

SLOVENSKI STANDARD

SIST EN 3375-011:2017

01-junij-2017

Nadomešča:

SIST EN 3375-011:2015

Aeronavtika - Električni kabli za digitalni prenos podatkov - 011. del: Enojni oplet - Štirižilni zvezdasti kabel, 100 ohm - Lahki - Tip KL- Standard za proizvod

Aerospace series - Cable, electrical for digital data transmission - Part 011: Single braid - Star Quad 100 ohms - Light weight - Type KL - Product standard

Luft- und Raumfahrt - Elektrische Leitungen für Digitaldatenübertragungen - Teil 011: Einfach geschirmt - Sternvierer 100 Ohm - Leichtbauweise - Typ KL - Produktnorm

Série aérospatiale - Câbles électriques, pour transmission de données numériques - Partie 011 : Simple tresse - Quarte étoile 100 ohms - Allégé - Type KL - Norme de produit

Ta slovenski standard je istoveten z: EN 3375-011:2017

ICS:

29.060.20	Kabli	Cables
49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

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en,fr,de

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EUROPEAN STANDARD

EN 3375-011

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2017

ICS 49.060; 49.090

Supersedes EN 3375-011:2015

English Version

**Aerospace series - Cable, electrical for digital data
transmission - Part 011: Single braid - Star Quad 100 ohms
- Light weight - Type KL - Product standard**

Série aérospatiale - Câbles électriques, pour
transmission de données numériques - Partie 011 :
Simple tresse - Quarte étoile 100 ohms - Allégé - Type
KL - Norme de produit

Luft- und Raumfahrt - Elektrische Leitungen für
Digitaldatenübertragungen - Teil 011: Einfach
geschirmt - Sternvierer 100 Ohm - Leichtbauweise -
Typ KL - Produktnorm

This European Standard was approved by CEN on 6 February 2017.

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, Serbia, 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 3375-011:2017) 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 September 2017, and conflicting national standards shall be withdrawn at the latest by September 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 3375-011:2015.

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

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EN 3375-011:2017 (E)**1 Scope**

This European Standard specifies the dimensions, tolerances, required characteristics and the mass of an AWG 24 shielded quad cable, type KL, intended for high speed (100 Mbit/s) full duplex Ethernet networks.

Linked to this particular application, the operating temperatures of the cable are between – 65 °C and 125 °C.

This cable is laser markable, this marking satisfies the requirements of EN 3838.

The characteristics impedance must be $100 \Omega \pm 15 \Omega$.

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 3375-001, *Aerospace series — Cable, electrical, for digital data transmission — Part 001: Technical specification — Product standard*

EN 3375-002, *Aerospace series — Cable, electrical, for digital data transmission — Part 002: General*

EN 3475-100 (all parts), *Aerospace series — Cable, electrical, aircraft use — Test methods — Part 100: General*

EN 3838, *Aerospace series — Requirements and tests on user-applied markings on aircraft electrical cables*

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

TR 6058, *Aerospace series — Cable code identification list*¹⁾

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 3475-100 apply.

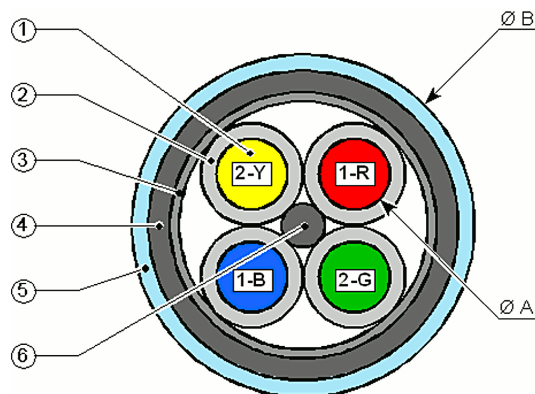
4 Required characteristics**4.1 Configuration, dimensions, tolerances and mass**

The configuration, dimensions and tolerances shall be in accordance with Figure 1 and Table 1.

Mass: ≤ 32 g/m.

