SLOVENSKI STANDARD
SIST EN 3375-011:2015

01-oktober-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 - Quad 100 Ohm - Leichtbauweise - Typ KL - Produktnorm

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

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Ta slovenski standard je istoveten z: **EN 3375-011:2015**

ICS:

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

SIST EN 3375-011:2015 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 3375-011

August 2015

ICS 49.060; 49.090

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

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European foreword

This document (EN 3375-011:2015) 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 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of an identical text or by endorsement, at the latest by February 2016, and conflicting national standards shall be withdrawn at the latest by February 2016.

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1 Scope

This 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 ± 15) Ω.

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*

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

EN 3475 (all parts), *Aerospace series — Cables, electrical, aircraft use — Test methods*

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 parts*

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

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3 Terms and definitions

For the purposes of this standard, 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. (http://www.asd-stan.org/)

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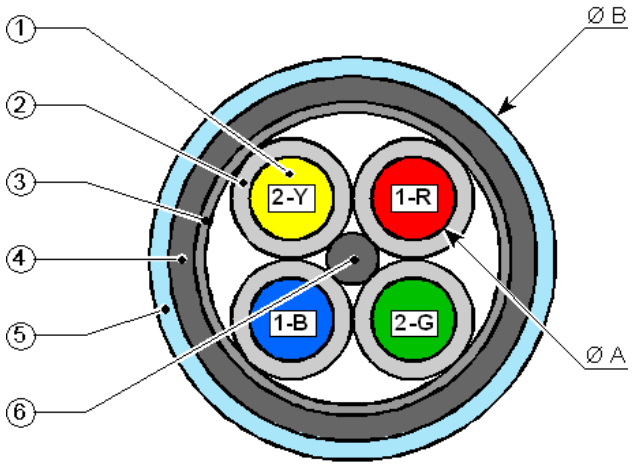
Dimensions are in millimetres.



NOTE No. of elements in accordance with Table 2.

Figure 1 — Configuration, dimensions and tolerances

Table 1 — Dimensions, tolerances and general characteristics

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Stranded conductor (Ø *A*)	0,598 mm ≤ Ø ≤ 0,656 mm [a]
Insulation diameter (single wire)	Ø ≤ 1,52 mm [a]
Braid, shield	Strand diameter: ≥ 0,08 mm
Outer diameter of cable (Ø *B*)	4,10 mm < Ø < 4,50 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 × Max. outer diameter
Minimum bending radius in static	5 × Max. outer diameter

[a] Adapted tools are requested for stripping.

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4.2 Material

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

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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 Tests

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 *(1 of 5)*

EN 3475-	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 mn) or 2,5 kV (2 s) AC: 700 V (1 mn) or 1,7 kV (2 s)

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Table 3 — Tests as per EN 3475 *(2 of 5)*

EN 3475-	Test	Carried out on / Requirement	
		Component (samples from finished cable)	**Cable**
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 °C = (155 ± 5) °C, 168 h Mandrel Ø = 60 mm Load = 0,7 daN
402	Shrinkage and delamination	Applicable T °C = (125 ± 5) °C shrinking of the insulation = 0,8 mm max.	Applicable T °C = (125 ± 5) °C shrinking of the jacket = 5 mm max.
403	Delamination and blocking	Applicable T °C = (125 ± 5) °C Mandrel ∅ = 20 mm	Applicable T °C = (125 ± 5) °C Mandrel ∅ = 60 mm
404	Thermal shock	Applicable 30 min at (125 ± 5) °C 30 min at (–65 ± 3) °C 30 min at (20 ± 3) °C shrinking of the insulation = 0,8 mm max.	Applicable 30 min at (125 ± 5) °C / 30 min at (–65 ± 3) °C / 30 min at (20 ± 3) °C shrinking of the jacket = 5 mm max.
405	Bending at ambient temperature	Not applicable	Applicable Mandrel ∅ = 60 mm Load = 0,7 daN
406	Cold bend test	Not applicable	Applicable T °C = (–65 ± 3) °C Mandrel ∅ = 60 mm Load = 0,7 daN
407	Flammability	Not applicable	Applicable Load = 1 daN
408	Fire resistance	Not applicable	Not applicable

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