
Aeronavtika - Električni kabli za digitalni prenos podatkov - 003. del: Enojni oplet - 77 ohmov - Tip KG - Standard za proizvod

Aerospace series - Cable, electrical, for digital data transmission - Part 003: Single braid - 77 Ohms - Type KG - Product standard

Luft- und Raumfahrt - Elektrische Leitungen für Digitaldatenübertragungen - Teil 003: Einfach geschirmt - 77 Ohm - Typ KG - Produktnorm

Série aérospatiale - Câbles électriques pour transmission de données numériques - Partie 003 : Simple tresse - 77 Ohms - Type KG - Norme de produit

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Ta slovenski standard je istoveten z: EN 3375-003:2007

ICS:

49.060

Letalska in vesoljska
električna oprema in sistemi

Aerospace electric
equipment and systems

SIST EN 3375-003:2009

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EUROPEAN STANDARD

EN 3375-003

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2007

ICS 49.060

English Version

Aerospace series - Cable, electrical, for digital data transmission - Part 003: Single braid - 77 Ohms - Type KG - Product standard

Série aérospatiale - Câbles électriques pour transmission
de données numériques - Partie 003 : Simple tresse - 77
Ohms - Type KG - Norme de produit

Luft- und Raumfahrt - Elektrische Leitungen für
Digitaldatenübertragungen - Teil 003: Einfach geschirmt -
77 Ohm - Type KG - Produktnorm

This European Standard was approved by CEN on 23 May 2007.

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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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 3375-003:2007) 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of an identical text or by endorsement, at the latest by May 2008, and conflicting national standards shall be withdrawn at the latest by May 2008.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 3375-003:2007 (E)**1 Scope**

This standard specifies the required characteristics of single braid, 77 Ohms, size 24 electrical cable type KG, intended for digital data transmissions.

General characteristics are given in 4.2.

Main electrical characteristics are given in 4.3.

It shall be used together with EN 3375-001 and EN 3375-002.

2 Normative references

The following referenced documents are indispensable for the application 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 2083, *Aerospace series — Copper or copper alloy conductors for electrical cables — Product standard.*

EN 2084, *Aerospace series — Cables, electric, single-core, general purpose, with conductors in copper or copper alloy — Technical specification.*

EN 3375-001, *Aerospace series — Cable, electrical, for digital data transmission — Part 001: Technical specification.* ¹⁾

EN 3375-002, *Aerospace series — Cable, electrical, for digital data transmission — Part 002: General.* ¹⁾

EN 3475-100*, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 100: General.*

EN 9133, *Aerospace series — Quality management systems — Qualification Procedure for aerospace standard parts.*

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

3 Terms and definitions

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

* All parts quoted in Table 2.

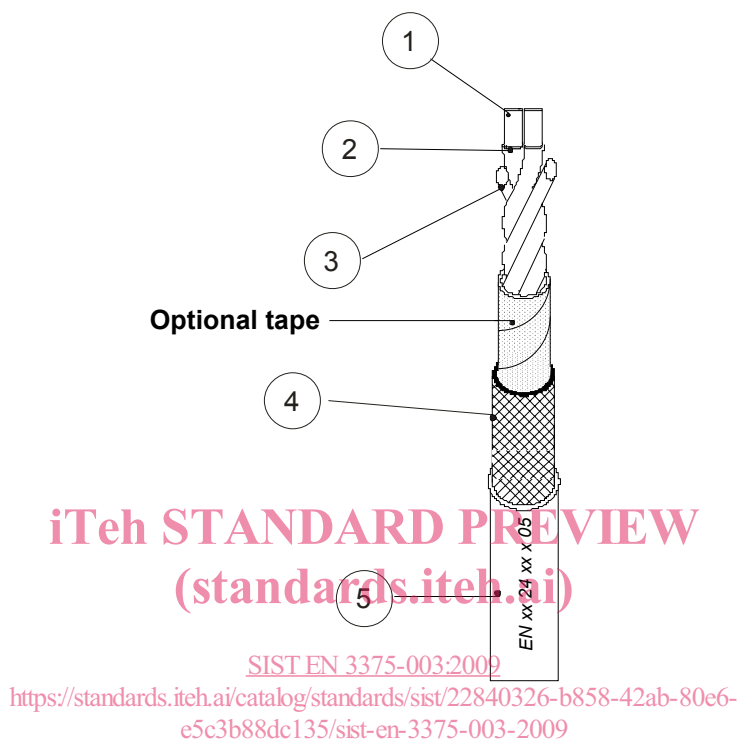
1) Published as ASD Prestandard at the date of publication of this standard.

