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INTERNATIONAL STANDARD

colour inside

Coaxial communication cables –
Part 4-1: Blank detail specification for radiating cables

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COAXIAL COMMUNICATION CABLES –

Part 4-1: Blank detail specification 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.
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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 61196-4-1:2016. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 61196-4-1 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

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

a) rewrote "1 Scope" to be consistent with other blank detail specifications of coaxial cables;
b) added detail construction requirements of inner and outer conductor in "[7] Cable construction";
c) added "Storage temperature range", "Installation temperature range" and "Stop frequency band" in "[8] Engineering information (reference only)";
d) added "8.2.11 Link loss", "8.4.9 Adhesion of dielectric", "8.4.10 Shrinkage for insulations", "8.4.11 Maximum pulling force of cable";
e) added different detail requirements or typical values in 8.2.4, 8.2.6 to 8.2.8, 8.3.1 to 8.3.4, 8.4.1, 8.4.3 to 8.4.8;
f) deleted "7.4.4 Ovality of outer conductor".

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

Draft	Report on voting
46A/1584/FDIS	46A/1599/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/standardsdev/publications.

This part of IEC 61196 is to be read in conjunction with IEC 61196-1:2005 and IEC 61196-4:—[1].

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.

[1] Under preparation. Stage at the time of publication: IEC 61196-4/FDIS:2022.

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COAXIAL COMMUNICATION CABLES –

Part 4-1: Blank detail specification for radiating cables

1 Scope

This part of IEC 61196~~, which is a blank detail specification,~~ applies to radiating coaxial communication cables. These cables are intended for use in wireless communication system in long, narrow, semi-closed and indoor environment, such as tunnels, railways, highways, subways, elevators and other installations~~ in which conventional radio transmission is not satisfactory or even impossible~~.

It determines the layout and style for detail specifications. Detail specifications, based on the blank detail specification, ~~may~~ can be prepared by a national organization, a manufacturer, or a user.

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 61196-1:2005, *Coaxial communication cables – Part 1: Generic specification: General, definitions and requirements*

IEC 61196-1-124[2], *Coaxial communication cables – Part 1-124: Electrical test methods – Test for coupling loss of radiating cable*

IEC 61196-4:~~2015~~[3], *Coaxial communication cables – Part 4 Sectional specification for radiating cables*

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2 Under preparation. Stage at the time of publication: IEC/FDIS 61196-1-124:2022.

3 Under preparation. Stage at the time of publication: IEC/FDIS 61196-4:2022.

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Edition 2.0 2022-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Coaxial communication cables –
Part 4-1: Blank detail specification for radiating cables

Câbles coaxiaux de communication –
Partie 4-1: Spécification particulière-cadre pour câbles rayonnants



IEC 61196-4-1:2022-09(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COAXIAL COMMUNICATION CABLES –

Part 4-1: Blank detail specification for radiating cables

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[1] Under preparation. Stage at the time of publication: IEC 61196-4/FDIS:2022.

COAXIAL COMMUNICATION CABLES –

Part 4-1: Blank detail specification for radiating cables

1 Scope

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It determines the layout and style for detail specifications. Detail specifications, based on the blank detail specification, can be prepared by a national organization, a manufacturer, or a user.

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IEC 61196-1:2005, *Coaxial communication cables – Part 1: Generic specification: General, definitions and requirements*

IEC 61196-1-124[2], *Coaxial communication cables – Part 1-124: Electrical test methods – Test for coupling loss of radiating cable*

IEC 61196-4:[3], *Coaxial communication cables – Part 4 Sectional specification for radiating cables*

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2 Under preparation. Stage at the time of publication: IEC/FDIS 61196-1-124:2022.

3 Under preparation. Stage at the time of publication: IEC/FDIS 61196-4:2022.

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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CÂBLES COAXIAUX DE COMMUNICATION –

Partie 4-1: Spécification particulière-cadre pour câbles rayonnants

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L'IEC 61196-4-1 a été établie par le sous-comité 46A: Câbles coaxiaux, du comité d'études 46 de l'IEC: Câbles, fils, guides d'ondes, connecteurs, composants passifs pour micro-onde et accessoires. Il s'agit d'une Norme internationale.

Cette deuxième édition annule et remplace la première édition parue en 2016. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) réécriture de "1 Domaine d'application" pour assurer la cohérence avec les autres spécifications particulières-cadres des câbles coaxiaux;
b) ajout d'exigences détaillées concernant la construction des conducteurs intérieur et extérieur en "[7] Construction du câble";

c) ajout de "Plage de températures de stockage", "plage de températures d'installation" et "Bande de fréquences d'arrêt" en "[8] Informations techniques (référence uniquement)";

d) ajout de "8.2.11 Perte de liaison", "8.4.9 Adhérence du diélectrique", "8.4.10 Rétraction des enveloppes isolantes", "8.4.11 Force de traction maximale du câble";

e) ajout de différentes exigences détaillées ou de valeurs types en 8.2.4, 8.2.6 à 8.2.8, 8.3.1 à 8.3.4, 8.4.1, 8.4.3 à 8.4.8;

f) suppression de "7.4.4 Ovalité du conducteur extérieur".

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
46A/1584/FDIS	46A/1599/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

La présente partie de l'IEC 61196 doit être lue conjointement avec l'IEC 61196-1:2005 et l'IEC 61196-4:—[1].

Une liste de toutes les parties de la série IEC 61196, publiée sous le titre général *Câbles coaxiaux de communication*, se trouve sur le site web de l'IEC.

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[1] En cours d'élaboration. Stade au moment de la publication: IEC 61196-4/FDIS:2022.

CÂBLES COAXIAUX DE COMMUNICATION –

Partie 4-1: Spécification particulière-cadre pour câbles rayonnants

1 Domaine d'application

La présente partie de l'IEC 61196 s'applique aux câbles de communication coaxiaux rayonnants. Ces câbles sont conçus pour être utilisés dans les systèmes de communication sans fil des environnements longs, étroits, semi-fermés et intérieurs, tels que les tunnels, les lignes ferroviaires, les autoroutes, les souterrains, les élévateurs et autres installations.

Elle détaille la présentation et le style des spécifications particulières. Des spécifications particulières, reposant sur la spécification particulière-cadre, peuvent être préparées par une organisation nationale, un fabricant ou un utilisateur.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 61196-1:2005, *Câbles coaxiaux de communication – Partie 1: Spécification générique: Généralités, définitions et exigences*

IEC 61196-1-124[2], *Coaxial communication cables – Part 1-124: Electrical test methods –Test for coupling loss of radiating cable (disponible en anglais seulement)*

IEC 61196-4[3], *Câbles coaxiaux de communication – Partie 4: Spécification intermédiaire pour câbles rayonnants*

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2 En cours d'élaboration. Stade au moment de la publication: IEC/FDIS 61196-1-124:2022.

3 En cours d'élaboration. Stade au moment de la publication: IEC/FDIS 61196-4:2022.