

**SLOVENSKI STANDARD
SIST EN 4604-003:2019****01-december-2019****Nadomešča:****SIST EN 4604-003:2009**

Aeronavtika - Kabli, električni, za prenos signala - 003. del: Kabli, koaksialni, 50 ohm, 200 °C, tip WZ - Standard za proizvod

Aerospace series - Cable, electrical, for signal transmission - Part 003: Cable, coaxial, 50 Ohm, 200 °C, type WZ - Product standard

Luft- und Raumfahrt - Elektrisch Leitungen für Signalübertragungen - Teil 003: Koaxialkabel, 50 Ohm, 200 °C, Typ WZ - Produktnorm

Série aérospatiale - Câbles électriques pour transmission de signaux - Partie 003 : Câble coaxial, 50 Ohm, 200 °C, type WZ - Norme de produit

Ta slovenski standard je istoveten z: EN 4604-003:2019**ICS:**

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

SIST EN 4604-003:2019**en,fr,de**

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EUROPEAN STANDARD

EN 4604-003

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2019

ICS 49.060

Supersedes EN 4604-003:2009

English Version

**Aerospace series - Cable, electrical, for signal transmission
- Part 003: Cable, coaxial, 50 ohms, 200 °C, type WZ -
Product standard**

Série aérospatiale - Câbles électriques pour
transmission de signaux - Partie 003 : Câble coaxial, 50
ohms, 200 °C, type WZ - Norme de produit

Luft- und Raumfahrt - Elektrisch Leitungen für
Signalübertragungen - Teil 003: Koaxialkabel, 50 Ohm,
200 °C, Typ WZ - Produktnorm

This European Standard was approved by CEN on 14 July 2019.

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-CENELEC Management Centre or to any CEN member.

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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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 4604-003:2019) 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 March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 4604-003:2009

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 4604-003:2019 (E)**1 Scope**

This document specifies the characteristics of a UV laser printable coaxial cable, 50 Ω , type WZ, for use in aircraft electrical systems at operating temperatures between – 65 °C and 200 °C and especially for high frequency up to 3 GHz.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 (all parts), *Aerospace series — Cables, electrical, aircraft use — Test methods*

EN 3838, *Aerospace series — Requirements and tests on user-applied markings on aircraft electrical cables*

EN 4604-001, *Aerospace series — Cable, electrical, for signal transmission — Part 001: Technical specification*¹⁾

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

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

ASTM B 298-99, *Standard specification for silver-coated soft or annealed copper wire*³⁾

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Required characteristics**4.1 Material, construction, dimensions and mass****4.1.1 Material**

See Table 1.

1) Published as ASD-STAN Prestandard at the date of publication of this standard by AeroSpace and Defence industries Association of Europe - Standardization (ASD-STAN), <http://www.asd-stan.org/>

2) Published as ASD-STAN Technical Report at the date of publication of this standard by AeroSpace and Defence industries Association of Europe - Standardization (ASD-STAN), <http://www.asd-stan.org/>

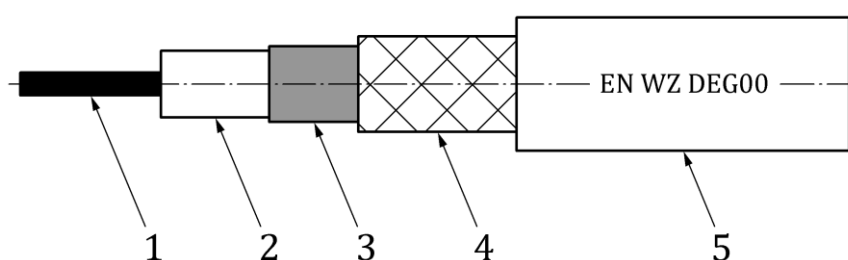
3) Published by: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103, USA, <http://www.astm.org/>

Table 1 — Material

	Material	Finish	Colour
Conductor	Single strand copper per ASTM B298-99	1 µm silver plated	Without colouration
Dielectric	Fluoropolymer	—	Without colouration
Screen (foil)	Metallized Foil	—	Without colouration
Shield	Braid, copper per ASTM B298-99	1 µm silver plated	Without colouration
Jacket	Fluorinated Ethylene Propylene (FEP)	—	White

4.1.2 Construction, dimensions and mass

See Figure 1 and Table 2.



