SLOVENSKI STANDARD
oSIST prEN IEC 60966-2-2:2022

01-september-2022

Sestavi radiofrekvenčnih in koaksialnih kablov - 2-2. del: Okvirna podrobna specifikacija za sestave zvijavih koaksialnih kablov

Radio frequency and coaxial cable assemblies - Part 2-2: Blank detail specification for flexible coaxial cable assemblies

Konfektionierte Koaxial- und Hochfrequenzkabel - Teil 2-2: Vordruck für Bauartspezifikation für flexible konfektionierte Koaxialkabel

Cordons coaxiaux et cordons pour fréquences radioélectriques – Partie 2-2: Spécification particulière-cadre pour cordons coaxiaux souples

Ta slovenski standard je istoveten z: **prEN IEC 60966-2-2:2022**

ICS:

33.120.10 Koaksialni kabli. Valovodi Coaxial cables. Waveguides

oSIST prEN IEC 60966-2-2:2022 **en**

46/889/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 60966-2-2 ED3**	
DATE OF CIRCULATION: **2022-06-03**	CLOSING DATE FOR VOTING: **2022-08-26**
SUPERSEDES DOCUMENTS: **46/863/CD, 46/875A/CC**	

IEC TC 46 : CABLES, WIRES, WAVEGUIDES, RF CONNECTORS, RF AND MICROWAVE PASSIVE COMPONENTS AND ACCESSORIES	
SECRETARIAT: United States of America	SECRETARY: Mr David Wilson
OF INTEREST TO THE FOLLOWING COMMITTEES: SC 46A	PROPOSED HORIZONTAL STANDARD: ☒ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT	☒ QUALITY ASSURANCE ☐ SAFETY
☒ SUBMITTED FOR CENELEC PARALLEL VOTING **Attention IEC-CENELEC parallel voting** The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Radio frequency and coaxial cable assemblies - Part 2-2: Blank detail specification for flexible coaxial cable assemblies

PROPOSED STABILITY DATE: 2028

NOTE FROM TC/SC OFFICERS:

Radio frequency and coaxial cable assemblies
Part 2-2: Blank detail specification for flexible coaxial cable assemblies

1 Scope

This part of IEC 60966 is a blank detail specification that relates to flexible coaxial cable assemblies operating in the transverse electromagnetic mode(TEM).

The creation of a uniform layout and style of detail specifications is determined by the use of a blank detail specification pro forma. The detail specification may be prepared by the insertion of data into the pro forma by a national standards organization, by an approved manufacturer or by a user (when prepared by a user, the detail specification shall be submitted to the national authorized institution by an approved manufacturer).

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.

IEC60966-1:2019, *Radio frequency and coaxial cable assemblies – Part 1: Generic specification – General requirements and test methods*

IEC 60966-2-1, *Radio frequency and coaxial cable assemblies – Part 4: Sectional specification for flexible coaxial cable assemblies*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Instructions

Instructions to complete a blank detail specification detail specifications shall, as far as possible, be written in accordance with the pro forma which has:

a) a front page with a general description and a drawing or isometric sketch of the cable assembly and its possible variants;
b) ratings, characteristics and inspection requirements (those which are not required or specified shall be omitted).

The numbers shown in brackets on this and the following pages correspond to the following items of required information, which should be entered in the spaces provided.

[1] Name and address of the organization that has prepared the document.

[2] IEC document number, issue number and date of issue.

[3] Address of the organization from which the document is available.

[4] Related documents.

[5] Any other reference to the cable assembly, national reference, trade name, etc.

[6] A drawing of the cable assembly giving the outline and dimensions in millimeter.

[7] The relative position dimensions of the interface

[8] Maximum diameter of flexible cable

[9] Minimum bending inside diameter
[10] Nominal characteristic impedance of the cable assembly.
[11] Frequency range of use of the cable assembly.
[12] Weight, function of the length of the cable assembly.
[13] Climatic category of the cable assembly related to IEC 60068.
[14] Description, if applicable, of the components used for the manufacture of the cable assembly.
[15] Variants of the cable assembly may be listed in one detail specification. The variants may differ by colour, connector material, connector sex or type. (Inspection for quality conformance will be the same for all variants whereas the ratings and characteristics can change.)
[16] Subclause, which shall be the same as that in the sectional specifications.
[17] Inspection values,ratings or characteristics of the cable assembly. The properties not specified shall be omitted.
[18] Reference to the appropriate subclause in the generic specifications.
[19] The value either guaranteed or used for the defined test.
[20] All information required by the sectional specification and any remarks considered as important for understanding the test.

