

# General featuretypes, datatypes and codelists



Norwegian Mapping Authority  
[gerd.mardal@statkart.no](mailto:gerd.mardal@statkart.no)

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## 1.1 Applications schema

### Accessibility

<<DataType>> UniversalDesign
+ accessibilityAppraisal : AccessibilityAppraisal + universalDesignFacility [0..1] : CharacterString + information [0..1] : CharacterString

<<CodeList>> AccessibilityAppraisal
+ Not accessible = 1 + Poor accessibility = 2 + Available = 3 + Not assessed = 4

### DirectionVector

<<DataType>> DirectionVector
+ ??directionValue / bearingValue : Real + directionUnits : DirectionUnits + directionReference : DirectionReference

<<CodeList>> DirectionUnits
+ Grad (angular unit of measurement, 1/400 of a full circle) = 2 + Degree (angular unit of measurement, 1/360 of a full circle) = 1 + Radians = 3

<<CodeList>> DirectionReference
+ Local = 3 + Magnetic north = 2 + True north = 1

### General codelists

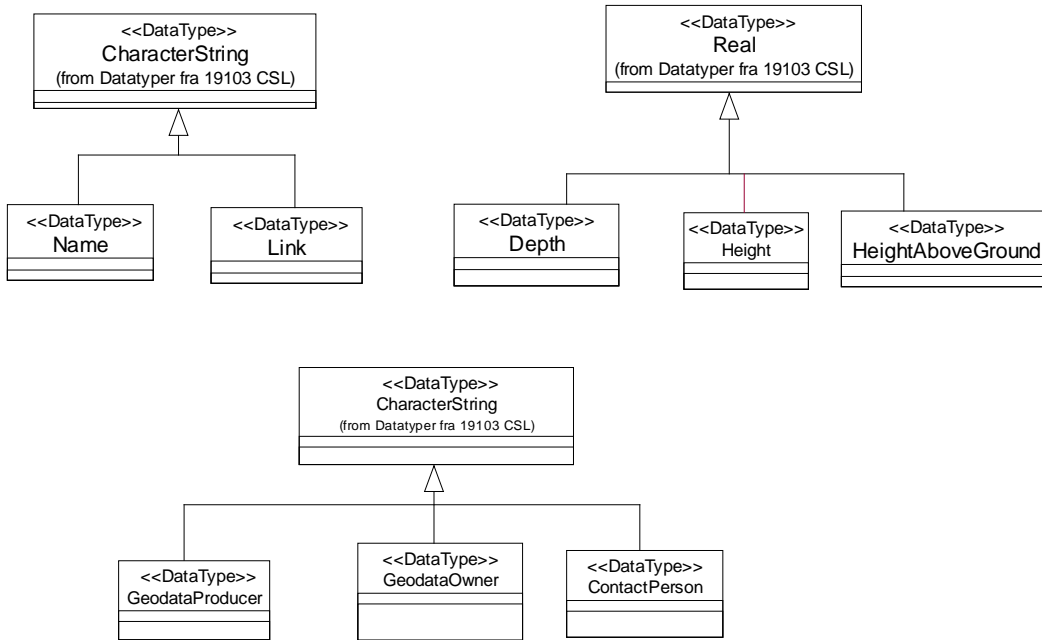
<<CodeList>> AreaValueIndicator
A-indicator = A B-Indicator = B C-Indicator = C Not classified = X

<<CodeList>> HeightReference
+ Height measured to the foot of the object = FOT + Height measured to the top of the object = TOP + Unknown = UKJENT

