



# SLOVENSKI STANDARD SIST EN ISO 19117:2015

01-februar-2015

Nadomešča:

SIST EN ISO 19117:2006

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**Geografske informacije - Prikazi in opisi geografskih podatkov (ISO 19117:2012)**

Geographic information - Portrayal (ISO 19117:2012)

Geoinformation - Präsentation (ISO 19117:2012)

Information géographique - Présentation (ISO 19117:2012)

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

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March 2014

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**Geographic information - Portrayal (ISO 19117:2012)**

Information géographique - Présentation (ISO 19117:2012)

Geoinformation - Darstellung (ISO 19117:2012)

This European Standard was approved by CEN on 13 March 2014.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

The text of ISO 19117:2012 has been prepared by Technical Committee ISO/TC 211 “Geographic information/Geomatics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19117:2014 by Technical Committee CEN/TC 287 “Geographic Information” the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 19117:2006.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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### Endorsement notice

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# INTERNATIONAL STANDARD

**ISO**  
**19117**

Second edition  
2012-12-15

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## Geographic information — Portrayal

*Information géographique — Présentation*

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## ISO 19117:2012(E)

## 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.

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.

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.

ISO 19117 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

This second edition cancels and replaces the first edition (ISO 19117:2005), which has been technically revised.

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## Introduction

This International Standard specifies a conceptual schema for portrayal data, in particular symbols and portrayal functions. Portrayal functions associate features with symbols for the portrayal of the features on maps and other display media. This schema includes classes, attributes, associations and operations that provide a common conceptual framework that specifies the structure of and interrelationships between features, portrayal functions, and symbols. It separates the content of the data from the portrayal of that data, to allow the data to be portrayed in a manner independent of the dataset. This framework is derived from concepts found in existing portrayal implementations, and specifies a conceptual standard for use in future implementations (for example OGC Symbology Encoding and Styled Layer Descriptor Profile of WMS).

This International Standard provides an abstract model for developers of portrayal systems so that they can implement a system with the flexibility to portray geographic data to a user community in a manner that makes sense to that community.

The principal changes in this revision are to expand the concept of portrayal rules to more generic portrayal functions, include definitions for symbols (including parameterized symbols), include both portrayal functions and symbols in portrayal catalogues, and define a core portrayal schema, and extensions for specialized cases.

This revision for the most part expands on the concepts in ISO 19117:2005, but concepts for portrayal specifications (as a symbol instead of an operation), portrayal catalogue (also includes symbols), and rules-based portrayal (multiple rules allowed) have been changed.

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# Geographic information — Portrayal

## 1 Scope

This International Standard specifies a conceptual schema for describing symbols, portrayal functions that map geospatial features to symbols, and the collection of symbols and portrayal functions into portrayal catalogues. This conceptual schema can be used in the design of portrayal systems. It allows feature data to be separate from portrayal data, permitting data to be portrayed in a dataset independent manner.

This International Standard is not applicable to the following:

- standard symbol collection (e.g. International Chart 1 – IHO);
- a standard for symbol graphics (e.g. scalable vector graphics [SVG]);
- portrayal services (e.g. web map service);
- capability for non-visual portrayal (e.g. aural symbology);
- dynamic rendering (e.g. on the fly contouring of tides);
- portrayal finishing rules (e.g. generalization, resolve overprinting, displacement rules);
- 3D symbolization (e.g. simulation modeling).

## 2 Conformance

Any portrayal catalogue, portrayal function and symbol describing the portrayal of geographic information claiming conformance with this International Standard shall pass the relevant tests of the abstract test suite presented in Annex A, and those portrayal extension requirements that are applicable to the extension or extensions being used.

Conformance classes are defined for the portrayal core, and the core plus extensions. These extensions provide additional functionality, and are not mutually exclusive of each other.

