



BSI Standards Publication

Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations

Part 1: Basic rules

This is a preview of "BS EN IEC 81346-1:20...". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN IEC 81346-1:2022. It is identical to IEC 81346-1:2022. It supersedes BS EN 81346-1:2009, which will be withdrawn on 5 April 2025.

The UK participation in its preparation was entrusted to Technical Committee GEL/3, Documentation and graphical symbols.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 02766 2

ICS 01.110; 29.020

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2022.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

This is a preview of "BS EN IEC 81346-1:20...". Click here to purchase the full version from the ANSI store.

EUROPÄISCHE NORM

May 2022

ICS 01.110; 29.020

Supersedes EN 81346-1:2009

English Version

Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations -
Part 1: Basic rules
(IEC 81346-1:2022)

Systèmes industriels, installations et appareils, et produits industriels - Principes de structuration et désignations de référence - Partie 1: Règles de base
(IEC 81346-1:2022)

Industrielle Systeme, Anlagen und Ausrüstungen und Industrieprodukte - Strukturierungsprinzipien und Referenzkennzeichnung - Teil 1: Allgemeine Regeln
(IEC 81346-1:2022)

This European Standard was approved by CENELEC on 2022-05-04. 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

This is a preview of "BS EN IEC 81346-1:20...". [Click here to purchase the full version from the ANSI store.](#)

European foreword

The text of document 3/1541/FDIS, future edition 2 of IEC 81346-1, prepared by IEC/TC 3 "Documentation, graphical symbols and representations of technical information" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 81346-1:2022.

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) 2023-02-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-05-04

This document supersedes EN 81346-1:2009 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 81346-1:2022 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60297-3-100	NOTE Harmonized as EN 60297-3-100
IEC 60297-3-101:2004	NOTE Harmonized as EN 60297-3-101:2004 (not modified)
IEC 61175-1:2015	NOTE Harmonized as EN 61175-1:2015 (not modified)
IEC 61355-1:2008	NOTE Harmonized as EN 61355-1:2008 (not modified)
IEC 61666:2010	NOTE Harmonized as EN 61666:2010 (not modified)
IEC 61666:2010/A1:2021	NOTE Harmonized as EN 61666:2010/A1:2021 (not modified)
IEC 62023	NOTE Harmonized as EN 62023
IEC 62027	NOTE Harmonized as EN 62027
IEC 62424:2016	NOTE Harmonized as EN 62424:2016 (not modified)
IEC 62491:2008	NOTE Harmonized as EN 62491:2008 (not modified)
IEC 81714-3	NOTE Harmonized as EN 81714-3
IEC 82045-1	NOTE Harmonized as EN 82045-1
IEC 82045-2:2004	NOTE Harmonized as EN 82045-2:2005 (not modified)

This is a preview of "BS EN IEC 81346-1:20...". [Click here to purchase the full version from the ANSI store.](#)

ISO 3166-1	NOTE Harmonized as EN ISO 3166-1
ISO 4157 (series)	NOTE Harmonized as EN ISO 4157 (series)
ISO 4157-3	NOTE Harmonized as EN ISO 4157-3
ISO 9000:2015	NOTE Harmonized as EN ISO 9000:2015 (not modified)

This is a preview of "BS EN IEC 81346-1:20...". Click here to purchase the full version from the ANSI store.

(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.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 81346-2	2019	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes	EN IEC 81346-2	2019
ISO/IEC 646	-	Information technology; ISO 7-bit coded character set for information interchange	-	-
ISO 81346-10	— ¹	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designation - Part 10: Power plants	-	-
ISO 81346-12	2018	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 12: Construction works and building services	-	-

¹ In preparation. Stage at time of publication: ISO DIS 81346-10:2021.

This is a preview of "BS EN IEC 81346-1:20...". [Click here to purchase the full version from the ANSI store.](#)

CONTENTS

FOREWORD.....	8
INTRODUCTION.....	11
1 Scope.....	13
2 Normative references	13
3 Terms and definitions	14
4 Concepts	16
4.1 Object.....	16
4.2 Aspect	17
4.3 Systems.....	19
4.4 Structuring	19
4.5 Function.....	19
4.6 Products and components.....	20
4.7 Location.....	21
4.8 Types.....	21
4.9 Object occurrences and product individuals	21
4.10 Relations between concepts	22
5 Structuring principles.....	23
5.1 General.....	23
5.2 Forming structures	26
5.3 Function-oriented structure	28
5.4 Product-oriented structure.....	29
5.5 Location-oriented structure	30
5.6 Type-oriented structure	31
5.7 Structures based on "other aspects"	31
5.8 Structures based on more than one aspect	33
6 Construction of reference designations	34
6.1 General.....	34
6.2 Format of reference designations.....	35
6.2.1 Single level.....	35
6.2.2 Multi-level.....	36
6.2.3 Use of letter codes	36
6.3 Different structures within the same aspect.....	37
7 Reference designation set.....	37
8 Designation of locations	39
8.1 General.....	39
8.2 Assemblies	39
9 Presentation of reference designations	41
9.1 Reference designations	41
9.2 Reference designation set	42
9.3 Presentation of identifiers for the top-node.....	43
10 Labelling.....	44
11 Presentation of properties for an object	45
12 Application of the reference designation system	46
Annex A (informative) Information model on the reference designation system	47
A.1 General.....	47