, bayonet coupling, operating temperature $175\text{ }^{\circ}\text{C}$ or $200\text{ }^{\circ}\text{C}$ continuous*

EN 4529-002, *Aerospace series - Elements of electrical and optical connection - Sealing plugs - Part 002: Index of product standards*

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 Description and codification of class

Shall be according to Table 1.

Table 1 — Description and codification of class

Model		Description
Connectors	A	Sealed plug and receptacle with housing (shell) in black anodized aluminium alloy, crimp contacts, with three teeth at the rear of connector, maximum operating temperature 200 °C continuous
	WS	Sealed plug and receptacle with housing (shell) in olive-green cadmium alloy, conducting finish, 500 h resistance to salt mist, crimp contacts, plug with grounding-spring-system screening ring with teeth over the entire periphery at the rear of the connectors, maximum operating temperature 175 °C continuous
	RS	Sealed plug and receptacle with housing (shell) in nickel-plated aluminium alloy, crimp contacts, plug with grounding-spring-system screening ring, three teeth at the rear of the connector, maximum operating temperature 200 °C continuous
	Y	Hermetic receptacle, with housing (shell) in passivated stainless steel, solder contacts, maximum operating temperature 200 °C continuous
Protective covers	RS	Protective cover for plug in nickel-plated aluminium alloy — Maximum operating temperature 200 °C continuous
	A	Protective cover for receptacle or plug in black anodized aluminium alloy — Maximum operating temperature 200 °C continuous
	WS	Protective cover for receptacle or plug in olive-green cadmium-plated aluminium alloy — Maximum operating temperature 175 °C continuous
Dummy receptacles	RS	Dummy receptacle in nickel-plated aluminium alloy — Maximum operating temperature 200 °C continuous
	A	Dummy receptacle in black anodized aluminium alloy — Maximum operating temperature 200 °C continuous
	WS	Dummy receptacle in olive-green cadmium-plated aluminium alloy — Maximum operating temperature 175 °C continuous

5 Technical specification

Shall be according to EN 3646-001.

6 Operating conditions

6.1 Combinations of plugs and receptacles

Table 2 shows the recommended combinations of plugs and receptacles.

For these combinations, the characteristics of the pair of connectors shall be those of the component with the lowest performance.

Other combinations may be used subject to the approval of the design authorities.