

SVENSK STANDARD

SS-EN ISO 19137:2008

Fastställt/Approved: 2008-04-21

Publicerad/Published: 2009-01-30

Utgåva/Edition: 1

Språk/Language: engelska/English

ICS: 35.240.01; 35.240.30; 35.240.50; 35.240.60; 35.240.70

Geografisk information – Kärnprofil på rumsliga aspekter (ISO 19137:2007)

Geographic information – Core profile of the spatial schema (ISO 19137:2007)

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-66092>

Hitta rätt produkt och ett leveranssätt som passar dig

Standarder

Genom att följa gällande standard både effektiviserar och säkrar du ditt arbete. Många standarder ingår dessutom ofta i paket.

Tjänster

Abonnemang är tjänsten där vi uppdaterar dig med aktuella standarder när förändringar sker på dem du valt att abonnera på. På så sätt är du säker på att du alltid arbetar efter rätt utgåva.

e-nav är vår online-tjänst som ger dig och dina kollegor tillgång till standarder ni valt att abonnera på dygnet runt. Med e-nav kan samma standard användas av flera personer samtidigt.

Leveranssätt

Du väljer hur du vill ha dina standarder levererade. Vi kan erbjuda dig dem på papper och som pdf.

Andra produkter

Vi har böcker som underlättar arbetet att följa en standard. Med våra böcker får du ökad förståelse för hur standarder ska följas och vilka fördelar den ger dig i ditt arbete. Vi tar fram många egna publikationer och fungerar även som återförsäljare. Det gör att du hos oss kan hitta över 500 unika titlar. Vi har även tekniska rapporter, specifikationer och "workshop agreement".

Matriser är en översikt på standarder och handböcker som bör läsas tillsammans. De finns på sis.se och ger dig en bra bild över hur olika produkter hör ihop.

Standardiseringsprojekt

Du kan påverka innehållet i framtida standarder genom att delta i någon av SIS ca 400 Tekniska Kommittéer.

Find the right product and the type of delivery that suits you

Standards

By complying with current standards, you can make your work more efficient and ensure reliability. Also, several of the standards are often supplied in packages.

Services

Subscription is the service that keeps you up to date with current standards when changes occur in the ones you have chosen to subscribe to. This ensures that you are always working with the right edition.

e-nav is our online service that gives you and your colleagues access to the standards you subscribe to 24 hours a day. With e-nav, the same standards can be used by several people at once.

Type of delivery

You choose how you want your standards delivered. We can supply them both on paper and as PDF files.

Other products

We have books that facilitate standards compliance. They make it easier to understand how compliance works and how this benefits you in your operation. We produce many publications of our own, and also act as retailers. This means that we have more than 500 unique titles for you to choose from. We also have technical reports, specifications and workshop agreements.

Matrices, listed at sis.se, provide an overview of which publications belong together.

Standardisation project

You can influence the content of future standards by taking part in one or other of SIS's 400 or so Technical Committees.

Europastandarden EN ISO 19137:2008 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 19137:2008.

ISO 19137:2007 finns tidigare utgiven som svensk standard med beteckning SS-ISO 19137:2007, utgåva 1.

The European Standard EN ISO 19137:2008 has the status of a Swedish Standard. This document contains the official English version of EN ISO 19137:2008.

ISO 19137:2007 has been implemented and published as a Swedish Standard with the designation SS-ISO 19137:2007, edition 1.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00.

Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), tel +46 8 555 520 00.

Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

SIS Förlag AB, SE 118 80 Stockholm, Sweden. Tel: +46 8 555 523 10. Fax: +46 8 555 523 11.

