



SLOVENSKI STANDARD
SIST EN 4604-001:2009
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Aerospace series - Cable, electrical, for signal transmission - Part 001: Technical specification

Luft- und Raumfahrt - Elektrische Leitungen für Signalübertragungen - Teil 001: Technische Lieferbedingungen

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Série aérospatiale - Câbles électriques pour transmission de signaux - Partie 001 : Spécification technique

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Ta slovenski standard je istoveten z: EN 4604-001:2006

ICS:

49.060 Š^œ\ œš Å^•[|b\ œ Aerospace electric
^|\ dā} œ[]!^ { œš Åã^ { ã equipment and systems

SIST EN 4604-001:2009

en,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4604-001

July 2006

ICS 49.060

English Version

**Aerospace series - Cable, electrical, for signal transmission -
Part 001: Technical specification**

Série aérospatiale - Câbles électriques pour transmission
de signaux - Partie 001 : Spécification technique

Luft- und Raumfahrt - Elektrische Leitungen für
Signalübertragungen - Teil 001: Technische
Lieferbedingungen

This European Standard was approved by CEN on 28 April 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard (EN 4604-001:2006) 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 January 2007, and conflicting national standards shall be withdrawn at the latest by January 2007.

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, 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 4604-001:2006 (E)**1 Scope**

This standard specifies the required characteristics, test methods, qualification and acceptance conditions of signal transmission electrical cables.

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.

ISO 2574, *Aircraft — Electrical cables — Identification marking*.

EN 3475-100*, *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*.¹⁾

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

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

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3 Terms and definitions

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

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4 Materials and construction of cables**4.1 General**

The composition, dimensions and mass of the cable shall conform to the characteristics below, as well as the values specified in the product standards.

4.2 Conductor**4.2.1 Material**

See product standards.

4.2.2 Construction

See product standards, conductor shall not be spliced.

* And all parts quoted in Table 1.

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.

4.3 Dielectric

See EN product standards.

4.4 Screening

4.4.1 Material

The materials used for screening are defined in the product standards.

The screen strands or strips shall be free of kinks or cracks and their surface shall have no corrosion at all or any other impurities.

4.4.2 Construction

Construction shall be in accordance with the product standard.

Splices of the individual strands or strips may be effected by brazing, soldering or folding in.

The number of splices shall not exceed 1 per 3 m length of cable.

4.4.3 Screen coverage

The screen is constructed in such a way that the screen meets the electrical requirements defined in the product standards.

4.5 Outer jacket

See product standards.

4.6 Colours of components and jacket

See product standards.

5 Required characteristics

The characteristics of the cables, tested according to the methods described hereafter shall comply with the values given in the product standards.

6 Test methods

See Table 1.

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EN 4604-001:2006 (E)

Table 1 — Tests: methods, application, requirements

§ No.	Tests						Requirements (and/or particulars)
	Description	EN 3475- (and/or particulars)	Qualification ^a (§ 7.1)	Each delivery		Periodic Every 3 years (§ 7.2.4)	
				On all cables (§ 7.2.1 and 7.2.2)	Prior to delivery (§ 7.2.1 and 7.2.3)		
6	General	100	X	X	X	X	
6.1	Visual examination	201	3	X			Marking: § 8
6.2	Mass	202	3		X		Product standard
6.3	Dimensions (all) - outer diameter	203	3		X		Product standard
6.4	Ohmic resistance per unit length	301	3		X		Product standard
6.5	Voltage proof test: - dielectric dry test - jacket immersion test - jacket dry test	302	X 3 X	X X		1	Product standard
6.6	Insulation resistance - dry test - immersion test	303	3		X		Product standard
6.7	Surface resistance	304	3			X	Product standard
6.8	Overload resistance	305					NOT APPLICABLE
6.9	Continuity of conductors	306	1	X			
6.10	Corona extinction voltage	307	3			X	Product standard
6.11	Accelerated ageing	401					NOT APPLICABLE
6.12	Shrinkage and delamination	402					NOT APPLICABLE
6.13	Delamination and blocking	403					NOT APPLICABLE
6.14	Thermal shock	404					NOT APPLICABLE
6.15	Bending at ambient temperature	405					NOT APPLICABLE
6.16	Cold bend test	406 Mandrel Ø and load: Product standard	3			X	Product standard
6.17	Flammability	407 Load: Product standard	3			X	
6.18	Fire resistance	408					NOT APPLICABLE
6.19	Air-excluded ageing	409					NOT APPLICABLE
6.20	Thermal endurance	410					NOT APPLICABLE
6.21	Resistance to fluids	411	1 per fluid			X	
6.22	Humidity resistance	412					NOT APPLICABLE

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Table 1 — Tests: methods, application, requirements (continued)

§ No.	Tests						Requirements (and/or particulars)
	Description	EN 3475- (and/or particulars)	Qualification ^a (§ 7.1)	Each delivery		Periodic Every 3 years (§ 7.2.4)	
				On all cables (§ 7.2.1 and 7.2.2)	Prior to delivery (§ 7.2.1 and 7.2.3)		
6.23	Wrap back test	413		NOT APPLICABLE			
6.24	Differential scanning calorimeter test (DSC)	414		NOT APPLICABLE			
6.25	Rapid change of temperature	415	1			X	Product standard
6.26	Thermal stability	416	1			X	Product standard
6.27	Dynamic cut-through	501		NOT APPLICABLE			
6.28	Notch propagation	502 Cut depth: Product standard	3			X	
6.29	Scrape abrasion	503 Load: Product standard	3			X	Requirements to be considered at 20 °C unless otherwise specified
6.30	Torsion	504		NOT APPLICABLE			
6.31	Tensile test on conductors and strands	505	3			X	Product standard
6.32	Plating continuity	506	3			X	
6.33	Adherence of plating	507	3			X	
6.34	Plating thickness	508	3			X	Product standard
6.35	Solderability	509	3			X	
6.36	Tensile strength and elongation of extruded insulation, sheath and jacket material	510		NOT APPLICABLE			
6.37	Cable-to-cable abrasion	511		NOT APPLICABLE			
6.38	Flexure endurance	512	3			X	Product standard
6.39	Deformation resistance (Installation with plastic cable ties)	513	4			X	Product standard
6.40	Smoke density	601	3				Product standard
6.41	Toxicity	602	3				Product standard
6.42	Resistance to wet arc tracking	603		NOT APPLICABLE			
6.43	Resistance to dry arc propagation	604		NOT APPLICABLE			
6.44	Wet short circuit test	605		NOT APPLICABLE			
6.45	Strippability and adherence of insulation to the conductor	701	3		X		Product standard Stripping length 75 mm

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