

# INTERNATIONAL STANDARD



**Coaxial communication cables –  
Part 12: Specification for spacer clamps for radiating cables**



**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.

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

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://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](http://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 It also gives information on projects, replaced and withdrawn publications.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](http://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](http://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](mailto:sales@iec.ch).

**IEC Products & Services Portal - [products.iec.ch](http://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](http://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.

# INTERNATIONAL STANDARD



---

**Coaxial communication cables –  
Part 12: Specification for spacer clamps for radiating cables**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

---

ICS 33.120.10

ISBN 978-2-8322-8975-4

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 Design and construction .....	7
4.1 Ratings and characteristics .....	7
4.2 Material and design .....	7
5 IEC type designation .....	8
5.1 Type .....	8
5.2 Variant.....	8
5.3 Marking.....	9
5.4 Packaging.....	9
6 Requirements and test procedures .....	9
6.1 General conditions for the tests .....	9
6.2 Visual inspection.....	10
6.2.1 Requirements .....	10
6.2.2 Test procedure .....	10
6.3 Structural dimensions .....	10
6.3.1 Requirements .....	10
6.3.2 Test procedure .....	10
6.4 Mechanical performance .....	10
6.4.1 Clamping force .....	10
6.4.2 Normal tensile force.....	14
6.4.3 Shear force.....	16
6.5 Environmental characteristics .....	17
6.5.1 Cold temperature installation .....	17
6.5.2 Climatic sequence .....	18
6.5.3 Salt mist .....	19
6.5.4 High cycle fatigue (optional) .....	20
6.5.5 Fire-resistance (fireproof clamp).....	22
6.5.6 Solar radiation (outdoor spacer clamp with non-metallic material).....	24
7 Type test .....	24
Annex A (informative) Recommended mechanical characteristics for spacer clamps.....	26
Annex B (informative) Cable dummy .....	27
Annex C (informative) Suitability test of spacer clamps of non-self-supporting cable.....	28
C.1 Objective .....	28
C.2 Test procedure.....	28
C.3 Requirements .....	28
C.4 Information to be given in the product detail specification .....	28
Bibliography.....	29
Figure 1 – The dimensions of the integrated messenger wire .....	8
Figure 2 – Schematic diagram of test for clamping force .....	13
Figure 3 – Schematic diagram of normal tensile force .....	15
Figure 4 – Schematic diagram of shear force .....	16

Figure 5 – Schematic diagram of cold temperature installation.....	17
Figure 6 – Installation for climatic sequence test.....	18
Figure 7 – Schematic diagram of test for high cycle fatigue.....	21
Figure 8 – Swelling load.....	22
Figure 9 – Schematic diagram of fire resistance test.....	23
Figure B.1 – Structure for a cable dummy .....	27
Table 1 – Type test.....	25
Table A.1 – Recommended mechanical characteristics for spacer clamps .....	26

Currently in preview, click buy full version

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## COAXIAL COMMUNICATION CABLES –

## Part 12: Specification for spacer clamps for radiating cables

## 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 61196-12 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories. It is an International Standard.

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

Draft	Report on voting
23A/1073/FDIS	23A/1076/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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

A list of all parts in the IEC 61196 series, published under the general title *Coaxial communication cables*, 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](http://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.**

## COAXIAL COMMUNICATION CABLES –

### Part 12: Specification for spacer clamps for radiating cables

#### 1 Scope

This part of IEC 61196 defines general requirements for spacer clamps for radiating cables, including terms and definitions, design and construction, IEC type designation, requirements and test procedures and type tests.

The contents of this document are suitable for spacer clamps for installation of radiating cables. These cables and their spacer clamps are widely used in tunnels, subways, underground passages, and shafts. Their intended application is in weather-protected environments and, optionally, outdoors.

#### 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 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-5, *Environmental testing – Part 2-5: Tests – Test S: Simulated solar radiation at ground level and guidance for solar radiation testing and weathering*

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 61196-4, *Coaxial communication cables – Part 4: Sectional specification for radiating cables*

ISO 834-1:1999, *Fire-resistance tests – Elements of building construction – Part 1: General requirements*

ISO 9227, *Corrosion tests in artificial atmospheres – Salt spray tests*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61196-4 and the following apply.

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

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