E-mail: sis.sales@sis.se Internet: www.sis.se

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 19137

April 2008

ICS 35.240.70

English Version

Geographic information - Core profile of the spatial schema (ISO 19137:2007)

Information géographique - Profil minimal du schéma spatial (ISO 19137:2007)

Geoinformation - Kernprofil des Raumbezugsschemas (ISO 19137:2007)

This European Standard was approved by CEN on 21 March 2008.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

SS-EN ISO 19137:2008 (E)

Contents		Page
Foreword		iv
Introduction		v
1 Scope		1
2 Conformance		1
3 Normative references		1
4 Terms, definitions, symbols and abbreviated terms		1
5 Geometry packages		1
5.1 Class diagram		1
5.2 Omitted constructs		3
5.3 Classes retained without additional constraints		3
5.4 Concrete classes made abstract		3
5.5 Associations		3
5.6 GM_Position		5
5.7 GM_CurveSegment		5
5.8 GM_CurveInterpolation		5
5.9 GM_SurfaceInterpolation		5
5.10 GM_SurfacePatch		5
5.11 GM_Polygon		6
5.12 GM_CompositeCurve		6
6 Topology packages		6
Annex A (informative) Supported specifications		7
Annex B (normative) Abstract test suite		8
Annex C (informative) Extending the core		9
Annex D (informative) Examples		11
Bibliography		13

Foreword

The text of ISO 19137:2007 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 19137:2008 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 October 2008, and conflicting national standards shall be withdrawn at the latest by October 2008.

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.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 19137:2007 has been approved by CEN as a EN ISO 19137:2008 without any modification.

SS-EN ISO 19137:2008 (E)

Introduction

This International Standard provides a core profile of the geometry part of the spatial schema specified in ISO 19107 that is easy to understand and has a low cost of implementation. The profile is intentionally small and limited in order to increase the chance of gaining widespread market acceptance.

A simple topology package extension of the profile might be developed as a future part of this International Standard. Many user communities have requirements that go beyond the capabilities provided by this International Standard, and they may define custom profiles.

While ISO 19136 also implements a profile of ISO 19107, it is a comprehensive profile, not a core profile.

This International Standard supports data types for geometric primitives of 0, 1 and 2 dimensions. It satisfies the conformance test A.1.1.3 of ISO 19107:2003. It is in conformance class 1 of ISO 19106.

Annex A lists some specifications that were supported by this International Standard at the time of its publication. Annex B specifies an abstract test suite for determining whether an application schema or profile is conformant to the core profile. Annex C discusses how to extend the core profile. Annex D presents two examples.

Geographic information — Core profile of the spatial schema

1 Scope

This International Standard defines a core profile of the spatial schema specified in ISO 19107 that specifies, in accordance with ISO 19106, a minimal set of geometric elements necessary for the efficient creation of application schemata.

This International Standard supports many of the spatial data formats and description languages already developed and in broad use within several nations or liaison organizations.

NOTE Data modelled with this International Standard are consistent with spatial models already developed and used by a number of organizations; see Annex A.

2 Conformance

An abstract test suite for this International Standard is given in Annex B.

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 19107:2003, *Geographic information — Spatial schema*

ISO 19111:2003, *Geographic information — Spatial referencing by coordinates*

4 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the same terms, definitions, symbols and abbreviated terms given in ISO 19107 apply.

5 Geometry packages

5.1 Class diagram

Figure 1 depicts the complete profile of ISO 19107. The constraints on ISO 19107 are too many to be shown graphically in Figure 1, but are described in 5.2 to 5.12. This International Standard is limited to applications in which

- there is a 1:1 mapping between features and geometric primitives,
- all geometric primitives are referenced to a single coordinate reference system,

SS-EN ISO 19137:2008 (E)

- all curves are composed of line segments, and
- all surfaces are composed of planar facets.

