



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 4172:2023**  
**01-april-2023**

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**Tehnična dokumentacija izdelkov - Gradbena dokumentacija - Sestavne risbe montažnih konstrukcij (ISO/DIS 4172:2023)**

Technical product documentation (TPD) - Construction documentation - Drawings for the assembly of prefabricated structures (ISO/DIS 4172:2023)

Technische Zeichnungen - Baukonstruktionszeichnungen - Zeichnungen für den Zusammenbau vorgefertigter Teile (ISO/DIS 4172:2023)

Dessins techniques - Dessins de construction - Dessins d'assemblage des structures préfabriquées (ISO/DIS 4172:2023)

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# DRAFT INTERNATIONAL STANDARD

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### Technical product documentation (TPD) — Construction documentation — Drawings for the assembly of prefabricated structures

ICS: 01.100.30

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## 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)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 08, *Construction documentation*.

This third edition cancels and replaces the second edition (ISO 4172:1991), which has been technically revised.

The main changes compared to the previous edition are as follows:

- validation of normative references;
- provisions of wider levels of drawings;
- The replacement of the term “location drawings” by “general arrangement drawings”.

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).

## Introduction

This standard sets out the requirements for representing prefabricated structures with assembly drawings. Prefabricated structures are construction components that are more likely to be considered as products comprising assemblies, rather than traditional components.

The purpose of this standard is to aid with the following aspects

- defining the drawing types and their hierarchy clearly;
- providing the technical rules within each type of drawings;
- giving the guidelines for the application of representation techniques.

Drawings of prefabricated structures need to consider how they collect, demonstrate, and disseminate product information across all stakeholders, i.e., designers, engineers, manufacturers, and contractors. Product information must support stakeholders to be able to recognize product definitions, relations, and other requirements identified within the life cycle. Equal importance should be given to the drawing of the products using lines, symbols, and other graphic representations, so as to organize the information on the basis of concepts and relationships. Therefore, this document should be adopted in coordination with ISO 7519 and other applicable standards.

ISO 7519 provides a method to organize presentation approaches centering a single given object and therefore provide a complete information hierarchically. Here the object is a wide concept such as a building, system, assembly, component, or part. Such a delivery method is advanced to regularize the information stream within the supply chain by specifying a clear scope either for needs or designated objects, conducting higher-level performances while presenting unambiguous and sufficient data by using BIM or other CAD applications.

This standard establishes the rules for prefabricated structures following the principles in ISO 7519 whilst maintaining symbolic representation applicable in the built environment sector. Standards relating to technical product documentation developed by ISO TC 10, as well as BIM standards by TC 59/SC 13, are considered helpful in adopting this standard.

The illustrations included in this document are intended to illustrate the text and/or to provide examples of the related technical drawing specification. These illustrations are not fully dimensioned and tolerance, showing only the relevant general principles.





# Technical product documentation (TPD) — Construction documentation — Drawings for the assembly of prefabricated structures

## 1 Scope

This International Standard specifies general rules for the preparation of working drawings intended for the field assembly of prefabricated structures for building and civil engineering works.

## 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 128-2:2020, *Technical product documentation (TPD) — General principles of representation — Part 2: Basic conventions for lines*

ISO 128-3, *Technical product documentation (TPD) — General principles of representation — Part 3: Views, sections and cuts*

ISO 129-1, *Technical product documentation (TPD) — Presentation of dimensions and tolerances — Part 1: General principles*

ISO 4157-1, *Construction drawings — Designation systems — Part 1: Buildings and parts of buildings*

ISO 6284, *Tolerances for building - Indication of tolerances on building and construction drawings*

ISO 7200, *Technical product documentation — Data fields in title blocks and document headers*

ISO 7519, *Technical product documentation (TPD) — Construction documentation — General principles of presentation for general arrangement and assembly drawings*

ISO 7573, *Technical product documentation — Parts lists*

ISO 9431, *Construction drawings — Spaces for drawing and for text, and title blocks on drawing sheets*

ISO 14405 (all parts), *Geometrical product specifications (GPS) — Dimensional tolerancing*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10209, ISO 6707-1 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

## ISO/DIS 4172:2022(E)

### 3.1 assembly

set of related components attached to each other

Note 1 to entry: An assembly can be such an aggregation which may perform a systematic function, e.g., a structural frame, a truss, or a modular container.