Key

- 1 Conductor
- 2 Dielectric
- 3 Screen (foil)
- 4 Shield
- 5 Jacket

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Figure 1 — Construction

Table 2 — Dimensions and mass

Conductor		Diameter mm				Cable			Mass g/m	
		Dielectric		Shield						
min.	max.	min.	max.	min.	max.	min.	nom.	max.	nom.	max.
0,88	0,93	2,20	2,50	2,90	3,20	3,40	3,60	3,70	26	30

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4.2 General characteristics

- Operating temperature: – 65 °C to 200 °C
- Minimum bend radius:
 - in static use: 37 mm
 - in dynamic use: 100 mm
- Performances are guaranteed up to 3 GHz.

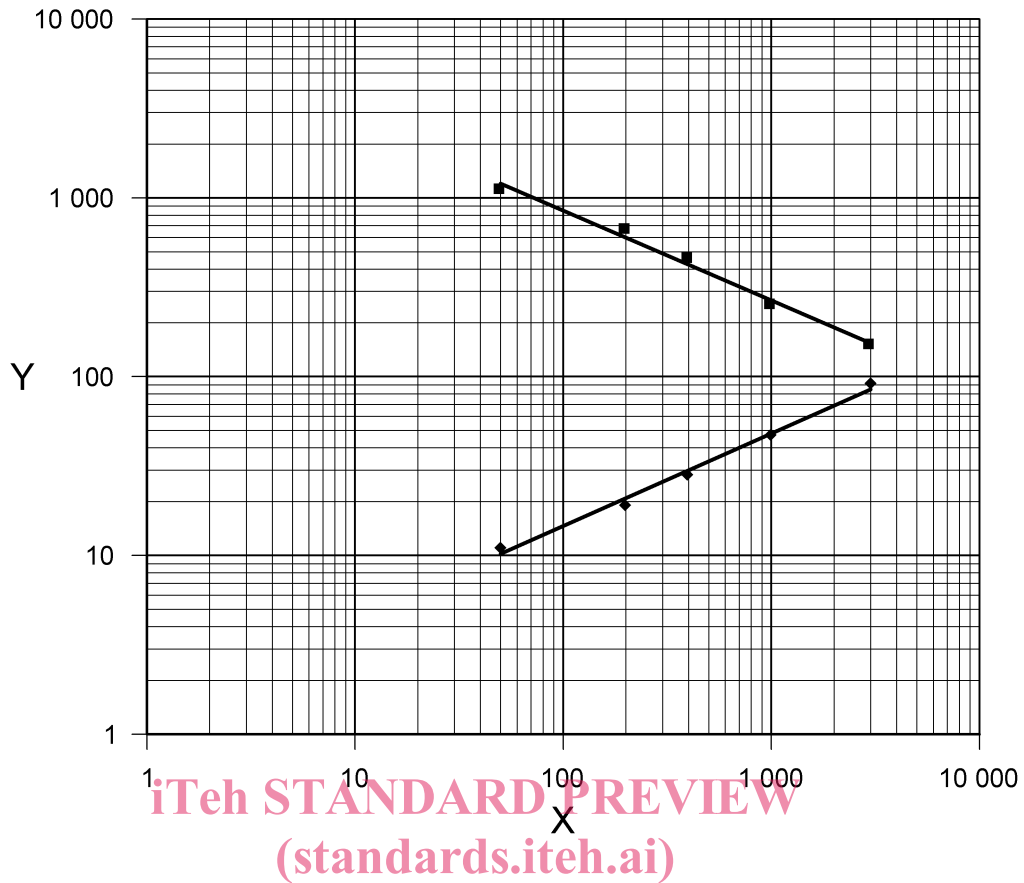
4.3 Electrical characteristics

- Characteristic impedance: $Z_c = (50 \pm 2) \Omega$.
- Maximum power handling (at sea level): see Table 3 and Figure 2.
- Attenuation versus frequency: see Table 3 and Figure 2.
- Capacitance per unit length: 88 pF/m max.
- Velocity of propagation: 0,75 c nom.
- Transfer impedance from 1 MHz to 3 000 MHz: 30 m Ω /m max.

Table 3 — Frequency, attenuation and power handling

Frequency MHz	50	200	400	1 000	3 000
Attenuation dB/100 m ^a	11	19	28	47	90
Power handling cw W ^a	1 100	660	450	250	150

^a Maximum attenuation and power handling values of a WZ cable.

**Key**

- ◆ Attenuation (db/100 m) [SIST EN 4604-003:2019](https://standards.iteh.ai/catalog/standards/sist/1cb5438c-2fad-47fb-869a-7bdc1fab909/sist-en-4604-003-2019)
- P (W) <https://standards.iteh.ai/catalog/standards/sist/1cb5438c-2fad-47fb-869a-7bdc1fab909/sist-en-4604-003-2019>

Figure 2 — Maximum attenuation curve (ascending) — Power curve (descending)

4.4 Tests

See Table 4.