



SLOVENSKI STANDARD SIST EN ISO 22014:2024

01-julij-2024

Knjižnični objekti za arhitekturo, inženiring, gradbeništvo in uporabo (ISO 22014:2024)

Library objects for architecture, engineering, construction, and use (ISO 22014:2024)

Bibliotheksobjekte für Architektur, Ingenieur- und Bauwesen und Gebrauch (ISO 22014:2024)

Objets de bibliothèque pour l'architecture, l'ingénierie, la construction et l'utilisation (ISO 22014:2024)

Ta slovenski standard je istoveten z: **EN ISO 22014:2024**

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>

ICS:

| | | |
|-----------|---------------------------------------|---|
| 03.100.30 | Vodenje ljudi | Management of human resources |
| 35.240.67 | Uporabniške rešitve IT v gradbeništvu | IT applications in building and construction industry |
| 91.010.01 | Gradbeništvo na splošno | Construction industry in general |

SIST EN ISO 22014:2024

en,fr,de

EUROPEAN STANDARD

EN ISO 22014

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2024

ICS 01.100.30; 91.010.01; 35.240.67

English Version

Library objects for architecture, engineering, construction and use (ISO 22014:2024)

Objets de bibliothèque pour l'architecture, l'ingénierie,
la construction et l'utilisation (ISO 22014:2024)

Bibliotheksubjekte für Architektur, Ingenieur- und
Bauwesen und Gebrauch (ISO 22014:2024)

This European Standard was approved by CEN on 21 April 2024.

CEN 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 CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

Document Preview

[SIST EN ISO 22014:2024](https://standards.iteh.ai/SIST/EN/ISO/22014/2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

| Contents | Page |
|------------------------|------|
| European foreword..... | 3 |

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN ISO 22014:2024](https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>

European foreword

This document (EN ISO 22014:2024) has been prepared by Technical Committee ISO/TC 10 "Technical product documentation" in collaboration with Technical Committee CEN/TC 442 "Building Information Modelling (BIM)" the secretariat of which is held by SN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2024, and conflicting national standards shall be withdrawn at the latest by November 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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 standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 22014:2024 has been approved by CEN as EN ISO 22014:2024 without any modification.

Document Preview

[SIST EN ISO 22014:2024](https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>



International Standard

ISO 22014

Library objects for architecture, engineering, construction and use

*Objets de bibliothèque pour l'architecture, l'ingénierie, la
construction et l'utilisation*

**First edition
2024-05**

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN ISO 22014:2024](https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>

ISO 22014:2024(en)

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN ISO 22014:2024](https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

ISO 22014:2024(en)

Contents

| | Page |
|--|------------|
| Foreword | vi |
| Introduction | vii |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 2 |
| 4 Applications | 4 |
| 4.1 General..... | 4 |
| 4.2 Template objects..... | 4 |
| 4.3 Generic objects..... | 4 |
| 4.4 Product objects..... | 5 |
| 4.4.1 General..... | 5 |
| 4.4.2 Catalogue product objects..... | 5 |
| 4.4.3 Parametric series product objects..... | 5 |
| 4.4.4 Engineered-to-order product objects..... | 5 |
| 5 Principles | 6 |
| 6 Identification and origination of library objects | 7 |
| 6.1 General..... | 7 |
| 6.2 Data format..... | 7 |
| 6.3 Object definition..... | 7 |
| 6.4 Identification..... | 7 |
| 6.4.1 Clear naming..... | 7 |
| 6.4.2 Unique naming..... | 7 |
| 6.4.3 Naming (file and object)..... | 8 |
| 6.4.4 Description..... | 9 |
| 6.4.5 Unique identifier..... | 9 |
| 6.4.6 Other identifiers..... | 9 |
| 6.5 Origination..... | 9 |
| 6.5.1 General..... | 9 |
| 6.5.2 Source..... | 9 |
| 6.5.3 Library object version and date..... | 10 |
| 6.5.4 Product version and date..... | 10 |
| 6.5.5 Further information (references or links)..... | 10 |
| 6.5.6 Updates (references or links)..... | 10 |
| 6.5.7 Software..... | 10 |
| 6.6 Classification..... | 10 |
| 6.6.1 General..... | 10 |
| 6.6.2 Classification schemes..... | 10 |
| 6.6.3 Multiple classifications..... | 11 |
| 6.7 Occurrence information..... | 11 |
| 6.7.1 General..... | 11 |
| 6.7.2 Reference designations..... | 12 |
| 7 Graphical symbols and simplified representation | 12 |
| 7.1 General..... | 12 |
| 7.2 Defining factors for graphical presentations..... | 14 |
| 7.2.1 General..... | 14 |
| 7.2.2 Presentation contents..... | 14 |
| 7.2.3 Dimension..... | 14 |
| 7.2.4 Projection method..... | 14 |
| 7.2.5 Scale..... | 15 |
| 7.2.6 Presentation style..... | 15 |
| 7.3 Features..... | 16 |
| 7.3.1 General..... | 16 |

ISO 22014:2024(en)

| | | | |
|-----------|--------|--|-----------|
| | 7.3.2 | Limited indication of the features of an object | 16 |
| | 7.3.3 | Symbolic indication of objects | 16 |
| 7.4 | | Graphic simplicity | 16 |
| 7.5 | | Graphical symbols (including elements of symbols) | 17 |
| | 7.5.1 | General | 17 |
| | 7.5.2 | Graphical symbols sharing common subsidiary features | 17 |
| | 7.5.3 | Constant size | 17 |
| | 7.5.4 | Fixed orientation | 17 |
| 7.6 | | Graphics | 17 |
| 8 | | Shapes and measurements | 18 |
| 8.1 | | General | 18 |
| 8.2 | | Detail | 18 |
| | 8.2.1 | General | 18 |
| | 8.2.2 | Low detail | 19 |
| | 8.2.3 | Medium detail | 19 |
| | 8.2.4 | High detail | 19 |
| | 8.2.5 | Library object types and detail | 19 |
| | 8.2.6 | Orientation | 19 |
| | 8.2.7 | Insertion points and principal dimensions | 20 |
| | 8.2.8 | Behaviour | 21 |
| 8.3 | | Levels of measurement | 21 |
| | 8.3.1 | General | 21 |
| | 8.3.2 | Characteristic measurement | 21 |
| | 8.3.3 | Standard measurement | 21 |
| | 8.3.4 | Method-based measurement | 21 |
| | 8.3.5 | Measurements for library objects | 22 |
| 9 | | Properties | 22 |
| 9.1 | | General | 22 |
| 9.2 | | Example purposes | 22 |
| | 9.2.1 | General | 22 |
| | 9.2.2 | Specification and selection | 22 |
| | 9.2.3 | Performance analysis and simulation | 23 |
| | 9.2.4 | Costing | 23 |
| | 9.2.5 | Environmental impacts and recycling | 23 |
| | 9.2.6 | Procurement, work planning and execution | 23 |
| | 9.2.7 | Commissioning, operation and use | 23 |
| | 9.2.8 | Expected life and replacement | 23 |
| | 9.2.9 | Declarations and third-party information | 23 |
| 9.3 | | Property identification | 23 |
| 9.4 | | Choice of properties | 24 |
| | 9.4.1 | General | 24 |
| | 9.4.2 | Specification properties | 24 |
| | 9.4.3 | Assessment properties | 24 |
| | 9.4.4 | Simulation properties | 24 |
| 9.5 | | Use of properties | 25 |
| | 9.5.1 | General | 25 |
| | 9.5.2 | Library object types | 25 |
| 9.6 | | Occurrence within projects and use | 25 |
| 10 | | Assemblies | 25 |
| 10.1 | | General | 25 |
| 10.2 | | Uses | 25 |
| | 10.2.1 | General | 25 |
| | 10.2.2 | Repetitive facility types | 26 |
| | 10.2.3 | Prefabricated products | 26 |
| | 10.2.4 | Details and connections | 26 |
| | 10.2.5 | Fabrication and manufacturing | 27 |
| | 10.2.6 | Layered constructions | 27 |

