SLOVENSKI STANDARD
SIST EN 4604-005:2015

01-oktober-2015

Aeronavtika - Kabli, električni, za prenos signala - 005. del: Kabli, koaksialni, 75 ohmov, 200 °C, tip WL - Standard za proizvod

Aerospace series - Cable, electrical, for signal transmission - Part 005: Cable, coaxial, 75 ohmx, 200 °C, type WL - Product standard

Luft- und Raumfahrt - Elektrische Leitungen für Signalübertragungen - Teil 005: Koaxialkabel, 75 Ohm, 200 °C, Typ WL - Produktnorm

Série aérospatiale - Câbles électriques pour transmission de signaux - Partie 005: Câble, coaxial, 75 ohmx, 200 °C, type WL - Norme de produit

Ta slovenski standard je istoveten z: **EN 4604-005:2015**

ICS:

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

SIST EN 4604-005:2015 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4604-005

July 2015

ICS 49.060

English Version

Aerospace series - Cable, electrical, for signal transmission - Part 005: Cable, coaxial, 75 ohmx, 200 °C, type WL - Product standard

Série aérospatiale - Câbles électriques pour transmission de signaux - Partie 005: Câble, coaxial, 75 ohms, 200 °C, type WL - Norme de produit

Luft- und Raumfahrt - Elektrische Leitungen für Signalübertragungen - Teil 005: Koaxialkabel, 75 Ohm, 200 °C, Typ WL - Produktnorm

This European Standard was approved by CEN on 29 November 2014.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

European foreword

This document (EN 4604-005:2015) 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of an identical text or by endorsement, at the latest by January 2016, and conflicting national standards shall be withdrawn at the latest by January 2016.

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

1 Scope

This standard specifies the required characteristics of a coaxial cable, 75 Ω, type WL, for use in aircraft electrical systems at operating temperature between – 55 °C and 200 °C and specially for high frequency up to 3 GHz.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 (all parts), *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 and identification list* [1)]

ASTM-B298-12, *Standard specification for silver-coated soft or annealed copper wire* [2)]

IEC 60096-0-1:2012, *Radio frequency cables — Part 0-1: Guide to the design of detail specifications — Coaxial cables*

3 Terms and definitions

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

3.1

Epsilon (ε)
value of dielectric constant

1) Published as ASD-STAN Technical Report at the date of publication of this standard.(http://www.asd-stan.org/)

2) Published by: ASTM National (US) American Society for Testing and Materials.(http://www.astm.org/)

4 Required characteristics

4.1 Material, construction, dimensions and mass

4.1.1 Material

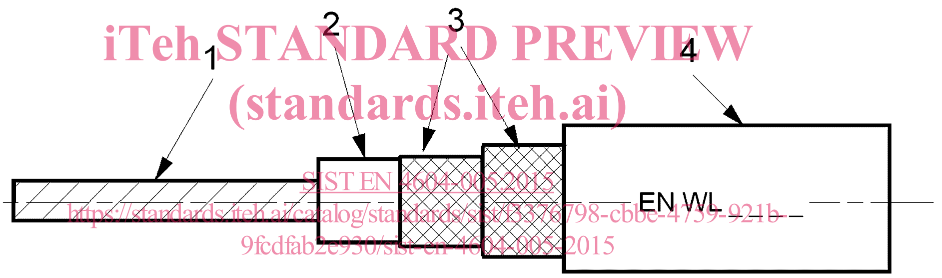
See Table 1.

Table 1 — Material

	Material	Finish	Colour
Conductor	Multi-stranded high-strength copper alloy	1 µm silver plated	—
Dielectric	Fluorocarbon	—	—
Shield	Double-braid per ASTM-B298-12	1 µm silver plated	—
Jacket	Fluorocarbon	—	Medium blue

4.1.2 Construction, dimensions and mass

See Figure 1 and Table 2.



Key

1 Conductor
2 Dielectric
3 Shield
4 Jacket

Figure 1 — Construction

Table 2 — Dimensions and mass

Diameter mm					Mass g/m
Conductor	Dielectric max.	Shield min.	Shield max.	Cable	max.
0,30 ± 0,025 (7 × 0,10) mm	1,30	1,75	1,95	2,35	12,5

Strand diameter for shield = 0,08 mm

4.2 General characteristics

a) Operating temperature: –55 °C to 200 °C;

b) Minimum bend radius:

1) in static use: 15 mm;

2) in dynamic use: 25 mm;

c) Performances are guaranteed up to 3 GHz.

4.3 Electrical characteristics

— Characteristic impedance: $Z_c = (75 \pm 5)\ \Omega$;

— Capacitance per unit length: $C_p = 60$ pF/m max.;

— Transfer impedance up to 100 MHz: 30 mΩ/m max., see Figure 3;

— Operating voltage: 500 V RMS max.;

— Maximum power handling (at sea level): see Table 3 and Figure 4;

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

— Velocity of propagation: 0,74 c min.

