

---

**Radio-frequency cables - Specifications - Part 2: Semi-rigid radio-frequency and coaxial cables with polytetrafluoroethylene (PTFE) insulation - Sectional specification (IEC 1196-2:1993)**

Radio-frequency cables - Specifications -- Part 2: Semi-rigid radio-frequency and coaxial cables with polytetrafluoroethylene (PTFE) insulation - Sectional specification

Hochfrequenzkabel -- Teil 2: Rahmenspezifikation für halb-starre Hochfrequenz- und Koaxialkabel mit Polytetrafluorethylen (PTFE) - Isolation

Câbles pour fréquences radioélectriques - Spécifications -- Partie 2: Câbles coaxiaux et semi-rigides pour fréquences radioélectriques à isolation polytétrafluoroéthylène - Spécification intermédiaire

**Ta slovenski standard je istoveten z: EN 61196-2:1995**

---

**ICS:**

33.120.10 Koaksialni kabli. Valovodi Coaxial cables. Waveguides

**SIST EN 61196-2:1996****en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61196-2:1996

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61196-2**

March 1995

ICS 33.120.10

Descriptors: Semi-rigid coaxial cables, PTFE insulation

English version

**Radio-frequency cables  
Specifications  
Part 2: Semi-rigid radio-frequency and coaxial cables  
with polytetrafluoroethylene (PTFE) insulation  
Sectional specification  
(IEC 1196-2:1993)**

Câbles pour fréquences radioélectriques  
Spécifications  
Partie 2: Câbles coaxiaux et semi-rigides  
pour fréquences radioélectriques à  
isolation polytétrafluoroéthylène  
Spécification intermédiaire  
(CEI 1196-2:1993)

Spezifikationen für Hochfrequenzkabel  
Teil 2: Halb-starre Hochfrequenz- und  
Koaxialkabel mit Polytetrafluorethylen-  
(PTFE) Isolation - Rahmenspezifikation  
(IEC 1196-2:1993)

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>  
SIST EN 61196-2:1996

This European Standard was approved by CENELEC on 1995-03-06. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

### Foreword

The text of the International Standard IEC 1196-2:1993, prepared by SC 46A, Coaxial cables, of IEC TC 46, Cables, wires, waveguides, R.F. connectors, and accessories for communication and signalling, was submitted to the formal vote and was approved by CENELEC as EN 61196-2 on 1995-03-06 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-03-01

Annexes designated "normative" are part of the body of the standard.  
Annexes designated "informative" are given for information only.  
In this standard, annex ZA is normative and annex A is informative.  
Annex ZA has been added by CENELEC.

---

#### Endorsement notice

The text of the International Standard IEC 1196-2:1993 was approved by CENELEC as a European Standard without any modification.

SIST EN 61196-2:1996

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>

## ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD  
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
28	1925	International standard of resistance for copper	-	-
68-2-20	1979	Basic environmental testing procedures Part 2: Tests - Test T: Soldering	HD 323.2.20 S3*	1988
1196	series	Radio-frequency cables - specifications	-	-

iTeH STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 61196-2:1996  
<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>

-----  
\* HD 323.2.20 S3 includes A1:1986 + A2:1987 to IEC 68-2-20

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61196-2:1996

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>

**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC  
1196-2**

Première édition  
First edition  
1993-02

**Câbles pour fréquences radioélectriques –  
Spécifications**

**Partie 2:**

Câbles coaxiaux et semi-rigides pour  
fréquences radioélectriques à isolation  
polytétrafluoroéthylène – Spécification intermédiaire

**Radio-frequency cables –  
Specifications**

**Part 2:**

Semi-rigid radio-frequency and coaxial cables  
with polytetrafluoroethylene (PTFE) insulation –  
Sectional specification

© CEI 1993 Droits de reproduction réservés — Copyright — all rights reserved

Aucune partie de cette publication ne peut être reproduite ni  
utilisée sous quelque forme que ce soit et par aucun pro-  
cédé, électronique ou mécanique, y compris la photocopie et  
les microfilms, sans l'accord écrit de l'éditeur.

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 the publisher.

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

T

Pour prix, voir catalogue en vigueur  
For price, see current catalogue

## CONTENTS

	Page
FOREWORD .....	7
Clause	
<b>SECTION 1: GENERAL</b>	
1.1 Scope and object .....	9
1.2 Normative references .....	9
1.3 Definitions .....	9
1.4 Information to be given in a detail specification .....	11
1.4.1 Outline drawing and dimensions .....	11
1.4.2 Materials .....	11
1.4.3 Ratings and characteristics .....	11
1.4.4 Marking of package .....	11
<b>SECTION 2: RATINGS AND CHARACTERISTICS</b>	
2.1 Climatic category .....	11
2.2 Recommended ratings .....	13
2.2.1 Characteristic impedance .....	13
2.2.2 Tolerance on characteristic impedance .....	13
2.2.3 Rated temperature .....	13
<b>SECTION 3: ADDITIONAL REQUIREMENTS</b>	
3.1 Design and construction of outer conductor .....	13
3.2 Tests and measurements .....	15
3.2.1 Dimensions .....	15
3.2.2 Electrical tests .....	15
3.2.3 Mechanical and climatic tests .....	19
<b>SECTION 4: QUALITY ASSESSMENT PROCEDURES</b>	
4.1 Primary stage of manufacture .....	23
4.2 Structurally similar cables .....	23
4.3 Qualification approval .....	25
Annex A – Examples of detail specifications .....	27
Table 1 – Test schedule for qualification approval .....	25



