SLOVENSKI STANDARD
SIST EN 4604-001:2009

01-junij-2009

Aeronavtika - Kabli, električni, za prenos signala - 001. del: Tehnična specifikacija

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

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

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

Ta slovenski standard je istoveten z: EN 4604-001:2009

ICS:

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

SIST EN 4604-001:2009 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4604-001

April 2009

ICS 49.060

English Version

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

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 4604-001:2009) 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of an identical text or by endorsement, at the latest by October 2009 and conflicting national standards shall be withdrawn at the latest by October 2009.

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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.

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.*

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

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

3 Terms and definitions

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

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.

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* And all parts quoted in Table 1.

1) In preparation 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 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 affected 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.

Table 1 — Tests: methods, application and 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: Clause 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				

continued

Table 1 — Tests: methods, application and 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 (DSC test)	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	Fire resistance of cables confined inside a harness	417	NOT APPLICABLE				
6.28	Thermal endurance for conductors	418	applicable (for 4604-009 type KW)				
6.29	Dynamic cut-through	501	NOT APPLICABLE				
6.30	Notch propagation	502 Cut depth: Product standard	3			X	
6.31	Scrape abrasion	503 Load: Product standard	3			X	Requirements to be considered at 20 °C unless otherwise specified
6.32	Torsion	504	NOT APPLICABLE				
6.33	Tensile test on conductors and strands	505	3			X	Product standard
6.34	Plating continuity	506	3			X	
6.35	Adherence of plating	507	3			X	
6.36	Plating thickness	508	3			X	Product standard
6.37	Solderabilty	509	3			X	
6.38	Tensile strength and elongation of extruded insulation, sheath and jacket material	510	NOT APPLICABLE				
6.39	Cable-to-cable abrasion	511	NOT APPLICABLE				
6.40	Flexure endurance	512	3			X	Product standard
6.41	Deformation resistance (Installation with plastic cable ties)	513	4			X	Product standard
6.42	Porosity of copper cladding on aluminium strands	514	3			X	

continued