Table 3 — Frequency, attenuation and power handling

Frequency MHz	10	50	100	200	300	400	1 000	3 000
Attenuation dB/100 m	10	23	30	43	53	63	102	176
Power handling W	500	430	300	210	170	150	93	52
NOTE Power handling values are defined by calculation. The formula is coming from IEC 60096-0-1:2012.								

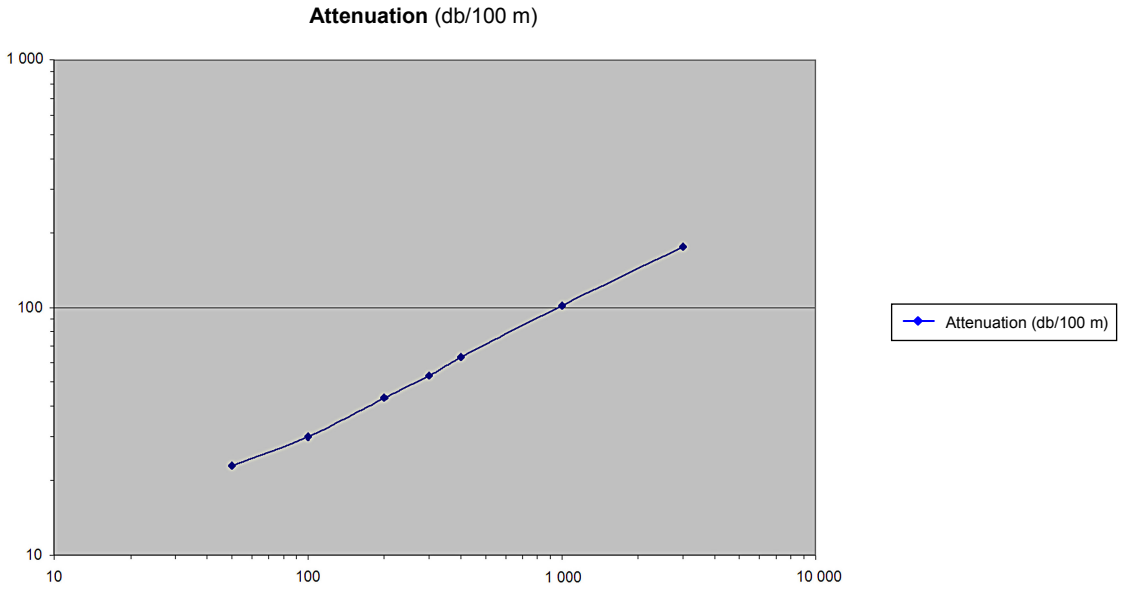


Figure 2 — Maximum attenuation curve

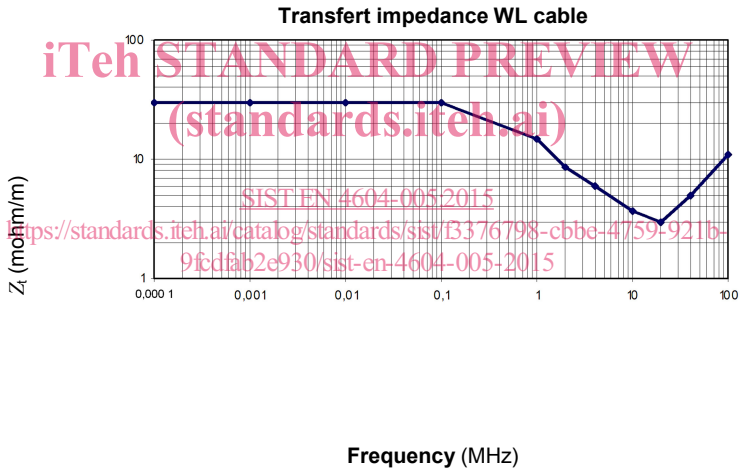


Figure 3 — Transfer Impedance

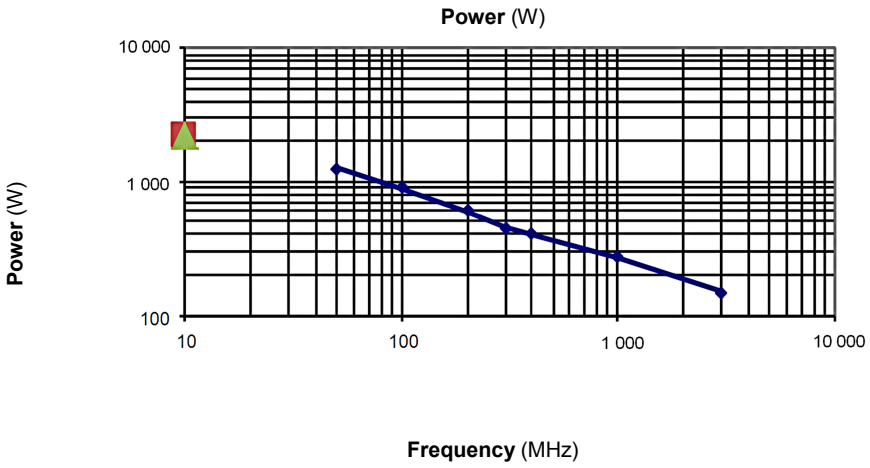


Figure 4 — Power curve