SLOVENSKI STANDARD
SIST EN 4652-322:2018

01-februar-2018

Aeronavtika - Konektorji, koaksialni, radiofrekvenčni - 322. del: Tip 3, vmesnik N - Izvedba s stisljivimi priključki - Podlaga s kvadratno prirobnico - Standard za proizvod

Aerospace series - Connectors, coaxial, radio frequency - Part 322: Type 3, N interface - Crimp version - Square flange receptacle - Product standard

Luft- und Raumfahrt - Koaxiale Hochfrequenz-Steckverbinder - Teil 322: Typ 3, N-Schnittstelle - Crimpverbindung - fester Steckverbinder mit quadratischem Montageflansch - Produktnorm

Série aérospatiale - Connecteurs coaxiaux pour radiofréquences - Partie 322 : Type 3, interface N - Version à sertir - embase à collerette carrée - Norme de produit

Ta slovenski standard je istoveten z: EN 4652-322:2017

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

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EUROPÄISCHE NORM

EN 4652-322

November 2017

ICS 49.060

English Version

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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 4652-322:2017) 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of an identical text or by endorsement, at the latest by May 2018, and conflicting national standards shall be withdrawn at the latest by May 2018.

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1 Scope

This European Standard specifies the characteristics of screwed on coupling (N interface) coaxial square flange receptacle – 50 ohms. The cable to connector assembly is a crimp technology.

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 2424, *Aerospace series — Marking of aerospace products*

EN 2591*, *Aerospace series — Elements of electrical and optical connection — Test methods* [1)]

EN 2812, *Aerospace series — Stripping of electric cables*

EN 4652-001, *Aerospace series — Connectors, coaxial, radio frequency — Part 001: Technical specification*

EN 4652-320, *Aerospace series — Connectors, coaxial, radio frequency — Part 320: Type 3, N interface — Crimp version — Straight plug — Product standard* [1)]

EN 9133, *Aerospace series — Quality Management Systems — Qualification Procedure for Aerospace Standard Products*

TR 6058, *Aerospace series — Cable code identification list* [2)]

3 Required characteristics

— The connection technology shall comply to all required tests described in Clause 4.

— All interface shall comply to EN 4652-001.

— Holes for lockwire shall exist in case of no self-locking device on the product.

— Water ingress resistance is required in mated conditions for all cable groups.

— Water ingress resistance is required in unmated conditions for cable group A.

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* All parts quoted in this European Standard.

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

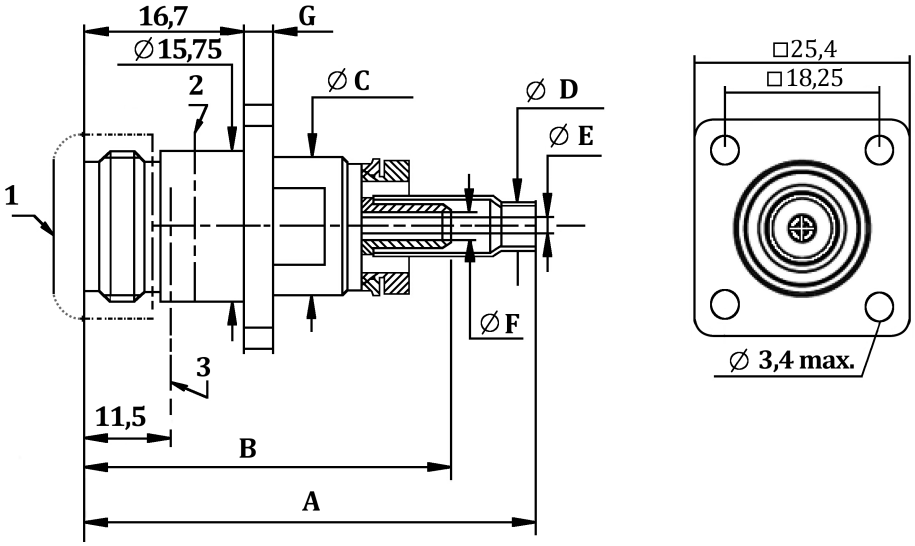
2) Published as ASD-STAN Technical Report at the date of publication of this European Standard. (www.asd-stan.org).

