

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Radio frequency and coaxial cable assemblies –  
Part 2-3: Detail specification for flexible coaxial cable assemblies – Frequency  
range 0 MHz to 1 000 MHz, IEC 61169-8 connectors**

**Cordons coaxiaux et cordons pour fréquences radioélectriques –  
Partie 2-3: Spécification particulière relative aux cordons coaxiaux souples –  
Plage de fréquences de 0 MHz à 1 000 MHz, connecteurs CEI 61169-8**



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**RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –****Part 2-3: Detail specification for flexible coaxial cable assemblies –  
Frequency range 0 MHz to 1 000 MHz, IEC 61169-8 connectors**

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International Standard IEC 60966-2-3 has been prepared by IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

This bilingual version (2014-01) corresponds to the monolingual English version, published in 2009-01.

This third edition cancels and replaces the second edition published in 2003. It constitutes a technical revision. The major change with respect to the second edition is the reference to IEC 61169-8 instead of IEC 60169-8.

The text of this standard is based on the following documents:

FDIS	Report on voting
46/302/FDIS	46/314/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The French version of this standard has not been voted upon.

This detail specification is to be read in conjunction with IEC 60966-1:1999, with IEC 60966-2-1:2008, and with IEC 60966-2-2:2003.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 60966 series, under the general title: *Radio frequency and coaxial cable assemblies*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,
- replaced by a revised edition, or
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## INTRODUCTION

This part of IEC 60966 is a detail specification that applies to flexible coaxial cables described in IEC 60096-2. It relates to flexible coaxial cable assemblies using BNC connectors.

This detail specification gives subfamily requirements and severities which shall be applied .

Under qualification approval, the qualification will be conducted in accordance with 12.2 of IEC 60966-2-1 taking into account the specified variants. Only the tests whose results might depend on the variants will be repeated.

Under capability approval, the qualification will be conducted on the relating CQCs as defined in 12.3 of IEC 60966-2-1 and described in the CM. Unless otherwise specified in the CM, only lot-by-lot tests from groups Ba and Eb will be conducted on delivered products, all other tests will be performed on CQCs as defined in 12.3 of IEC 60966-2-1 and described in the CM.

### Reference documents

IEC 60966-1:1999, *Radio frequency and coaxial cable assemblies – Part 1: Generic specification – General requirements and test methods*

IEC 60966-2-1:2008, *Radio frequency and coaxial cable assemblies – Part 2-1: Sectional specification for flexible coaxial cable assemblies*



IEC 60966-2-2:2003, *Radio frequency and coaxial cable assemblies – Part 2-2: Blank detail specification for flexible coaxial cable assemblies*

IEC 61169-8, *Radio-frequency connectors – Part 8: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic impedance 50 ohm (type BNC)*

IEC 61196-6, *Coaxial communication cables – Part 6: Sectional specification for CATV drop cables*

## RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –

### Part 2-3: Detail specification for flexible coaxial cable assemblies – Frequency range 0 MHz to 1 000 MHz, IEC 61169-8 connectors