1) Published as ASD-STAN Technical Report at the date of publication of this standard by AeroSpace and Defence industries Association of Europe - Standardization (ASD-STAN) (www.asd-stan.org)

Dimensions are in millimetres



NOTE No. of elements in accordance with Table 2

Figure 1 — Configuration, dimensions and tolerances

Table 1 — Dimensions, tolerances and general characteristics

Stranded conductor ($\varnothing A$)	$0,598 \text{ mm} \leq \varnothing \leq 0,656 \text{ mm}^a$
Insulation diameter (single wire)	$\varnothing \leq 1,52 \text{ mm}^a$
Braid, shield	Strand diameter: $\geq 0,08 \text{ mm}$
Outer diameter of cable ($\varnothing B$)	$4,10 < \varnothing < 4,50 \text{ mm}$
Colour of the jacket ⑤	Light blue
Colour of components ①	Pair 1: Red (+), Blue (-) Pair 2: Yellow (+), Green (-)
Minimum bending radius for dynamic installation	$10 \times \text{Max. outer diameter}$
Minimum bending radius in static	$5 \times \text{Max. outer diameter}$
^a Adapted tools are requested for stripping.	

4.2 Material

The material and surface treatment shall be in accordance with Table 2.

Table 2 — Material

No. of element	Element	Material
①	Stranded conductor	Silver plated copper
②	Insulation	Fluoropolymer
③	Protection tape	Synthetic or metallic
④	Braid	Silver plated copper
⑤	Jacket	Fluoropolymer
⑥	Filler	Fluoropolymer

4.3 General characteristics

General characteristics shall be in accordance with Table 1.

5 Test

Tests shall be in accordance with Table 3.

Maximum attenuation of the cable at 25 °C shall be in accordance with Table 4.

Minimum near end cross talk of the cable and contacts shall be in accordance with Table 5.

Transfer impedance shall be in accordance with Table 6.

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Table 3 — Tests as per EN 3475

EN 3475-	Designation of the test	Carried out on / Requirement	
		Component (samples from finished cable)	Cable
100	General	Not applicable	Applicable
201	Visual examination	Applicable	Applicable
202	Mass	Not applicable	Applicable, see 4.1.
203	Dimensions	Applicable	Applicable, see Table 1.
301	Ohmic resistance per unit length	Not applicable	Applicable Maximum electrical loop resistance 192 Ω/km
302	Voltage proof test	Not applicable	Applicable Conductor/Conductor Conductors/Shield DC: 1 kV (1 min) or 2,5 kV (2 s) AC: 700 V (1 min) or 1,7 kV (2 s)
303	Insulation resistance	Not applicable	Applicable ≥ 1 500 MΩ.km at 20 °C
304	Surface resistance	Applicable 1 250 MΩ.mm	Applicable 1 250 MΩ.mm
305	Overload resistance	Not applicable	Not applicable
306	Continuity of conductors	Applicable	Applicable
307	Corona extinction voltage	Not applicable	Not applicable
401	Accelerated ageing	Not applicable	Applicable $T^{\circ}\text{C} = (155 \pm 5)^{\circ}\text{C}$, 168 h Mandrel $\varnothing = 45$ mm Load = 0,7 daN
402	Shrinkage and delamination	Applicable $T^{\circ}\text{C} = (125 \pm 5)^{\circ}\text{C}$. Shrinking of the insulation = 0,8 mm max.	Applicable $T^{\circ}\text{C} = (125 \pm 5)^{\circ}\text{C}$. Shrinking of the jacket = 5 mm max.
403	Delamination and blocking	Applicable $T^{\circ}\text{C} = (125 \pm 5)^{\circ}\text{C}$. Mandrel $\varnothing = 20$ mm	Applicable $T^{\circ}\text{C} = (125 \pm 5)^{\circ}\text{C}$. Mandrel $\varnothing = 45$ mm
404	Thermal shock	Applicable 30 min at $(125 \pm 5)^{\circ}\text{C}$ 30 min at $(-65 \pm 3)^{\circ}\text{C}$ 30 min at $(20 \pm 3)^{\circ}\text{C}$ Shrinking of the insulation = 0,8 mm max.	Applicable 30 min at $(125 \pm 5)^{\circ}\text{C}$ 30 min at $(-65 \pm 3)^{\circ}\text{C}$ 30 min at $(20 \pm 3)^{\circ}\text{C}$ Shrinking of the jacket = 5 mm max.
405	Bending at ambient temperature	Not applicable	Applicable Mandrel $\varnothing = 45$ mm Load = 0,7 daN