



SLOVENSKI STANDARD

SIST EN 3375-004:2009

01-maj-2009

Aeronavtika - Električni kabli za digitalni prenos podatkov - 004. del: Dvojni oplet - 77 ohmov - Tip WJ - Standard za proizvod

Aerospace series - Cable, electrical, for digital data transmission - Part 004: Double braid - 77 Ohms - Type WJ - Product standard

Luft- und Raumfahrt - Elektrische Leitungen für Digitaldatenübertragungen - Teil 004: Doppelt geschirmt - 77 Ohm - Typ WJ - Produktnorm

Série aérospatiale - Câbles électriques pour transmission de données numériques - Partie 004: Double tresse - 77 Ohms - Type WJ - Norme de produit

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Ta slovenski standard je istoveten z: EN 3375-004:2007

ICS:

49.060

Letalska in vesoljska
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Aerospace electric
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3375-004

November 2007

ICS 49.060

English Version

**Aerospace series - Cable, electrical, for digital data transmission
- Part 004: Double braid - 77 Ohms - Type WJ - Product
standard**

Série aérospatiale - Câbles électriques pour transmission
de données numériques - Partie 004: Double tresse - 77
Ohms - Type WJ - Norme de produit

Luft- und Raumfahrt - Elektrische Leitungen für
Digitaldatenübertragungen - Teil 004: Doppelt geschirmt -
77 Ohm - Type WJ - Produktnorm

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

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Required characteristics	5
4.1 Dimensions and mass	5
4.2 General characteristics	6
4.3 Electrical characteristics	6
5 Tests.....	6
6 Quality assurance	9
7 Identification and marking (according to EN 3375-002 and TR 6058)	10
7.1 Designation	10
7.2 Short designation	10
7.3 Marking	10
7.4 Colour of the marking on the jacket	10
7.5 Colour of components	10
8 Packaging	11
9 Technical specification	11

[SIST EN 3375-004:2009](https://standards.iteh.ai/catalog/standards/sist/a4060b5e-d1a2-4600-ad70-a1d307e2a2ac/sist-en-3375-004-2009)

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Foreword

This document (EN 3375-004:2007) 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 3375-004:2007 (E)**1 Scope**

This standard specifies the required characteristics of double braid, 77 Ohms, size 24 electrical cable type WJ, 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 and 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 2235, *Aerospace series — Single and multicore electrical cables, screened and jacketed.*

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.*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.

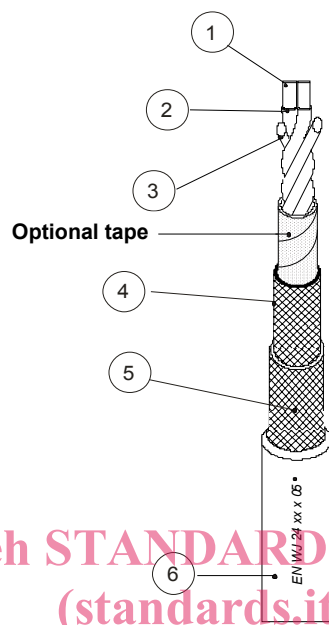
1) Published as ASD Prestandard at the date of publication of this standard.

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.



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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, tin (B) or silver (C) plated copper (strand $\varnothing = 0,10$ mm)
- ⑤ Braid screen, tin (B) or silver (C) plated copper (strand $\varnothing = 0,10$ mm)
- ⑥ Outer sheath: Fluorocarbon (colour: see 7.5)

Figure 1

Table 1

Composition $N \times \text{mm}$	Core (EN 2083) diameter min. max. mm		Insulation diameter max. mm	Braid screen ④ ⑤ diameter max. mm		Outer sheath diameter min. max. mm		Mass max. g/m
$19 \times 0,12$	0,55	0,62	1,30	3,00	3,50	3,40	3,90	37

EN 3375-004:2007 (E)**4.2 General characteristics**

- Operating temperature:
 - Silver plated copper braid : – 65 °C to 200 °C
 - Tin plated copper braid : – 65 °C to 150 °C
- Minimum bend radius : $R = 26$ 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 Ω /m):
 - direct current : 15
 - 1 MHz : 5
 - 10 MHz : 5
 - 30 MHz : 10
 - 100 MHz : N.A.

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