SLOVENSKI STANDARD
SIST EN 3375-012:2014

01-februar-2014

Aeronavtika - Električni kabli za digitalni prenos podatkov - 012. del: Enojni oplet - Štirižilni zvezdasti kabel, 100 ohmov - 260 °C - Tip KH- Standard za proizvod

Aerospace series - Cable, electrical, for digital data transmission - Part 012: Single braid - Star Quad 100 ohms - 260 °C - Type KH - Product standard

Luft- und Raumfahrt - Elektrische Leitungen für Digitaldatenübertragungen - Teil 012: Einfach geschirmt - Quad 100 Ohm - 260 °C - Typ KH - Produktnorm

Série aérospatiale - Câbles électriques pour transmission de données numériques - Partie 012: Simple tresse - Quarte étoile 100 ohms - 260 °C - Type KH - Norme de produit

Ta slovenski standard je istoveten z: **EN 3375-012:2013**

ICS:

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

SIST EN 3375-012:2014 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3375-012

December 2013

ICS 49.090

English Version

Aerospace series - Cable, electrical, for digital data transmission - Part 012: Single braid - Star Quad 100 ohms - 260 °C - Type KH - Product standard

Série aérospatiale - Câbles électriques pour transmission de données numériques - Partie 012: Simple tresse - Quarte étoile 100 ohms - 260 °C - Type KH - Norme de produit

Luft- und Raumfahrt - Elektrische Leitungen für Digitaldatenübertragungen - Teil 012: Einfach geschirmt - Quad 100 Ohm - 260 °C - Typ KH - Produktnorm

This European Standard was approved by CEN on 28 September 2013.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 3375-012:2013 E

Contents

Page

Foreword

This document (EN 3375-012:2013) 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 June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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.

1 Scope

This European Standard specifies the dimensions, tolerances, required characteristics and the mass of an AWG 24 shielded quad cable, type KH, 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 260 °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 3475-100 (all parts), *Aerospace series — Cables, 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 parts*

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.

1) Published as ASD-STAN Technical Report at the date of publication of this standard. http://www.asd-stan.org/

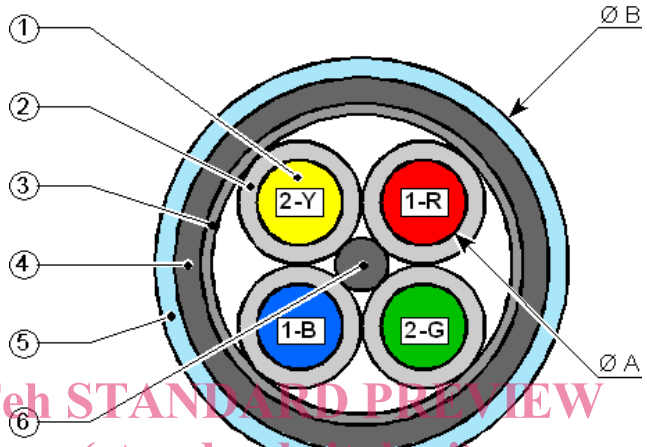
4 Required characteristics

4.1 Configuration, dimensions, tolerances and mass

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

Mass: ≤ 45 g/m.

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 (Ø *A*)	0,598 mm ≤ Ø ≤ 0,656 mm [a]
Insulation diameter (single wire)	1,35 mm ≤ Ø ≤ 1,45 mm [a]
Outer diameter of shield	3,85 mm ≤ Ø ≤ 4,05 mm
Braid, shield	Strand diameter: 0,10 mm
Outer diameter of cable (Ø *B*)	4,35 mm ≤ Ø ≤ 4,55 mm
Colour of the jacket ⑤	Light green
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.

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	Nickel plated copper
②	Insulation	Fluoropolymer
③	Protection tape	Synthetic
④	Braid	Nickel 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.

Table 3 — Tests as per EN 3475 *(1 of 4)*

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)
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 = (290 ± 5) °C, 168 h Mandrel Ø = 60 mm Load = 0,7 daN
402	Shrinkage and delamination	Applicable T °C = (260 ± 5) °C shrinking of the insulation = 0,8 mm max.	Applicable T °C = (260 ± 5) °C shrinking of the jacket = 5 mm max.
403	Delamination and blocking	Applicable T °C = (260 ± 5) °C Mandrel ∅ = 20 mm	Applicable T °C = (260 ± 5) °C Mandrel ∅ = 60 mm
404	Thermal shock	Not applicable	Applicable 30 min at (260 ± 5) °C / 30 min at (– 65 ± 3) °C / 30 min at (20 ± 3) °C shrinking of the jacket = 5 mm max.