<b>[1] Prepared by</b> IEC TC 46		<b>[2] Document No.</b> 60966-2-3 Issue: Third Issue <b>Date:</b> 16/01/14															
<b>[3] Available from:</b> IEC 3 rue de Varembe Genève Suisse	<b>[4]</b> Generic specification: IEC 60966-1 Sectional Specification: IEC 60966-2-1 Blank detail specification: IEC 60966-2-2																
<b>[5] Additional references:</b>																	
<b>Detail specification for flexible coaxial cable assemblies</b> NOTE Example diagram, manufacturer to insert actual diagram.																	
<div style="text-align: center;">  <p>IEC 60966-2-3:2009 <a href="https://standards.iteh.ai/catalog/standards/sist/de4036da-a3bd-40c5-908f-bf28a7d2d055/iec-60966-2-3-2009">https://standards.iteh.ai/catalog/standards/sist/de4036da-a3bd-40c5-908f-bf28a7d2d055/iec-60966-2-3-2009</a> IEC 2298/08</p> </div>																	
<b>[6] Maximum diameter &lt; 16,6 mm</b>																	
<b>[7] Characteristic impedance:</b> 50 Ω	<b>[8] Frequency range:</b> 0 MHz to 1 000 MHz																
<b>[9] Weight:</b> 40 g/m + 37 g (typically)	<b>[10] Minimum inside radius:</b> for static bending: 20 mm for dynamic bending: 75 mm																
<b>[11] Climatic category:</b> 40/70/21	<b>[12] Applicable test group:</b> Ba, Eb, Ez, Mn																
<table border="0" style="width: 100%;"> <thead> <tr> <th></th> <th style="text-align: center;">A</th> <th style="text-align: center;">B</th> </tr> </thead> <tbody> <tr> <td><b>[13] Connector type</b></td> <td>IEC 61169-8 (BNC) Straight plug</td> <td>IEC 61169-8 (BNC) Right angled plug</td> </tr> <tr> <td>Cable type</td> <td>IEC 61196-6 or equivalent</td> <td>IEC 61196-6 or equivalent</td> </tr> <tr> <td>Marking</td> <td>Optional</td> <td>Optional</td> </tr> <tr> <td>Taper sleeves:</td> <td colspan="2" style="text-align: center;">On both ends (colour optional)</td> </tr> </tbody> </table>		A	B	<b>[13] Connector type</b>	IEC 61169-8 (BNC) Straight plug	IEC 61169-8 (BNC) Right angled plug	Cable type	IEC 61196-6 or equivalent	IEC 61196-6 or equivalent	Marking	Optional	Optional	Taper sleeves:	On both ends (colour optional)		<b>[15]</b> Page 1 of 3 pages	
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<b>[14] Variants</b> 1 A-A 2 A-B 3 B-B																	

[16] Inspection values, ratings or characteristics	[17] Subclause <sup>a</sup>	[18] Value	[19] Remarks
<b>Electrical</b>			
Uniformity of impedance	8.2	50 Ω ± 2 Ω	≤ 200 ps rise time
Voltage proof	8.10	1,0 kV min	50 Hz to 65 Hz peak value
Insulation resistance	8.11	>10 <sup>5</sup> MΩ	Test voltage 500 V 1 min
Inner conductor continuity	8.12	OK	Low voltage d.c.
Outer conductor continuity	8.12	≤ 10 mΩ	After tensile test 9.1
<b>Mechanical</b>			
Tensile	9.1	> 30 N	Interface OK Duration 1 min Test 8.12
Flexure	9.2	500 cycles	Force 5 N 20/min Test 8.12
Flexing endurance	9.3	500 cycles 20 cycles min	Test 8.12
Cable assembly crushing	9.4	600 N min	Test 8.2
<sup>a</sup> The relevant standard could be the generic, the sectional or both of them.			

IEC 60966-2-3:2009

Recommended grouping of test			Recommended severity					
[20] Group	[21] Subclause <sup>a</sup>	Test	[22] Periodicity	[23] NC IL	[24] NQA AQL	[25] n	[26] c	[27] Length of specimen
Ba	7.2	Visual inspection	lot by lot	S3	4.0			
	7.3	Dimensional inspection	lot by lot	S3	4.0			
Ez	8.2	Uniformity of impedance	lot by lot	II	1.0			
Eb	8.10	Voltage proof	lot by lot	II	1.0			
	8.11	Insulation resistance	lot by lot	II	1.0			
	8.12	Inner and outer conductor continuity	lot by lot	III	1.0			
Mn	9.1	Tensile	3 years			3	0	On a CQC variant 1 l = 300 mm
	9.2	Flexure	3 years					
	9.3	Flexing endurance	3 years					
	9.4	Cable assembly crushing	3 years					
<sup>a</sup> The relevant standard could be the generic, the sectional or both of them.								



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