



NSAI
Standards

Irish Standard
I.S. EN IEC 61386-21:2021&A11:2021

Conduit systems for cable management - Part 21: Particular requirements - Rigid conduit systems

I.S. EN IEC 61386-21:2021&A11:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN IEC 61386-21:2021/A11:2021

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN IEC 61386-21:2021

Published:

2021-07-23

*This document was published
under the authority of the NSAI
and comes into effect on:*

2021-09-13

ICS number:

29.120.10

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN IEC 61386-21:2021&A11:2021 is the adopted Irish version of the European Document EN IEC 61386-21:2021, Conduit systems for cable management - Part 21: Particular requirements - Rigid conduit systems

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN IEC 61386-21:2021/A11

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2021

ICS 29.120.10

English Version

Conduit systems for cable management - Part 21: Particular requirements - Rigid conduit systems

Systèmes de conduits pour la gestion du câblage -
Partie 21: Exigences particulières - Systèmes de conduits
rigides

Elektroinstallationsrohrsysteme für elektrische Energie und
für Informationen - Teil 21: Besondere Anforderungen für
starre Elektroinstallationsrohrsysteme

This amendment A11 modifies the European Standard EN IEC 61386-21:2021; it was approved by CENELEC on 2021-05-17. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Turkey 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 61386-21:2021/A11:2021 (E)

European foreword

This document (EN IEC 61386-21:2021/A11:2021) has been prepared by CLC/TC 213 “Cable management systems”.

The following dates are fixed:

- latest date by which this document has (dop) 2022-05-17
to be implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2024-05-17
standards conflicting with this document
have to be withdrawn

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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of EN 61386-1:2008/A1:2019.

1 Modification to Clause 2, “Normative references”

Add the following reference:

“EN 50642:2018, *Cable management systems - Test method for content of halogens*”

2 Modification to Clause 6, “Classification”

Delete the Note.

Addition:

“

6.6 Optional classification according to halogen content

6.6.1 Non declared

6.6.2 Halogen free”

3 Addition of Clause 16, “Environmental properties”

Add the following Clause:

“16 Environmental Properties

Conduit systems declared according to 6.6.2 shall be halogen free.

Compliance is checked by verifying that the conduit and the conduit fittings of the conduit system are halogen free according to EN 50642 when EN 50642:2018 is applicable.”

4 Modification to Annex A, “Classification coding for conduit systems”

This annex of Part 1 is applicable, with the following addition:

“

| Fourteenth digit – Environmental impact (see 6.6) | |
|--|---|
| Non declared | 0 |
| Halogen free | 1 |

“

5 Addition of Annex ZA, “Normative references to international publications with their corresponding European publications “

Add the following new Annex ZA:

“

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 When 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.cenelec.eu.

The Annex ZA of EN 61386-1:2008/A1:2019 is applicable with the following additions:

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|--------------------|-------------|
| - | - | Cable management systems – Test method for content of halogens | EN 50642 | 2018 |
| IEC 61386-1 | 2008 | Conduit systems for cable management – Part 1 General requirements | EN 61386-1 | 2008 |
| +A1 | 2017 | | EN 61386-1:2008/A1 | 2019 |

“

6 Addition of Annex ZB, “Special national conditions “

Add the following new Annex ZB:

“

Annex ZB (normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the European Standard or Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

| <u>Clause</u> | <u>Special national condition</u> |
|----------------------|--|
| 6.1.1 France | Classification 6.1.1, 2 is not allowed |
| 6.1.2 France | Classification 6.1.2, 2 is not allowed |
| 6.2.1 France | Classification 1 of Table 1 not allowed |
| 6.5 Spain | Classification 6.5.2 is not allowed |

”

This page is intentionally left blank

EUROPEAN STANDARD

EN IEC 61386-21

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2021

ICS 29.120.10

Supersedes EN 61386-21:2004 and all of its
amendments and corrigenda (if any)

English Version

**Conduit systems for cable management - Part 21: Particular
requirements - Rigid conduit systems
(IEC 61386-21:2021)**

Systèmes de conduits pour la gestion du câblage –
Partie 21: Exigences particulières - Systèmes de conduits
rigides
(IEC 61386-21:2021)

Elektroinstallationsrohrsysteme für die Kabel- und
Leitungsverlegung - Teil 21: Besondere Anforderungen für
starre Elektroinstallationsrohrsysteme
(IEC 61386-21:2021)

This European Standard was approved by CENELEC on 2021-05-17. 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, Turkey 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 61386-21:2021 (E)

European foreword

The text of document 23A/950/FDIS, future edition 2 of IEC 61386-21, prepared by SC 23A "Cable management systems" of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61386-21:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-05-17 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-05-17 document have to be withdrawn

This document supersedes EN 61386-21:2004 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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of EN 61386-1:2008/A1:2019.

Endorsement notice

The text of the International Standard IEC 61386-21:2021 was approved by CENELEC as a European Standard without any modification.



IEC 61386-21

Edition 2.0 2021-04

INTERNATIONAL STANDARD

**Conduit systems for cable management –
Part 21: Particular requirements – Rigid conduit systems**



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2021 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 Central Office
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 online collection - oc.iec.ch

Discover our powerful search engine and read freely all the publications previews. 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 22 000 terminological entries in English and French, with equivalent terms in 18 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.