## Figures

1	Block diagram of structural return loss test measuring equipment .....	17
A.1	Curves of maximum attenuation and power .....	31
A.2	Minimum structural return loss .....	33
A.3	Curves of maximum attenuation and power .....	39
A.4	Minimum structural return loss .....	41
A.5	Curves of maximum attenuation and power .....	47
A.6	Minimum structural return loss .....	49

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 61196-2:1996

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIO-FREQUENCY CABLES –  
SPECIFICATIONS**

**Part 2: Semi-rigid radio-frequency and  
coaxial cables with polytetrafluoroethylene (PTFE)  
insulation – Sectional specification**

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a world-wide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. 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. The 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 the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

International Standard IEC 1196-2 has been prepared by sub-committee 46A: Coaxial cables, of IEC technical committee 46: Cable, wires, waveguides, r.f. connectors and accessories for communication and signalling.

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

Six Months' Rule	Report on Voting
46A(CO)129 46A(CO)129A	46A(CO)138

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

IEC 1196-2 constitutes part 2 of a series of publications under the general title: Radio-frequency cables – Specifications.

Annex A is for information only.

## RADIO-FREQUENCY CABLES – SPECIFICATIONS

### Part 2: Semi-rigid radio-frequency and coaxial cables with polytetrafluoroethylene (PTFE) insulation – Sectional specification

#### SECTION 1: GENERAL

##### 1.1 Scope and object

This sectional specification specifies requirements for semi-rigid radio frequency and coaxial cables with polytetrafluoroethylene (PTFE) insulation.

It is intended to be used with the generic specification\*.

The object of this sectional specification is to prescribe recommended ratings and characteristics and to select from the generic specification the appropriate quality assessment procedures, test and measuring methods, and to give general performance requirements for semi-rigid coaxial cables plus complementary test methods. Test severities and requirements prescribed in detail specifications referring to in this sectional specification should be of equal or higher performance levels.

SIST EN 61196-2:1996

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-039dd117c7d9/sist-en-61196-2-1996>

##### 1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this sectional specification. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this sectional specification are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 28: 1925, *International Standard of resistance for copper*

IEC 68-2-20: 1979, *Environmental testing – Part 2: Tests – Test T: Soldering*

IEC 1196-X: 199X, *Radio-frequency cables – specifications – Part X (under consideration)\**

##### 1.3 Definitions

For the definitions of general terms used in this specification, reference should be made to the generic specification.

\* Currently documents 46A(CO)139 (in preparation) and 46A(CO)159 (under consideration).

## 1.4 Information to be given in a detail specification

Detail specifications shall not specify requirements inferior to those in the generic or sectional specification. When more severe requirements are included, they shall be listed in the detail specification and indicated in the test schedules.

Information covered in 1.4.1 to 1.4.4 shall be included in the detail specification and the value quoted shall be selected from the preferred values given in this sectional specification. Examples of detail specifications are given in annex A.

### 1.4.1 *Outline drawing and dimensions*

There shall be an illustration of the cable as an aid to easy recognition and for comparison of the cable to others. As a minimum requirement, the diameter of the dielectric and the outer diameter of the cable shall be specified. All dimensions and their tolerances which affect interchangeability and termination shall be given in millimetres and tabulated below the drawing.

### 1.4.2 *Materials*

The detail specification shall specify the materials of both the inner and outer conductors. The insulation shall be of solid polytetrafluoroethylene having a thickness as specified in the detail specification.

### 1.4.3 *Ratings and characteristics*

SIST EN 61196-2:1996

<https://standards.iteh.ai/catalog/standards/sist/c61ddf19-778c-421e-b92e-6356d117c7a7/sist-en-61196-2-1996>

The ratings and characteristics shall be in accordance with the relevant clauses of this specification.

### 1.4.4 *Marking of package*

The package containing the cable shall be clearly marked with the manufacturer's name and the cable IEC type designation.

## SECTION 2: RATINGS AND CHARACTERISTICS

The values given in the detail specification shall be selected from the following recommended requirements.

### 2.1 Climatic category

Due to the particular structure of semi-rigid coaxial cables and the associated differential thermal expansion coefficients of materials, rated temperatures are specific for each cable and shall be given in the detail specification.