### Core portrayal conformance classes

- Conformance class – portrayal core (general)
- Conformance class – portrayal core – symbol
- Conformance class – portrayal core – portrayal function
- Conformance class – portrayal core – portrayal catalogue

### Portrayal function extension conformance classes

- Conformance class – portrayal core plus conditional function extension
- Conformance class – portrayal core plus context extension

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Conformance class – portrayal core plus function symbol parameter extension

### Symbol extension conformance classes

Conformance class – portrayal core plus compound symbol extension

Conformance class – portrayal core plus complex symbol extension

Conformance class – portrayal core plus reusable symbol component extension

Conformance class – portrayal core plus symbol parameter extension

## 3 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.

ISO/TS 19103:2005, *Geographic information — Conceptual schema language*

ISO 19107:2003, *Geographic information — Spatial schema*

ISO 19109:2005, *Geographic information — Rules for application schema*

ISO 19110:2005, *Geographic information — Methodology for feature cataloguing*

ISO 19111:2007, *Geographic information — Spatial referencing by coordinates*

ISO 19115:2003, *Geographic information — Metadata*

ISO/TS 19139:2007, *Geographic information — Metadata — XML schema implementation*

ISO/IEC 19501:2005, *Information technology — Open Distributed Processing — Unified Modeling Language (UML) Version 1.4.2*

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## 4 Terms and definitions

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

### 4.1

#### annotation

any marking on illustrative material for the purpose of clarification

Note 1 to entry: Numbers, letters, **symbols** (4.31), and signs are examples of annotation.

### 4.2

#### class

description of a set of objects that share the same attributes, operations, methods, relationships and semantics

Note 1 to entry: A class may use a set of interfaces to specify collections of operations it provides to its environment.  
See: interface.

[SOURCE: ISO/TS 19103:2005, definition 4.27]

### 4.3

#### complex symbol

**symbol** (4.31) composed of other symbols of different types

EXAMPLE A dashed line symbol with a **point** (4.19) symbol repeated at an interval.

**4.4****compound symbol**

**symbol** (4.31) composed of other symbols of the same type

EXAMPLE A **point** (4.19) symbol that is composed of two point graphics.

**4.5****conditional feature portrayal function**

**function** (4.11) that maps a geographic **feature** (4.8) to a **symbol** (4.31) based on some condition evaluated against a property or attribute of a feature

**4.6****curve**

1-dimensional **geometric primitive** (4.13), representing the continuous image of a line

[SOURCE: ISO 19107:2003, definition 4.23]

**4.7****dataset**

identifiable collection of data

Note 1 to entry: A dataset may be a smaller grouping of data which, though limited by some constraint such as spatial extent or **feature** (4.8) type, is located physically within a larger dataset. Theoretically, a dataset may be as small as a single feature or **feature attribute** (4.9) contained within a larger dataset. A hardcopy map or chart may be considered a dataset.

[SOURCE: ISO 19115:2003, definition 4.2]

**4.8****feature**

abstraction of real world phenomena [SIST EN ISO 19117:2015](https://standards.iteh.ai/catalog/standards/sist/b507e0bc-67d3-4412-820f-1c57a156c8a1/iso-19117-2015)

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Note 1 to entry: A feature may occur as a type or an **instance** (4.14). Feature type or feature instance shall be used when only one is meant.

[SOURCE: ISO 19101:2002, definition 4.11]

**4.9****feature attribute**

characteristic of a **feature** (4.8)

EXAMPLE 1 A feature attribute named “colour” may have an attribute value “green” which belongs to the data type “text”.

EXAMPLE 2 A feature attribute named “length” may have an attribute value “82.4” which belongs to the data type “real”.

Note 1 to entry: A feature attribute has a name, a data type, and a value domain associated to it. A feature attribute for a feature **instance** (4.14) also has an attribute value taken from the value domain.

Note 2 to entry: In a feature catalogue, a feature attribute may include a value domain but does not specify attribute values for feature instances.

[SOURCE: ISO 19101:2002, definition 4.12]

**4.10****feature portrayal function**

**function** (4.11) that maps a geographic **feature** (4.8) to a **symbol** (4.31)