3.1 Configuration, dimension and mass

Mass without heatshrink tubing

See Figure 1 and Table 1.

Dimensions in millimetres



Key

1 Prospective cap
2 Marking axis
3 Reference plane

Figure 1 — N Square flange receptacle

Marking: see Clause 8.

Table 1 — N square flange receptacle dimensions and mass

Cable code (see TR 6058)	**Cable group**	*A* max.	*B* max.	*ØC*	*ØD*	*ØE*	*ØF*	*G* max.	**Mass** g
WM	C	47,2	38,8	14,4	4,2	1,15	3	3	45,43
WD	E	50,4	42,3	14	8,4	2,5	6,3	2	48,75
WN	F	50,4	42,3	14	8,4	2,5	6,3	2	48,75

3.2 Materials and finish

Center contact (front active part) ..... : Copper alloy gold plated over nickel undercoat

Ferrule (if existing) ..... : Copper alloy over nickel undercoat

Insulators ..... : PTFE

Sealings ..... : Silicone rubber or silicon fluoride

Heat shrink tube ..... : Polyolefin, 135 °C min.

Body of connector, coupling nut, rear screw materials of these parts shall have mechanical and electrical characteristics consistent with the required use.

3.3 Temperature

Operating temperature shall be between – 65 °C to 165 °C (only connectors).

3.4 Electrical characteristics

Impedance ..... : 50 Ω

Maximum operating frequency ..... : 6 GHz

VSWR ..... : See Table 2.

Table 2 — Electrical characteristics

Frequency (MHz)	**VSWR** max.
3 000	1,10
6 000	1,15

The VSWR requirement is applicable for connector alone.

Insertion loss ..... : See Table 3.

Contact resistance (initial central contact) ..... : 1,5 mΩ max.

Insulation resistance ..... : 5 000 MΩ min.

Withstand voltage ..... : 1 500 Veff (at sea level)

3.5 General characteristics

Tightening torque of coupling nut ..... : 3,7 m.N

Coupling proof torque ..... : Not applicable

Service life ..... : 500 cycles

Retention of centre contact ..... : 27 N min.

Retention of cable ..... : See Table 3.

Table 3 — General characteristics

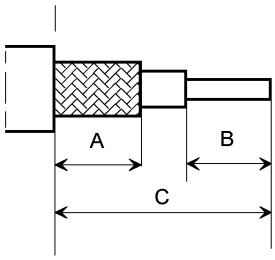
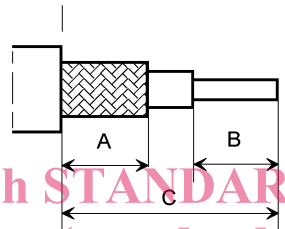
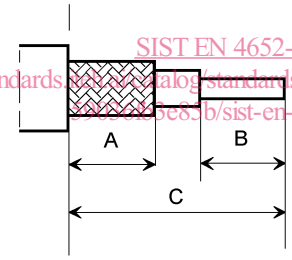
Cable code (see TR 6058)	**Insertion loss**	**Retention of cable**
WD, WN	$0{,}048\sqrt{f}$ (GHz) dB max.	400 N min.
WM	$0{,}1\sqrt{f}$ (GHz) dB max.	140 N min.

3.6 Admissible cables, tools and stripping lengths

3.6.1 Admissible cables, tools

The connector shall accept the cables listed in Table 4 with associated tools.

Table 4 — Admissible cables and tools

Cable code (see TR 6058)	Cable group	Stripping length mm	Tools for crimping	
			Center contact	Ferrule
WM	C		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-05 Hex = A
WD	E		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-61
WN	F		Tool M22520/1-01 Locator M22520/1-13 (red) Selection 7	Tool M22520/5-01 Die M22520/5-61

3.6.2 Stripping lengths

The cables shall be stripped according to lengths in Table 5 to Table 7.

Table 5 — Stripping lengths cable Group C

A		*B*		*C*	
min. mm	max. mm	min. mm	max. mm	min. mm	max. mm
8,8	9,2	8,8	9,2	22,8	23,2