# SLOVENSKI STANDARD
# SIST EN ISO 19105:2005

**01-april-2005**

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**Geografske informacije - Ustreznost in preskušanje (ISO 19105:2000)**

Geographic information - Conformance and testing (ISO 19105:2000)

Geoinformation - Konformität und Prüfung (ISO 19105:2000)



Information géographique - Conformité et essais (ISO 19105:2000)

**Ta slovenski standard je istoveten z: EN ISO 19105:2005**



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# Geographic information - Conformance and testing (ISO 19105:2000)

Information géographique - Conformité et essais (ISO 19105:2000)

Geoinformation - Konformität und Prüfung (ISO 19105:2000)

This European Standard was approved by CEN on 24 December 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.



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## Foreword

The text of ISO 19105:2000 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 19105:2005 by Technical Committee CEN/TC 287 "Geographic Information", the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by July 2005, and conflicting national standards shall be withdrawn at the latest by July 2005.

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

### Endorsement notice



The text of ISO 19105:2000 has been approved by CEN as EN ISO 19105:2005 without any modifications.

INTERNATIONAL STANDARD

**ISO 19105**

First edition
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# Geographic information — Conformance and testing

*Information géographique — Conformité et essais*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 19105 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

Annex A forms a normative part of this International Standard. Annex B is for information only.

# Introduction

The scope of ISO/TC 211 is standardization in the field of digital geographic information. This work aims at establishing a structured set of International Standards for information concerning objects or phenomena that are directly or indirectly associated with a location relative to the Earth. These International Standards may specify, for geographic information, methods, tools and services for data management (including definition and description), acquiring, processing, analysing, accessing, presenting and transferring such data in digital/electronic form between different users, systems and locations. The work will be linked to appropriate International Standards for information technology and data, where possible, and provide a framework for the development of sector-specific applications using geographic data.

This International Standard provides the framework, concepts, and methodology for testing and the criteria to be achieved to claim conformance to this family of International Standards. This International Standard is based in part on ISO 9646-1 which describes conformance and testing in Open Systems Interconnection (OSI), ISO 10303-31 which describes conformance and testing in industrial automation systems and integration, and ISO 10641 which describes conformance and testing for computer graphics and image processing. While the framework of conformance testing described in these three International Standards is used in this International Standard, some concepts have been modified for use in this particular domain.

The objective of standardization in the field of digital geographic information cannot be completely achieved unless data and systems can be tested to determine whether they conform to the relevant geographic information standards. Conformance testing is the testing of a candidate product for the existence of specific characteristics required by an International Standard in order to determine the extent to which that product is a conforming implementation. It involves testing the capabilities of an implementation against both the conformance requirements in the relevant International Standard(s) and the statement of the implementation's capabilities.



A framework of an abstract test suite (ATS) is standardized for relevant standards in ISO/TC 211. The standardization of ATS requires international definition and acceptance of a common test methodology, together with appropriate test methods and procedures. The purpose of this International Standard is to define this methodology, to provide a framework for specifying ATS, and to define the procedures to be followed during conformance testing.

Test methods are also addressed in this International Standard; however, any organization contemplating the use of test methods defined in this International Standard should carefully consider the constraints on their applicability. Conformance testing does not include robustness testing, acceptance testing and performance testing, because the geographic information family of standards does not establish requirements for these areas.

The main body of this International Standard is structured as follows. The general framework of conformance including the definition of a conforming implementation appears in clause 5. Conformance testing methodology is described in clause 6. The possible test methods for testing conformance to the ISO geographic information standards are discussed in clause 7. The relationship between ATS and ETS is presented in clause 8. The bibliography on conformance testing is given at the end. Guidelines for writing conformance clauses and associated templates are provided in annex A.

# Geographic information — Conformance and testing

## 1 Scope

This International Standard specifies the framework, concepts and methodology for testing and criteria to be achieved to claim conformance to the family of ISO geographic information standards. It provides a framework for specifying abstract test suites (ATS) and for defining the procedures to be followed during conformance testing. Conformance may be claimed for data or software products or services or by specifications including any profile or functional standard.

Standardization of test methods and criteria for conformance to geographic information standards will allow verification of conformance to those standards. Verifiable conformance is important to geographic information users, in order to achieve data transfer and sharing.

This International Standard is applicable to all the phases of conformance and testing. These phases are characterized by the following major activities:

a) the definition of ATS for conformance to the ISO geographic information standards;

b) the definition of test methods for conformance to the ISO geographic information standards;

c) the conformance assessment process carried out by a testing laboratory for a client, culminating in the production of a conformance test report.



This International Standard specifies the requirements for, and gives guidance on, the procedures to be followed in conformance testing for the ISO geographic information standards. It includes only such information as is necessary to meet the following objectives:

1) to achieve confidence in the tests as a measure of conformance;

2) to achieve comparability between the results of corresponding tests applied in different places at different times;

3) to facilitate communication between the parties responsible for the activities described in 1) and 2).

This International Standard provides a framework for certification (an administrative procedure which may follow conformance testing) in informative annex B.

The following topics are outside the scope of this International Standard.

a) The description of requirements for procurement and contracts.

b) Testing by means of test methods which are specific to particular applications or systems.

c) Acceptance testing, performance testing and robustness testing.

The framework established by this International Standard includes the concept of executable test suites (ETS). These, by their very nature, cannot be standardized; consequently, standardization of ETS is outside the scope of this International Standard.

# 2 Conformance

## 2.1 Conformance requirements

This International Standard defines two classes of conformance: class A and class B. Class A concerns conformance of specifications, including any profile or functional standard, with the series of ISO geographic information standards as a whole. Class B concerns conformance of conformance clauses as defined by this International Standard. Further requirements for conformance of profiles in addition to class A are given in ISO 19106.

NOTE Conformance is defined in annex A.

## 2.2 Abstract test suite

### 2.2.1 Test case for conformance class A

a) Test purpose: verify conformance with the ISO geographic information standards.

b) Test method: manually check that all specifications, including profiles and functional standards, claiming conformance to the ISO geographic information standards have a conformance clause. This conformance clause shall not exclude conformance with any of the ISO geographic information standards. Conformance testing shall be performed in accordance with clause 6. The test method used shall be in accordance with clause 7.

c) Reference: ISO 19105

d) test type: capability test



### 2.2.2 Test case for conformance class B



a) Test purpose: verify that the conformance clause is written in a correct format.

b) Test method: manually check if the conformance clause is written according to normative annex A.

c) Reference: ISO 19105:2000, annex A.

d) Test type: capability test.

# 3 Terms and definitions

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

**3.1**
**abstract test case**
generalized test for a particular requirement

NOTE An abstract test case is a formal basis for deriving executable test cases. One or more test purposes are encapsulated in the abstract test case. An abstract test case is independent of both the implementation and the values. It should be complete in the sense that it is sufficient to enable a test verdict to be assigned unambiguously to each potentially observable test outcome (i.e. sequence of test events).

**3.2**
**abstract test method**
method for testing implementation independent of any particular test procedure