

STN	Súbory vysokofrekvenčných a koaxiálnych káblov Časť 2-1: Rámcová špecifikácia súborov ohybných koaxiálnych káblov	STN EN IEC 60966-2-1 34 7720
------------	--	--

Radio frequency and coaxial cable assemblies - Part 2-1: Sectional specification for flexible coaxial cable assemblies

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/24

Obsahuje: EN IEC 60966-2-1:2024, IEC 60966-2-1:2024

Oznámením tejto normy sa od 23.04.2027 ruší
STN EN 60966-2-1 (34 7720) z decembra 2009

138833



EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 60966-2-1

May 2024

ICS 33.120.10

Supersedes EN 60966-2-1:2009

English Version

**Radio frequency and coaxial cable assemblies - Part 2-1:
Sectional specification for flexible coaxial cable assemblies
(IEC 60966-2-1:2024)**

Cordons coaxiaux et cordons pour fréquences
radioélectriques - Partie 2-1: Spécification intermédiaire
pour cordons coaxiaux souples
(IEC 60966-2-1:2024)

Konfektionierte Koaxial- und Hochfrequenzkabel - Teil 2-1:
Rahmenspezifikation für flexible konfektionierte
Koaxialkabel
(IEC 60966-2-1:2024)

This European Standard was approved by CENELEC on 2024-04-23. CENELEC 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 CENELEC member.

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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

EN IEC 60966-2-1:2024 (E)**European foreword**

The text of document 46/966/FDIS, future edition 4 of IEC 60966-2-1, prepared by IEC/TC 46 "Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60966-2-1:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2025-01-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2027-04-23

This document supersedes EN 60966-2-1:2009 and all of its amendments and corrigenda (if any).

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60966-2-1:2024 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60966-1	2019	Radio frequency and coaxial cable assemblies - Part 1: Generic specification - General requirements and test methods	EN IEC 60966-1	2019
IEC 61169	series	Radio frequency connectors	EN 61169	series
IEC 61196-1-126	-	Coaxial communication cables - Part 1-126: Electrical test methods - Corona extinction voltage	-	-
IEC 61196-9	-	Coaxial communication cables - Part 9: Sectional specification for flexible RF coaxial cables	-	-



IEC 60966-2-1

Edition 4.0 2024-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

**Cordons coaxiaux et cordons pour fréquences radioélectriques –
Partie 2-1: Spécification intermédiaire pour cordons coaxiaux souples**



**THIS PUBLICATION IS COPYRIGHT PROTECTED****Copyright © 2024 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -**webstore.iec.ch/advsearchform**

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications, symboles graphiques et le glossaire. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 500 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 25 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.



IEC 60966-2-1

Edition 4.0 2024-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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

**Cordons coaxiaux et cordons pour fréquences radioélectriques –
Partie 2-1: Spécification intermédiaire pour cordons coaxiaux souples**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.120.10

ISBN 978-2-8322-8412-4

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 Design and construction	7
4.1 Cable design and construction	7
4.2 Connector design and construction	7
4.3 The relative position dimensions of the interface.....	7
4.4 Outline of the cable assembly	7
5 Workmanship, marking and packaging.....	8
6 IEC type designation	9
7 Standard rating and characteristics.....	10
7.1 Nominal characteristic impedance.....	10
7.2 Temperature range	10
7.3 Bending radius.....	10
7.3.1 Static bending radius	10
7.3.2 Dynamic bending radius	10
7.4 Rated operating frequency range	10
7.5 Rated working voltage	10
7.6 Rated power	11
8 Requirements of finished cable assemblies	11
8.1 General.....	11
8.2 Electrical requirements	11
8.3 Mechanical requirements	13
8.4 Environmental requirements	15
9 Quality management.....	17
10 Test schedules	17
10.1 Qualification test.....	17
10.2 Acceptance tests	18
10.3 Periodic tests	19
Annex A (normative) The relative position dimensions of the interface of some typical connectors.....	21
Annex B (normative) Shaking test method	24
B.1 Purpose	24
B.2 Test equipment	24
B.3 Test procedure.....	24
B.4 Requirements	25
B.5 Test report	25
Annex C (normative) Preferred arrangement for vibrations, shocks test	26
Figure 1 – Length definition of cable assemblies with two connectors	8
Figure 2 – Length definition of cable assemblies with one connector.....	8
Figure 3 – The marking example of a cable assembly	9
Figure A.1 – The relative position dimensions of the interface of some typical connectors.....	22

Figure B.1 – Schematic diagram of shaking test.....	24
Figure C.1 – Preferred arrangement for vibrations, shocks test.....	26
Table 1 – Rated temperature of cable assemblies with flexible cables	10
Table 2 – Electrical requirements.....	11
Table 3 – Mechanical requirements.....	13
Table 4 – Environmental requirements	15
Table 5 – Qualification test	17
Table 6 – Acceptance test.....	18
Table 7 – Sampling plan	19
Table 8 – Periodic test	19
Table A.1 – The dimensions of <i>A</i> and <i>B</i> in Figure A.1	23

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –

Part 2-1: Sectional specification for flexible coaxial cable assemblies

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60966-2-1 has been prepared by IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) added Figure 2;
- b) added Clause 6 "IEC type designation";
- c) modified Figure 3;
- d) added Clause 7 "Rating and characteristics";

- e) added "Requirements/Remarks" to all the tests in Clause 8;
- f) added "Insertion loss difference", "Corona extinction voltage" and "Shaking test" in Table 2;
- g) added "Impact test" in Table 3;
- h) changed "Vibrations, bumps and shocks test" to "Vibrations, shocks test" in Table 3;
- i) added Annex A, Annex B and Annex C.

The text of this International Standard is based on the following documents:

Draft	Report on voting
46/966/FDIS	46/996/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60966, published 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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

RADIO FREQUENCY AND COAXIAL CABLE ASSEMBLIES –

Part 2-1: Sectional specification for flexible coaxial cable assemblies

1 Scope

This part of IEC 60966 is a sectional specification that relates to flexible RF coaxial cable assemblies operating in the transverse electromagnetic mode (TEM). It establishes uniform requirements for testing the electrical, mechanical and climatic properties of flexible cable assemblies composed of flexible RF coaxial cables and RF coaxial connectors.

This part of IEC 60966 applies to flexible cable assemblies composed of flexible RF coaxial cables and coaxial connectors. Flexible RF cable assemblies are widely used in mobile communication systems, microwave test equipment, radar, aerospace and other fields.

NOTE 1 For the purposes of this sectional specification, a cable assembly is always regarded as an integral unit. All specifications apply to the finished assembly and not to individual and non-assembled parts thereof.

NOTE 2 This sectional specification can be supplemented with detail specifications giving additional details as required by the particular application. This application will not necessarily require all tests.

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.

IEC 60966-1:2019, *Radio frequency and coaxial cable assemblies – Part 1: Generic specification – General requirements and test methods*

IEC 61169 (all parts), *Radio frequency connectors*

IEC 61196-1-126, *Coaxial communication cables – Part 1-126: Electrical test methods – Corona extinction voltage*

IEC 61196-9, *Coaxial communication cables – Part 9: Sectional specification for flexible RF coaxial cables*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN