SLOVENSKI STANDARD
oSIST prEN ISO 23387:2019

01-junij-2019

Informacijsko modeliranje gradenj (BIM) - Podatkovne predloge za gradnike, ki se uporabljajo v življenjskem ciklu gradbenega objekta - Pojmi in načela (ISO/DIS 23387:2019)

Building Information Modelling (BIM) - Data templates for construction objects used in the life cycle of any built asset - Concepts and principles (ISO/DIS 23387:2019)

Bauwerksinformationsmodellierung (BIM) - Datenvorlagen für Bauobjekte während des Lebenszyklus eines baulichen Vermögensgegenstandes - Konzepte und Grundsätze (ISO/DIS 23387:2019)

Modélisation des informations de la construction (BIM) - Modèles de données pour les objets de construction utilisés durant le cycle de vie de tout bien construit - Concepts et principes (ISO/DIS 23387:2019)

Ta slovenski standard je istoveten z: **prEN ISO 23387**

ICS:

13.020.60	Življenjski ciklusi izdelkov	Product life-cycles
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

oSIST prEN ISO 23387:2019 en,fr,de

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DRAFT INTERNATIONAL STANDARD
ISO/DIS 23387

ISO/TC **59**/SC **13**

Secretariat: **SN**

Voting begins on:
2019-03-20

Voting terminates on:
2019-06-12

Building Information Modelling (BIM) — Data templates for construction objects used in the life cycle of any built asset — Concepts and principles

ICS: 35.240.67; 91.010.01

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This document is circulated as received from the committee secretariat.

ISO/CEN PARALLEL PROCESSING

Reference number
ISO/DIS 23387:2019(E)

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ISO/DIS 23387:2019(E)
prEN ISO 23387

European Foreword

This document (EN ISO 23387) has been prepared by Technical Committee CEN/TC 442 Building Information Modelling (BIM)

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of an identical text or by endorsement, at the latest by (Month/Year) and conflicting national standards shall be withdrawn at the latest by (Month/Year).

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Foreword

ISO (the International Organization of 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.

International standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft international Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

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Introduction

Building information modelling (BIM) provides a digital technology for describing and displaying information required in the planning, design, construction and operation of constructed facilities. Increasingly this modelling approach is expanding to encompass all aspects of the built environment, including civil infrastructure, utilities and public space.

EN ISO 19650 sets out the recommended concepts and principles for business processes across the built environment sector in support of the management and production of information during the life cycle of built assets when using building information modelling (BIM). To support the management and production of information in these business processes, the importance of standardization is of the highest importance. Machine-readable data is essential to provide a reliable and sustainable exchange of information in an asset life cycle process.

Data templates will enable construction project stakeholders to exchange information about construction objects through an asset life cycle, using the same data structure, terminology, and globally unique identifiers to enable machine-readability.

Data templates should be standardized and made available across the built environment sector through data dictionaries based on EN ISO 12006-3, *Building construction -- Organization of information about construction works -- Part 3: Framework for object-oriented information.*

Data templates should be used in conjunction with IFC, EN ISO 16739, *Industry Foundation Classes for data sharing in the construction and facility management industries,* to enable and support open BIM processes.

1   Scope

This International standard sets out the principles and structure for data templates for construction objects. It is developed to support digital processes using machine-readable formats using a standard data structure to exchange information about any type of construction object, e.g. product, system, assembly, space, building etc, used in the inception, brief, design, production, operation and demolition of facilities.

This standard provides the specification of a taxonomy model that defines concepts from EN ISO 12006-3, objects, collections, and relationships between them, to support the information need for the specific purpose of the data template.

This standard provides the rules for linking between data templates and IFC classes within a data dictionary based on EN ISO 12006-3.

This standard provides the rules for linking between data templates and classification systems within a data dictionary based on ISO EN 12006-3.

