



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 7817-3:2026**  
**01-april-2026**

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**Informacijsko modeliranje gradenj - Raven informacijskih potreb - 3. del:  
Podatkovni model in shema (ISO/DIS 7817-3:2026)**

Building information modelling - Level of information need - Part 3: Data model and schema (ISO/DIS 7817-3:2026)

Bauwerksinformationsmodellierung - Informationsbedarfstiefe - Teil 3: Datenmodel und Schema (ISO/DIS 7817-3:2026)

Modélisation des informations de la construction (BIM) - Niveau du besoin d'information - Partie 3: Modèle de données et schéma (ISO/DIS 7817-3:2026)

**Ta slovenski standard je istoveten z: prEN ISO 7817-3**

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**ICS:**

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

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**en,fr,de**

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# DRAFT International Standard

## ISO/DIS 7817-3

### Building information modelling — Level of information need —

#### Part 3: Data model and schema

ICS: 35.240.67; 91.010.01

ISO/TC 59/SC 13

Secretariat: **SN**

Voting begins on:  
**2026-02-10**

Voting terminates on:  
**2026-05-05**

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Published in Switzerland

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## ISO/DIS 7817-3:2026(en)

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Level of information need data schema structure</b> .....	<b>2</b>
4.1 General.....	2
4.2 UML representation of the level of information need structure.....	3
4.2.1 Specification.....	5
4.2.2 Prerequisites.....	5
4.2.3 Georeferencing.....	5
4.2.4 Specification per object type.....	6
4.2.5 Object type.....	6
4.2.6 Alphanumerical information and integration with data template structure (ISO 23387).....	6
4.2.7 Geometrical information.....	7
4.2.8 Documentation.....	7
<b>5 XML representations</b> .....	<b>8</b>
<b>Annex A (informative) Usage guide</b> .....	<b>9</b>
<b>Annex B (informative) XSD representation</b> .....	<b>20</b>
<b>Annex C (informative) XML examples</b> .....	<b>28</b>
<b>Annex D (informative) Sematic web implementation</b> .....	<b>39</b>
<b>Bibliography</b> .....	<b>40</b>

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## ISO/DIS 7817-3:2026(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 documents 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](http://www.iso.org/directives)).

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This document was prepared by Technical Committee ISO/TC 59, Buildings and civil engineering works; Subcommittee SC 13, Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM), 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).

A list of all parts in the ISO 7817 series can be found on the ISO website.

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](http://www.iso.org/members.html).

## ISO/DIS 7817-3:2026(en)

### Introduction

The objective of the level of information need is to define the concepts and principles related to the level of information need in a structured way.

For a better integration and interoperability between software products and supported workflows, there is a need for a standardised schema to specify the level of information need according to parts 1 and 2 of this standard series and in line with ISO standard series 19650, 12006, and 29481, as well as ISO 23386 and 23387.

With this goal in mind, a machine-interpretable representation of the level of information need must be provided to allow for a vendor-neutral exchange of the specified requirements including the specification of the relationships between object types within a breakdown structure and the subsequent alphanumerical information, geometrical information and documentation.

This schema consistently structures information requirements in information containers and databases and allows the coherent definition of web services. It makes it easier to combine different sets of information requirements from different actors and across all phases of the life cycle of built assets. It also supports automated checks of the delivered information against the specified requirements, therefore supporting the creation, exchange and compliance activities of exchange information requirements in line with the ISO 19650 series and the ISO 29481 series. The developed schema is applicable on a wide range of exchange data formats. It can be used in conjunction with the vendor-neutral data exchange format industry foundation classes (IFC), established in ISO 16739-1, as well as vendor-specific ones, and standards from other domains, such as CityGML.

With a standardised schema, all stakeholders can exchange specifications of the level of information need in a structured, interoperable and reproducible yet flexible way. This provides all appointments with a standardised approach for verification and validation, making the process less error-prone, less time-consuming and reducing misinterpretations.

The target audience of this document includes:

- Software developers, for embedding the data structure in software, platforms and other applications
- Built environment sector domain experts appointed to describe required information
- Small and medium enterprise practitioners that can use the defined schema and embed it in available tools for reuse
- Sector practitioners, as they provide the required information
- Authorities, as they review and check relevant submissions
- Research and development personnel, as they support the innovation and continuous development of the level of information need
- Educational institutions, as the concepts of level of information, information management, and digital information principles should be merged into education and training programs
- Real estate agents and developers (asset owners), as they need a clearer vision on needed information of built assets, hence including the level of information need as part of tender documents.