IEC 61386-21

Edition 2.0 2021-04

INTERNATIONAL STANDARD

**Conduit systems for cable management –
Part 21: Particular requirements – Rigid conduit systems**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.120.10

ISBN 978-2-8322-9664-6

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

CONTENTS

| | |
|---|----|
| FOREWORD | 3 |
| 1 Scope | 5 |
| 2 Normative references | 5 |
| 3 Terms and definitions | 5 |
| 4 General requirements | 5 |
| 5 General conditions for tests | 5 |
| 6 Classification | 5 |
| 7 Marking and documentation | 5 |
| 8 Dimensions | 6 |
| 9 Construction | 7 |
| 10 Mechanical properties | 7 |
| 11 Electrical properties | 9 |
| 12 Thermal properties | 9 |
| 13 Fire hazard | 9 |
| 14 External influences | 9 |
| 15 Electromagnetic compatibility | 10 |
| Annex A (normative) Classification coding for conduit systems | 14 |
| Annex B (normative) Determination of material thickness | 14 |
| Annex C (normative) Additional test requirements for conduit systems already complying with IEC 61386-1:2008 | 14 |
| Annex AA (informative) Calculation for minimum and maximum rate of increase of force for 10.2.4 | 15 |
| Figure 101 – Bending apparatus for metallic and composite conduits | 10 |
| Figure 102 – Gauge for checking the minimum inside diameter of the conduit system after impact, bending, collapse and resistance to heat tests | 11 |
| Figure 103 – Bending apparatus for non-metallic and composite conduit | 12 |
| Figure 104 – Arrangement for collapse test | 13 |
| Figure AA.1 – Graph showing force against time for 750 N force | 15 |
| Table 101 – Thread lengths | 6 |
| Table 102 – Maximum entry diameter and minimum entry length details | 7 |
| Table AA.1 – Minimum and maximum rate of increase of force for 10.2.4 | 16 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONDUIT SYSTEMS FOR CABLE MANAGEMENT –

Part 21: Particular requirements – Rigid conduit systems

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

International Standard IEC 61386-21 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories:

This second edition cancels and replaces the first edition published in 2002. This edition constitutes a technical revision.

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

- a) Subclause 7.1.103 has been added requiring the manufacturer to declare whether the conduit is bendable;
- b) Annex AA has been added to provide guidance on the application of a constantly increasing force.

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

| FDIS | Report on voting |
|--------------|------------------|
| 23A/950/FDIS | 23A/955/RVD |

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

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

A list of all the parts in the IEC 61386 series, published under the general title *Conduit systems for cable management*, can be found on the IEC website.

This document is to be used in conjunction with IEC 61386-1:2008 and IEC 61386-1:2008/AMD1:2017.

This document supplements or modifies the corresponding clauses of IEC 61386-1:2008 and IEC 61386-1:2008/AMD1:2017. Where a particular clause or subclause of IEC 61386-1:2008 and IEC 61386-1:2008/AMD1:2017 is not mentioned in this document, that clause or subclause applies as far as is reasonable. Where this document states "addition", "modification" or "replacement", the relevant text of IEC 61386-1:2008 and IEC 61386-1:2008/AMD1:2017 is to be adapted accordingly.

Subclauses, tables and figures which are in addition to those in IEC 61386-1:2008 and IEC 61386-1:2008/AMD1:2017 are numbered starting with 101. Annexes which are additional to those in IEC 61386-1:2008 and IEC 61386-1:2008/AMD1:2017 are lettered AA, BB, etc.

In this document, the following print types are used:

- Requirements proper: in roman type.
- *Test specifications: in italic type.*
- Explanatory matter: in smaller roman type.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

CONDUIT SYSTEMS FOR CABLE MANAGEMENT –

Part 21: Particular requirements – Rigid conduit systems

1 Scope

Clause 1 of IEC 61386-1:2008 is applicable, except as follows:

Addition:

This part of IEC 61386 specifies the requirements for rigid conduit systems.

2 Normative references

Clause 2 of IEC 61386-1:2008 and of IEC 61386-1:2008/AMD1:2017 are applicable, except as follows:

Addition:

IEC 61386-1:2008, *Conduit systems for cable management – Part 1: General requirements*
IEC 61386-1:2008/AMD1:2017

3 Terms and definitions

Clause 3 of IEC 61386-1:2008 and of IEC 61386-1:2008/AMD1:2017 are applicable.

4 General requirements

Clause 4 of IEC 61386-1:2008 is applicable.

5 General conditions for tests

Clause 5 of IEC 61386-1:2008 and of IEC 61386-1:2008/AMD1:2017 are applicable.

6 Classification

Clause 6 of IEC 61386-1:2008 is applicable, except as follows:

Classifications 6.1.1, 1; 6.1.2, 1; 6.1.3, 2; 6.1.3, 3; 6.1.3, 4; 6.1.4, 1; and 6.1.5, 1 are not applicable.

NOTE Rigid conduit systems according to 6.1.1, 2 and 6.1.2, 2 and classification 1 from 6.2.1, Table 1 are not allowed in France.

7 Marking and documentation

Clause 7 of IEC 61386-1:2008 and of IEC 61386-1:2008/AMD1:2017 are applicable, except as follows:

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-