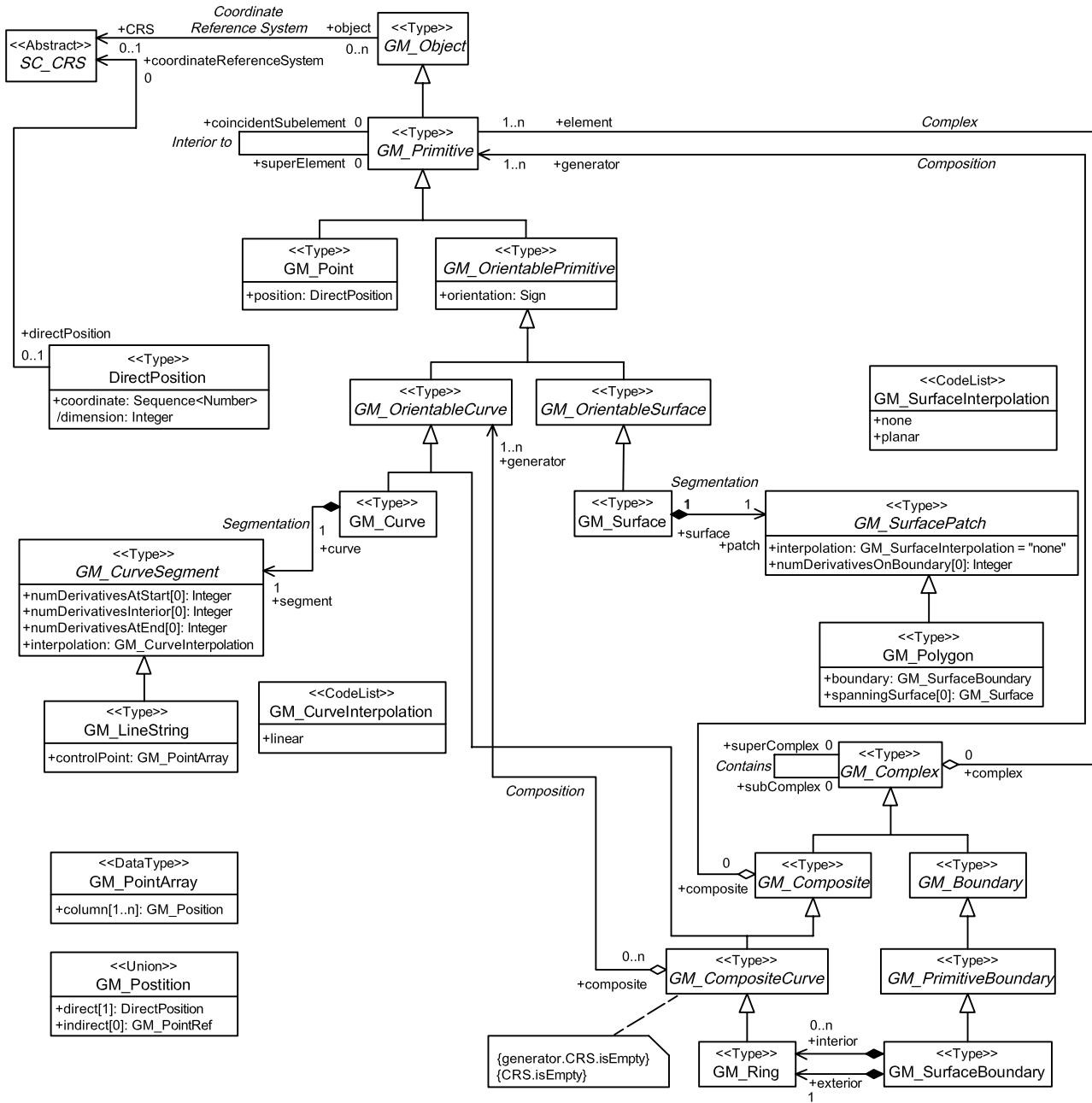


Figure 1 — The complete profile

Abstract classes that appear in Figure 1 and are needed to provide compatibility with ISO 19107 are omitted from the simplified representation in Figure 2.

NOTE Abstract classes that are needed for compatibility with ISO 19107 have been omitted. Also, the inheritance relation between `GM_Ring` and `GM_Object` is not shown here.