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# Building information modelling — Level of information need —

## Part 3: Data model and schema

### 1 Scope

This document specifies a data model in Unified Modeling Language (UML) and a derived Extensible Markup Language (XML) schema definition (XSD) for defining the level of information need in software applications based on concepts and principles given in ISO 7817-1, guidance given in ISO/TS 7817-2, and in compliance with the principles and data exchange standards of data templates (ISO 23387).

This document defines the exchange format schema in XSD according to the UML data model. It gives guidelines for the usage and application of the schema.

This document provides the concept of level of information need developed to enable machine interpretability based on a standardized data structure, carrying information requirements used in the life cycle of assets.

### 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.

ISO 7817-1, *Building information modelling — Level of information need — Part 1: Concepts and principles*

ISO/TS 7817-2:2026, *Building Information Modelling – Level of information need – Part 2: Guidance for application*

ISO 23387:2025, *Building information modelling (BIM) — Data templates for objects used in the life cycle of assets*

ISO 23386:2020, *Building information modelling and other digital processes used in construction — Methodology to describe, author and maintain properties in interconnected data dictionaries*

Methodology to describe, author and maintain properties in interconnected data dictionaries

ISO 12006-3:2022, *Building construction — Organization of information about construction works — Part 3: Framework for object-oriented information*

ISO 9000:2015, *Quality management systems — Fundamentals and vocabulary*

ISO 19111:2020, *Geographic information — Referencing by coordinates*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7817-1, ISO/TS 7817-2, ISO 23387, ISO 23386, ISO 12006-3, ISO 9000, ISO 19111 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

## ISO/DIS 7817-3:2026(en)

— IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### Document

*information* and the medium on which it is contained.

[SOURCE: ISO 9000:2015, 3.8.5]

EXAMPLE A door schedule is required within a project.

### 3.2

#### Object type

Representation of objects that share common properties.

Note 1 to entry: Using this standard, an object type determines the properties and constraints that apply to all objects classified under it.

Note 2 to entry: In the context of object-oriented modelling, an object type corresponds conceptually to a “class”.

### 3.3

#### Specification

Container element stating requirements following the level of information need schema definition.

[SOURCE: ISO 9000:2015, modified: Exchanged “document” for “container element” and added “following the level of information need schema definition”]

### 3.4

#### Specification per object type

*specification* (3.3) for an *object type* (3.2).

Note 1 to entry: Specification per object type elements outline geometrical, alphanumerical and documentation requirements for specific object types.

EXAMPLE The dimensionality and specific properties can be defined for an object type such as Wall. The object type has a reference to a dictionary to indicate which classification system the object type belongs to.

## 4 Level of information need data schema structure

### 4.1 General

The level of information need data schema is designed to represent the concepts and principles of level of information need in a machine-readable and structured format. This standard defines the level of information need data schema using an XML schema definition.

The schema includes a standard XML header. To allow re-usability of data types defined in ISO 23387, the respective XML schema is imported.

The structure of the level of information need data schema consists of a root element called level of information need. This element may have one to many (1..\*) specification elements. The specification element consists of the elements prerequisites, georeferencing and specification per object type. The specification per object type element may have one object type element, as well as one optional element to describe the alphanumerical information. It also consists of one optional documentation element and one optional geometrical information element.

Note 1 The object type element used in this schema is defined in ISO 23387. This element is adopted to avoid inconsistencies by describing object types in varying ways across the industry.

The alphanumerical information also adopts elements from the data structure for data templates described in ISO 23387 and ISO 12006-3. The adopted elements are property, quantity kind, group of properties, reference document, dimension and unit. All elements are optional (0..\*). Therefore, the alphanumerical

## ISO/DIS 7817-3:2026(en)

information element acts as a container for properties and groups of properties relating to a specified object type.

Note 2 The specification per object type, object type, property, quantity kind, dimension, unit, and group of properties elements in the level of information need schema extend the concept type element from ISO 23387. This element requires a date of creation attribute, which shall always use the ISO 8601 datetime format.

The documentation element may have zero to many (0..\*) required documents. It should be used to describe the documentation needed for the object type defined within the specification per object type element.