ISO 22014:2024(en)

| | | |
|---------------------|--|-----------|
| 10.3 | Processes..... | 27 |
| 10.3.1 | Preparation and publication..... | 27 |
| 10.3.2 | Design and development..... | 27 |
| 10.3.3 | Measurement..... | 27 |
| 10.3.4 | Use in asset management..... | 27 |
| 10.4 | Implementation..... | 28 |
| 10.5 | Identification and grouping of assemblies..... | 28 |
| 10.5.1 | General..... | 28 |
| 10.5.2 | Graphical symbols..... | 28 |
| 10.5.3 | Shape and measurement..... | 29 |
| 10.5.4 | Properties..... | 29 |
| 10.5.5 | Composition..... | 29 |
| Annex A | (informative) Examples..... | 30 |
| Annex B | (informative) Localization..... | 35 |
| Bibliography | | 36 |

iTeh Standards
 (<https://standards.iteh.ai>)
 Document Preview

[SIST EN ISO 22014:2024](https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024)

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>

ISO 22014:2024(en)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO 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, ISO 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 www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 8, *Construction documentation*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 442, *Building Information Modelling (BIM)*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

SIST EN ISO 22014:2024

<https://standards.iteh.ai/catalog/standards/sist/f6b4d9b1-1c8c-4135-85e6-74159cb496d6/sist-en-iso-22014-2024>

ISO 22014:2024(en)

Introduction

0.1 General

This document describes best practice for the development and application of library objects to support building information modelling (BIM)-based design, specification, construction and operational processes, including giving additional recommendations for specific use cases such as assemblies.

A library object is intended for reuse within project teams and across organizations. This serves to improve accuracy and constructability of designs and to improve the handover of information through the supply chain to the owner or operator. Objects in a digital format combining properties, shape and graphical symbols offer scope for greater accuracy and efficiency.

This document includes principles and definitions for the symbolic and simplified visual presentation of library objects in connection with BIM and their organization into libraries.

0.2 Purpose and justification

The purpose of this document is to offer a standard for developers, library providers, designers and manufacturers to improve the exchange and reuse of library objects.

Library objects and their corresponding graphical symbols are now commonly provided in a digital format by model authoring software. Traditional paper-based methods for graphical symbols have therefore become less useful and are in some cases outdated. Several national standards have been withdrawn due to lack of maintenance and conflicting International Standards. Still, documentation of complex entities such as buildings and civil engineering works requires clear and uniform presentation so as to be legible and easily understood. This document is intended to give a framework for the presentation of library objects, with respect to those purposes, and also the structuring of graphical symbols into libraries.

Library objects, by combining properties, shape and graphical symbols, offer scope for greater accuracy and efficiency. Current technology gives the opportunity to adjust the views of library objects (content and visual presentation) to the many purposes that occur during the life cycle of an information model and to connect symbol graphics to library objects.

0.3 Relationship to other standards

The increased adoption of data dictionaries, along with ISO 23386 and ISO 23387, is expected to facilitate the preparation of data templates with properties for the non-graphical aspects of library objects and ISO 7817-1 to facilitate specifying the level of information need for geometrical and alphanumeric information and documentation.

The ISO 7817-1 concepts and principles can be applied for a general information exchange and, while in progress, for a generally agreed way of information exchange between parties in a collaborative work process, as well as for an appointment with specified information delivery. Therefore, ISO 7817-1 concepts and principles support the preparation of libraries outside of any individual project and are applied in this document.

This document recommends that ISO 16739-1 is used as a basis for the naming of objects.

Project and asset information references provided by the appointing party, such as object libraries, are covered in ISO 19650-2:2018, 5.1.6, and ISO 19650-3:2020, 5.1.8.

Guidance on graphical presentation for specific types of objects is provided by ISO 7519-1.

