SLOVENSKI STANDARD
SIST EN 4604-006:2009

01-maj-2009

Aeronavtika - Kabli, elektriļ ni, za prenos signala - 006. del: Kabli, koaksialni, 50 ohmov, 200 ÁC, tip WM - Standard za proizvod

Aerospace series - Cable, electrical, for signal transmission - Part 006: Cable, coaxial, 50 ohm, 200 °C, type WM - Product standard

Luft- und Raumfahrt - Elektrisch Leitungen für Signalübertragungen - Teil 006: Koaxialkabel, 50 Ohm, 200 °C, Typ WM - Produktnorm

Série aérospatiale - Câbles électriques pour transmission de signaux - Partie 006: Câble coaxial, 50 ohms, 200 °C, type WM - Norme de produit

Ta slovenski standard je istoveten z: **EN 4604-006:2009**

ICS:

49.060	Letalska in vesoljska elektriļ na oprema in sistemi	Aerospace electric equipment and systems

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 4604-006:2009) 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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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1 Scope

This standard specifies the required characteristics of a coaxial cable, 50 Ω, type WM, for use in aircraft electrical systems at operating temperature between – 55 °C and 200 °C and specially for high frequency up to 5 GHz.

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 4604-001, *Aerospace series — Cable, electrical, for signal transmission — Part 001: Technical specification*

EN 4604-002, *Aerospace series — Cable, electrical, for signal transmission — Part 002: General*

TR 6058, *Aerospace series — Cable code identification list* 1)

ASTM B 298-99, *Standard specification for silver-coated soft or annealed copper wire* 2)

MIL-PRF-39012, *Connectors, coaxial, radio frequency, general specification for* 3)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 3475-100:2002 and the following apply.

3.1
epsilon (ε)
value of dielectric constant

4 Required characteristics

4.1 Material, construction, dimensions and mass

4.1.1 Material

See Table 1.

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* And all parts quoted in Table 4.

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

2) Published by: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103, USA.

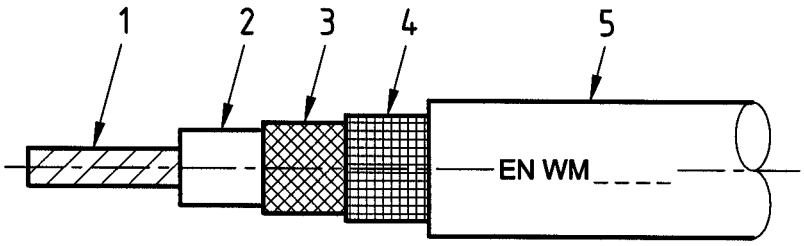
3) Published by: Department of Defense (DOD), the Pentagon, Washington, D.C. 20301 USA.

Table 1 — Material

	Material	Finish	Colour
Conductor	Single-strand copper per ASTM-B298-99	1 µm silver plated	—
Dielectric	Fluorocarbon dielectric with low epsilon (PTFE)	—	—
Screen (foil)	Tape, silver plated copper or silver alloy	—	—
Shield	Braid, copper per ASTM-B298-99	1 µm silver plated	—
Jacket	Extruded Fluorinated Ethylene Propylene (FEP)	—	Violet

4.1.2 Construction, dimensions and mass

See Figure 1 and Table 2.



Key

1 Conductor
2 Dielectric
3 Screen
4 Shield
5 Jacket

Figure 1 — Construction

Table 2 — Dimensions and mass

Diameter mm										Mass g/m
Conductor			Dielectric		Shield		Cable			
min.	nom.	max.	min.	max.	min.	max.	min.	nom.	max.	max.
0,99	1,02	1,05	2,74	2,94	3,30	3,70	3,70	3,85	4,00	35

In order to ensure mechanical integrity (connection strength as per MIL-PRF-39012) the minimum diameter of the shielding strands shall be 0,10 mm.

The dielectric diameter (min. – max.) shall be maintained during connection (after unwrapping screen).

4.2 General characteristics

— Operating temperature: – 55 °C to 200 °C.

— Minimum bend radius:
  — in static use: 25 mm;
  — in dynamic use: 70 mm.

— Performances are guaranteed up to 5 GHz.

4.3 Electrical characteristics

— Characteristic impedance : Zc = (50 ± 3) Ω.

— Capacitance per unit length: Cp = 82 pF/m max.

— Transfer impedance up to 400 MHz: 20 mΩ/m max.

— Operating voltage: 750 V RMS max.

— Maximum power handling (at sea level): see Table 3 and Figure 2.

— Attenuation versus frequency: see Table 3 and Figure 2.

— Velocity of propagation: 0,81 c min.

Table 1 — Frequency, attenuation and power handling

Frequency MHz	50	100	400	1 000	5 000
Attenuation dB/100 m	8	11,5	20,5	40	85
Power handling W	2 800	2 000	1 100	600	300