2) Published as ASD Technical Report at the date of publication of this standard.

4 Required characteristics

4.1 Dimensions and mass

See Figure 1 and Table 1.



Key

- ① Two conductors size 24, according to EN 2083 C002 (AWG 24).
- ② Insulation of elements: Fluorocarbon (colour: see 7.5)
- ③ Two fillers
- ④ Braid screen, silver (C) plated copper (strand $\varnothing = 0,10$ mm)
- ⑤ Outer sheath: Fluorocarbon (colour: see 7.5)

Figure 1

Table 1

Composition N × mm	Core (EN 2083) diameter min. max. mm		Insulation diameter max. mm	Braid screen ④ diameter max. mm	Outer sheath diameter min. max. mm		Mass max. g/m
19 × 0,12	0,55	0,62	1,30	3,00	3,00	3,50	24,0

EN 3375-003:2007 (E)**4.2 General characteristics**

- Operating temperature (Silver plated copper braid) : – 65 °C to 200 °C
- Minimum bend radius : $R = 20$ mm
- UV laser markable
- Twisting pitch ranging between 8 and 16 times the external diameter of the dual-conductor assembly.

4.3 Electrical characteristics

- Impedance : $(77 \pm 7) \Omega$ at 1 MHz
- Capacitance (70 pF/m nominal) : 78 pF/m max.
- Attenuation maximum : 3,6 dB/100 m at 1 MHz
- For information: maximum voltage rating 600 V AC
- Transfer impedance (Z_t maximum in $m\Omega/m$):
 - direct current : 45
 - 1 MHz : 45
 - 10 MHz : 45
 - 30 MHz : 100
 - 100 MHz : N.A.

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5 Tests

According to EN 3375-001 and EN 3475-100.

See Table 2.

Table 2

EN 3475-	Designation of the test	Carried out on	
		Component ^a	Cable
201	Visual examination	Applicable	Applicable
202	Mass	Not applicable	Applicable, see Table 1.
203	Dimensions	Applicable	Applicable, see Table 1.
301	Ohmic resistance per unit length	Not applicable	Applicable 109 Ω /km maximum
302	Voltage proof test	Not applicable	Applicable Elements: 1,5 kV AC Jacket: • Dry: 1,0 kV AC or • Dry impulse: 1,5 kV AC or • Immersion: 500 V AC
303	Insulation resistance	Not applicable	Applicable $\geq 1\,500\text{ M}\Omega \times \text{km}$ at 20 °C
304	Surface resistance	Applicable	Applicable 1 250 $\text{M}\Omega\cdot\text{mm}$
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 = maximum operating temperature 30 °C - 168 h Mandrel $\varnothing$ 50 mm Load = 0,7 daN
402	Shrinkage and delamination	Applicable T °C = 200 °C 0,8 mm max.	Applicable At maximum operating temperature 2 mm max.
403	Delamination and blocking	Not applicable	Applicable T °C = 200 °C Mandrel $\varnothing$ 50 mm
404	Thermal shock	Applicable T °C = 200 °C 0,8 mm max.	Applicable At maximum operating temperature 2 mm max.
405	Bending at ambient temperature	Not applicable	Applicable Load = 0,7 daN Mandrel $\varnothing$ 50 mm
406	Cold bend test	Not applicable	Applicable Load = 0,7 daN Mandrel $\varnothing$ 50 mm
407	Flammability	Not applicable	Applicable Load = 0,7 daN

continued