The geometrical information consists of the elements detail, dimensionality, location, appearance and parametric behaviour. It should be used to describe the geometrical information needed for the object type defined within the specification per object type element.

The structure of the level of information need structure is shown in the UML model in [Figure 1](#).

### 4.2 UML representation of the level of information need structure

The level of information need structure representation in [Figure 1](#) uses UML. [Figure 1](#) provides modelling rules for concepts and their relationship.

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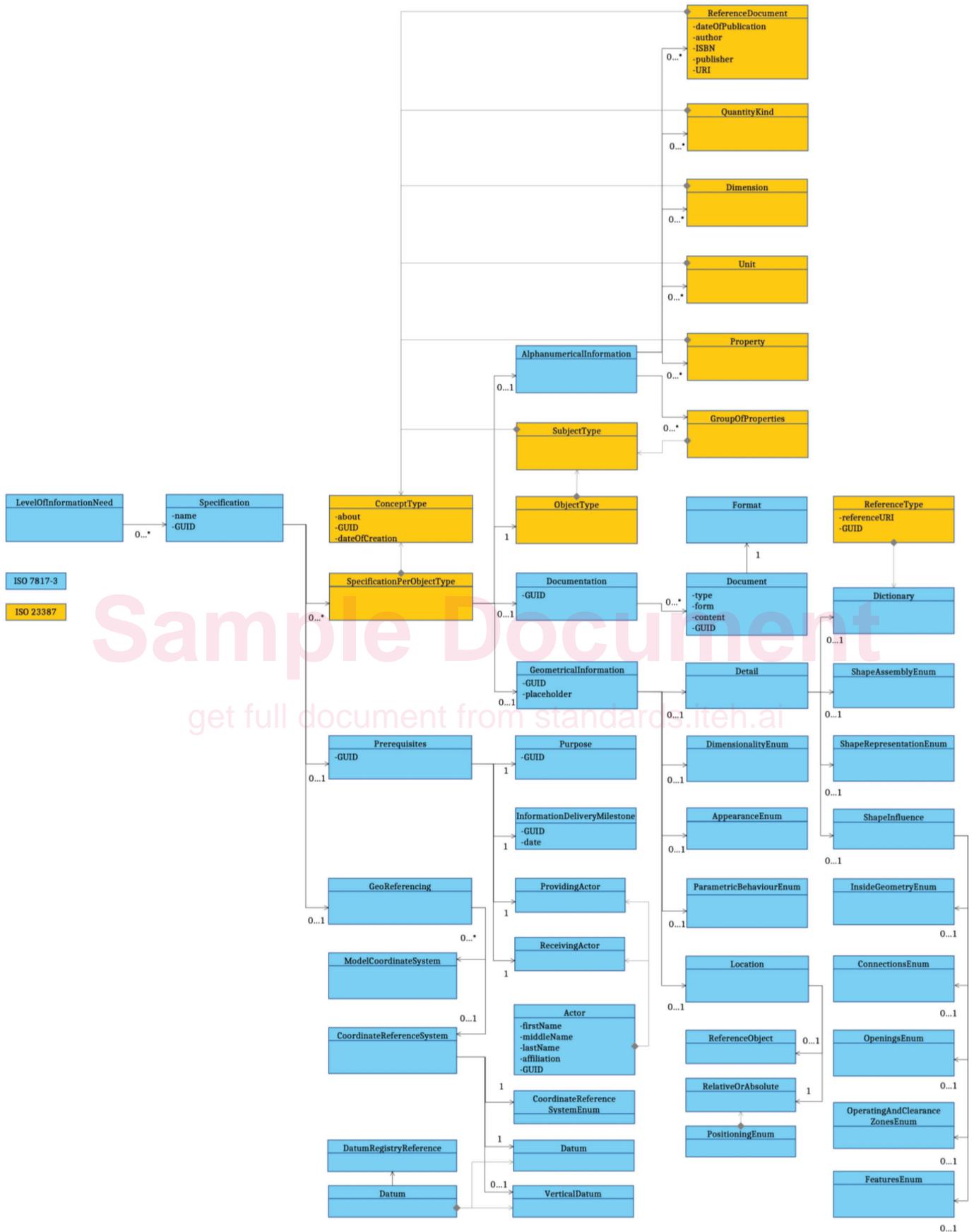


Figure 1 — UML diagram of the level of information need data model