Note 2 to entry: Assembly can be a nested form which means that an assembly is possibly consisted of sub-assemblies.

[SOURCE: ISO 6707-1:2020, 3.3.5.5, modified — Note 1 and 2 to entry have been added.]

### 3.2 prefabricated structure

structure erected out of prefabricated *structural members* (3.3)

### 3.3 structural member

part of a structure intended to resist forces

Note 1 to entry: Note 1 to entry: In this standard a structural member is commonly a component, sometimes an assembly such as a modular unit or an assembled truss, which is delivered to the construction site as a purpose part.

[SOURCE: ISO 6707-1:2020, 3.3.1.3, modified — Note 1 to entry has been added.]

## 4 Documentation

### 4.1 General

#### 4.1.1 Types of drawings and documents

The documentation for prefabricated structures shall comprise drawings and document types as following:

- general arrangement drawings;
- assembly drawings (optional);
- component drawings;
- detail drawings;
- component schedules and/or parts list;
- specifications.

Structural members and other relevant objects represented on each type of drawing shall be appropriately detailed to clearly communicate design information in accordance with ISO 7519.

#### 4.1.2 Applications of lines

The applications of lines for the designated components shall be as follows:

- continuous extra wide lines (type 1.3) indicating outlines in cutting plane, see [Figure 1, 2 and 3](#);
- continuous wide lines (type 01.2) indicating edges for visible linear components whilst dashed wide lines (type 02.2) for hidden ones, see [Figure 1 and 2](#);
- continuous wide lines (type 01.2) indicating edges for visible panels, slabs or blocks whilst dashed wide lines (type 02.2) for hidden ones, see [Figure 3 and 4](#);

- in the circumstance that all linear components are represented with single lines as extremely simplified presentations, continuous extra wide lines (type 01.3) indicating axial lines for visible linear components whilst dashed extra wide lines (type 02.3) for hidden ones, see [Figure 2](#) and [5](#).

NOTE In this standard the line type numbers are given in accordance with ISO 128-2:2020.

Reference grid shall be drawn with grid lines and modular grid shall be drawn with modular lines (see ISO 8560). The applications of lines shall be as follows:

- continuous narrow line (type 01.1) is applied for modular lines, first stage, and continuous wide line (type 01.2) for second stage;
- long-dashed dotted narrow line (type 04.1) is applied for grid lines or modular lines in an axial position, see [Figure 1](#) and [8](#).

Leader lines and reference lines shall be executed as continuous narrow line (type 01.1), see [Figure 8](#).

NOTE See ISO 128-2 for more information about the basic conventions and applications for leader lines and reference lines.

### 4.1.3 Presentation of dimensions

The general principles for presentation of dimensions shall be in accordance with ISO 129-1.

### 4.1.4 Indications of tolerances and limit deviations

Dimensional tolerances shall be as specified in ISO 14405 series.

Indications of limit deviations shall be in accordance with ISO 6284 to present the following information:

- Allowable manufacture tolerance,
- Allowable construction tolerance.

### 4.1.5 Instructional information

Instructional information for assembling process, including design charts or loading schemes, may be given in the space for text on drawings in accordance with ISO 9431.

NOTE The design charts or loading schemes may indicate loading limitations, erection procedures, and other details concerning erection.

## 4.2 General arrangement drawings

### 4.2.1 General

A general arrangement drawing shall be a simplified representation of a prefabricated structure and the location of designated structural members.

### 4.2.2 Presentation

The general arrangement drawing(s) should present prefabricated structural members by showing the following:

- Reference grid or modular grid relating to the construction works;
- structural members and their designations;
- relationship of structural members to the reference grid, modular grid, or coordinates of key points;
- specific levels of structural members;