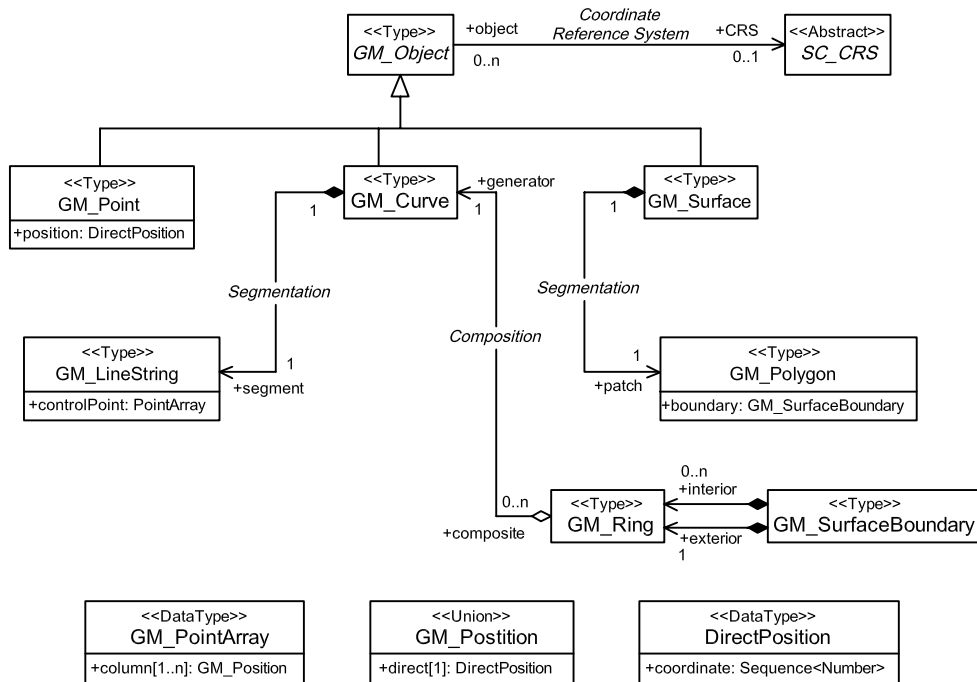


Figure 2 — A simplified, “flattened” view to the profile for illustrating its structure

5.2 Omitted constructs

This International Standard uses no operations or interfaces from ISO 19107. Also, any other constructs from ISO 19107 are omitted in this International Standard unless they are mentioned in 5.3.

5.3 Classes retained without additional constraints

The following classes are the same as in ISO 19107.

- **Abstract classes:** GM_Object (ISO 19107:2003, 6.2.2); GM_Boundary (6.3.2); GM_PrimitiveBoundary (6.3.4); GM_Primitive (6.3.10); GM_OrientablePrimitive (6.3.13); GM_Complex (6.6.2); GM_Composite (6.6.3).
- **Concrete classes:** GM_Ring (ISO 19107:2003, 6.3.6), GM_SurfaceBoundary (6.3.7); GM_Point (6.3.11); GM_Curve (6.3.16); GM_Surface (6.3.17); DirectPosition (6.4.1); GM_PointArray (6.4.6); GM_LineString (6.4.10).

Like ISO 19107, this International Standard refers to the abstract class SC_CRS, which is defined in ISO 19111.

5.4 Concrete classes made abstract

The following classes are concrete in ISO 19107, but abstract in this profile: GM_OrientableCurve (6.3.14); GM_OrientableSurface (6.3.15); GM_CompositeCurve (6.6.5).

5.5 Associations

5.5.1 Associations retained without additional constraints

The following associations are the same as in ISO 19107: Coordinate Reference System (ISO 19107:2003, 6.2.2.17); association “Composition” between GM_CompositeCurve and GM_OrientableCurve (ISO 19107:2003, Figure 28).