It is not in the scope of this standard to provide the content of any data templates. The data structure provided in this standard shall be used for developing specific data templates based on standards developed in ISO/IEC, CEN/CENELEC, national standardization organizations, or other sources describing information needs.

2   Normative references

The following referenced documents are indispensable for the application 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.

EN ISO 12006-3, *Building construction -- Organization of information about construction works -- Part 3: Framework for object-oriented information*

ISO 10303-11, *Industrial automation systems and integration -- Product data representation and exchange -- Part 11: Description methods: The EXPRESS language reference manual*

ISO/IEC 19505, *Information technology -- Object Management Group Unified Modeling Language (OMG UML)*

EN ISO 16739, *Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries*

EN/ISO 80000, *Quantities and Units*

ISO 6707-1, *Buildings and civil engineering works -- Vocabulary -- Part 1: General terms*

3   Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
component
product manufactured as a distinct unit to serve a specific function or functions

[ISO 6707-1:2016]

NOTE   Components can serve as interacting objects in a system

3.2
data dictionary
database that contains metadata

[ISO 2382:2015]

3.3
data template
schema providing a standardized data structure used to describe the characteristics of construction objects

NOTE 1   The relevant scope of the data template should be used together with the term "data template". E.g. a data template for a product should be named "product data template". A data template for a system should be named "system data template", etc.

EXAMPLE 1   A data template can be used in an information exchange for a specific purpose for a construction object in the inception, brief, design, production, operation and demolition of facilities.

EXAMPLE 2:   A data template provides a view based on an information exchange, e.g. an HVAC system designer is asking for the descriptions of the HVAC products that can be loaded into the design system.

EXAMPLE 3:   A data template provides manufacturers a standardized data structure that can be applied to any internal system and/or process of handling product data, e.g. one or several product information management systems (PIM/PDM) can apply or map to this structure to enable machine readability, both internally and with any requests from any software using the same data template structure. An HVAC product manufacturer can then answer the request from any stakeholder including the HVAC system designer.

3.4
construction object
object of interest in the context of a construction process

[ISO 12006-2:2015]

EXAMPLE 1   The construction object "wall" is a type of system

EXAMPLE 2   The construction object "calcium silicate masonry unit" is a type of product

3.5
enumerated value
concept type representing the description of a value of a property

3.6
globally unique identifier (GUID)
unique identifier generated using an algorithm

[ISO/IEC 11578:1996]

3.7
group of properties
group of properties enabling the properties to be organised

NOTE 1   There are multiple types of possible groups eg class, domain, reference document, interdependent properties

NOTE 2   A property can be member of several groups of properties

3.8
Industry Foundation Classes (IFC)
specifies a conceptual data schema and an exchange file format for Building Information Model (BIM) data

[ISO 16739:2013]

3.9
product
object manufactured or processed

[ISO 6707-1:2016]

3.10
property
feature or quality of an object

[ISO/DIS 1087]

NOTE   When a property is named together with reference to a technical specification, where the instructions to assess the performance are available (usually standards), it is to be regarded as a specific property. The relationship between property and specific property is modelled as a parent child relationship.

EXAMPLE 1   length, sound reduction index (properties)

EXAMPLE 2   Length according to EN 12058, sound reduction index according to EN ISO 10140-4 (specific properties)

3.11
quantity
property of a phenomenon, body, or substance, where the property has a magnitude that can be expressed by means of a number and a reference

[EN ISO 80000-1:2013]

NOTE   Quantities can appear as base quantities or derived quantities

EXAMPLE 1   Length, mass, electric current (ISQ base quantities)

EXAMPLE 2   Plane angle, force, power (derived quantities)

3.12
reference document
publication that is consulted to find specific information, particularly in a technical or scientific domain. A reference document can be associated with any data present in a data dictionary. It can include document date and version

EXAMPLE   EN 771-1:2011+A1:2015 Specification for masonry units, Part 1: Clay masonry units

3.13
system
interacting objects organized to achieve one or more stated purpose

[ISO 15288:2015]