5 Detail specification

68 **Radio frequency and coaxial cable assemblies–**

69 **Part 2-X: Detail specification for flexible cable assemblies, XXXX**

[1] Prepared by:		**[2] Document no.:**
		Issue:
		Date:
[3] Available from	**[4] Generic specification:** **IEC 60966-1** **Sectional specification:** **IEC 60966-2-1** **Blank detail specification** **IEC60966-2-2**	
[5] Additional references:		
[6] Outline for flexible cable assemblies		
[7] The relative position dimensions of the interface **A** **B** **One end connector** **Other end connector** **Note:** A ——The dimension of the inner conductor relative to the outer conductor, in mm B——The dimension of the dielectric relative to the outer conductor, in mm.		
[8] Maximum diameter of flexible cable:	**[9] Minimum bending inside diameter** **For static bending:** **For dynamic bending:**	
[10] Characteristic impedance: ……Ω	**[11] Frequency range:** ……to……GHz	
[12] Weight: …… g+……g/m	**[13] Climatic category:** ... /.. . /.. .	
[14] Description a) Connector Reference number of the connectors： Type (series), style, sex of the connectors: b) Cable Reference number , type of the cable： c) Marking method : d) Marking text :		
[15] Variants:		

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[16]	[17]	[18]	[19]	[20]
Subclause	Inspection values, ratings or characteristics	Test method IEC 60966-1:2019	Value	Remarks
Electrical				
8.2.1	Reflection properties (Return loss)	8.1		
8.2.2	Uniformity of impedance	8.2	.....±.....Ω	Rise time of pulse <..... ps
8.2.3	Insertion loss	8.3	≤.....dB	..... to .....GHz
8.2.4	Insertion loss stability	8.4	≤.....dB	..... to .....GHz
8.2.5	Propagation time	8.5	.. .. .ns±....ns	Frequency or rise time
8.2.6	Stability of electrical length	8.6		..... to .....GHz Test method 1 or method 2 for bending test
8.2.7	Phase difference	8.7	... ...±....°/GHz	Frequency
8.2.8	Insertion loss difference	8.7	≤ dB	Frequency
8.2.9	Phase variation with temperature	8.8	≤... .....ppm	..... to ..... K ..... to ..... GHz
8.2.10	Screening effectiveness	8.9	≤.. ... ... dB	..... to ..... MHz
8.2.11	Voltage proof	8.10	≥.. ... ...kV	AC or DC
8.2.12	Insulation resistance	8.11	≥. ... ..MΩ	Test voltage V
8.2.13	Inner and outer conductor continuity	8.12	Inner conductor and outer conductor shall be continuous	Test voltage ≤36V
8.2.14	Power rating	8.13	≥. ... .W	Inner conductor Temperature: Test Frequency:
8.2.15	PIM	8.14	≤ dBc	Test power: Test frequency:
8.2.16	Corona extinction voltage	IEC 61196-1-126	≥... . kV	
8.2.17	Shaking test	Annex B of this specification	Insertion loss change rate: ≤ % Return loss change rate: ≤ Phase change rate: ≤ °	Test frequency:

[16]	[17]	[18]	[19]	[20]
Subclause	Inspection values, ratings or characteristics	Test method IEC 60966-1:2019	Value	Remarks
Mechanical				
8.3.1	Visual inspection	7.2	Meet the requirements of clause 5 and clause 7.2 of IEC 60966-1:2019.	
8.3.2	The relative position dimensions of the interface	7.3.1	Meet the requirement of [7] of the specification	
8.3.3	Outline of the cable assembly	7.3.2	Meet the requirement of [6] of the specification	
8.3.4	Tensile	9.1	a) no visual damage and loose of the assembly; b) the relative position dimensions of the interface should meet the requirement of 8.3.2; c) Return loss ≥..... dB d) Voltage proof meet the requirement of 8.2.11	Force ... ... N Duration ..... s
8.3.5	Flexure	9.2	a) no visual damage and loose of the assembly; b) the relative position dimensions of the interface should meet the requirement of 8.3.2; e) Return loss ≥..... dB c) Voltage proof meet the requirement of 8.2.11	Force ..... N Number of flexures:
8.3.6	Flexing endurance	9.3	d) no visual damage and loose of the assembly; e) the relative position dimensions of the interface should meet the requirement of 8.3.2; f) Return loss ≥..... dB a) Voltage proof meet the requirement of 8.2.11	Movement amplitude: Number of cycles:
8.3.7	Cable assembly crushing	9.4	a) No visual damage and loose of the assembly; b) The relative position dimensions of the interface shall meet the requirement of 8.3.2; c) Return loss ≥..... dB d) Insertion loss≤ dB	Force: ..... N
8.3.8	Multiple bending	9.6	a) no visual damage and loose of the assembly; b) the relative position dimensions of the interface should meet the requirement of 8.3.2; c) Return loss ≥..... dB d) Voltage proof meet the requirement of 8.2.11	Number of cycles:

[16]	[17]	[18]	[19]	[20]
Subclause	Inspection values, ratings or characteristics	Test method IEC 60966-1:2019	Value	Remarks
8.3.9	Abrasion test of cable assembly	9.7	Moving distance ≥ 10 mm The number of completed cycles:	
8.3.10	Vibrations, shocks	9.8 Annex C	a) No visual damage and loose of the assembly; b) No electrical interruptions exceeding 1 μs; c) The relative position dimension s of the interface shall meet the requirement of 8.3.2.	Vibration: .....Hz to ..... Hz vibration amplitude.....mm .....minute each directions Shock: The shape of pulse wave: peak acceleration: the duration of the pulse: .....times each directions
8.3.11	Impact test	9.9	No visual damage and loose of the assembly	Heights: number of cycles:
8.3.12	Mechanical endurance	9.10	a) No visual damage and loose of the assembly; b) Return loss ≥..... dB	Cycles:
Environmental				
8.4.1	Climatic sequence	10.3	a) No visual damage and loose of the assembly; b) The relative position dimension s of the interface shall meet the requirement of 8.3.2; c) insulation resistance meet the requirement of 8.2.12. d) Voltage proof meet the requirement of 8.2.11 e) Return loss ≥..... dB	
8.4.2	Damp heat, steady state	10.4	a) No visual damage and loose of the assembly. b) The relative position dimension s of the interface shall meet the requirement of 8.3.2; c) Insulation resistance meet the requirement of 8.2.12. d) Voltage proof meet the requirement of 8.2.11 e) Insertion loss≤ dB	Cycles ..... Days .....
8.4.3	Rapid change of temperature	10.5	a) No visual damage and loose of the assembly. b) The relative position dimension s of the interface shall meet the requirement of 8.3.2; c) Insulation resistance meet the requirement of 8.2.12. d) Voltage proof meet the	-..... K/+..... K Cycles .....

[16]	[17]	[18]	[19]	[20]
Subclause	Inspection values, ratings or characteristics	Test method IEC 60966-1:2019	Value	Remarks
			requirement of 8.2.11 e) Insertion loss≤ ..... dB f) Return loss ≥..... dB	
8.4.4	Resistance to solvents and contaminating fluids	10.6	a) No visual damage and loose of the assembly; b) The relative position dimension s of the interface shall meet the requirement of 8.3.2; c) The end connectors shall insert and separate freely in normal manner; d) Insulation resistance meet the requirement of 8.2.12.	
8.4.5	Water immersion	10.7	a) No visual damage and loose of the assembly; b) the relative position dimension s of the interface shall meet the requirement of 8.3.2; c) The end connectors shall insert and separate freely in normal manner; d) Insulation resistance meet the requirement of 8.2.12. e) Voltage proof meet the requirement of 8.2.11	
8.4.6	Salt mist and sulphur dioxide tests	10.8	a) No visual damage and loose of the assembly; b) The end connectors shall insert and separate freely in normal manner; c) Insulation resistance meet the requirement of 8.2.12. d) Voltage proof meet the requirement of 8.2.11 e) Insertion loss≤ ..... dB	Duration:
8.4.7	Dust tests	10.9	a) No visual damage and loose of the assembly; b) The relative position dimension s of the interface shall meet the requirement of 8.3.2; c) The end connectors shall insert and separate freely in normal manner; d) Insertion loss ≤ ..... dB.	
8.4.8	Flammability	10.10	No burning material drops down from the assemblies	
Content of toxic and harmful substance				
8.5.1	Heavy metal [a]	IEC 62321	Meet the requirements of table 5 of IEC 60966-2-1:20XX	