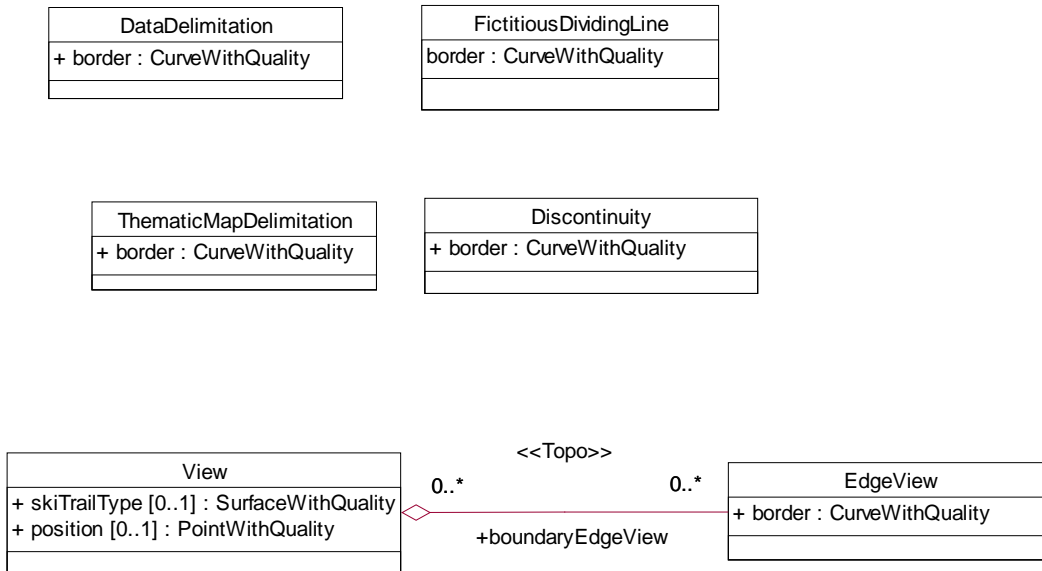
<<CodeList>> TimeReference
+ Coordinated Universal Time = UTC + Local time = LOK

<<CodeList>> Ownership
+ Public + Private + Miscellaneous

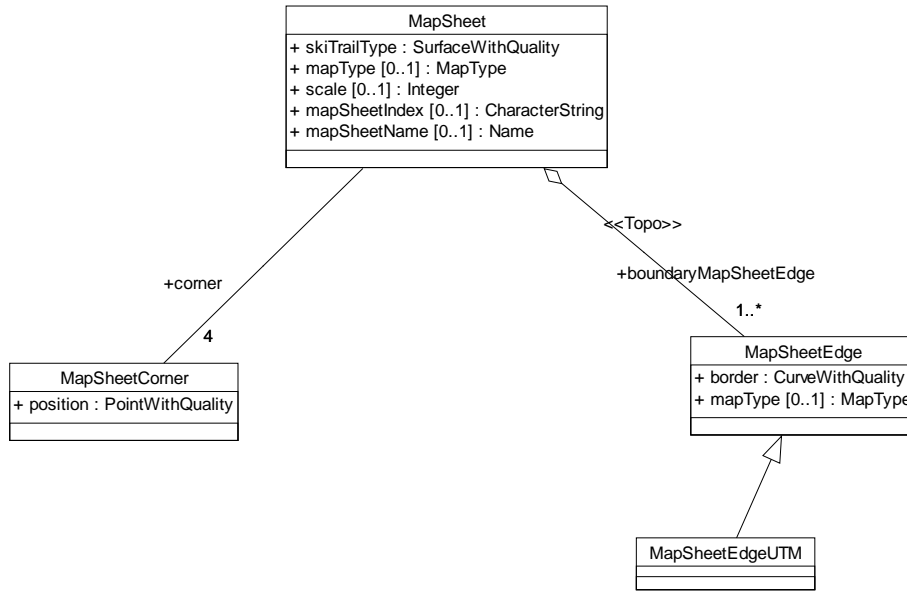
### General datatypes



### General delimitations



# Mapsheet



<<CodeList>> MapType
+ Norway 1 to 50000_M711 in NGO1948 = 1
+ Norway 1 to 50000_M711 in EUREF89 = 2
+ Touring map 1 : 50000 EUREF89
+ Norway 1 to 250000 in NGO1948 = 4
+ Norway 1 to 250000 in UTM
+ ECON Techn. map 1 to 500 NGO1948
+ ECON Techn. map 1 to 1000 NGO1948 = 7
+ ECON Techn. map 1 to 5000 NGO1948 = 8
+ ECON Techn. map 1 to 500 EUREF89 = 9
+ ECON Techn. map 1 to 1000 EUREF89 = 10
+ ECON Techn. map 1 to 2000 EUREF89 = 11
+ ECON Techn. map 1 to 5000 EUREF89 = 12
+ ECON Techn. map 1 to 10000 EUREF89 = 13
+ ECON Techn. map 1 to 20000 EUREF89 = 14
+ Møre - NGO 56A NGO1948 = 15
+ Møre - NGO 56B NGO1948 = 16
+ Møre - NGO 64A NGO1948 = 17
+ Møre - NGO 64B NGO1948 = 18
+ Local network, Oslo = 19
+ Local network, Bærum = 20
+ Local network, Asker = 21
+ Local network, Lillehammer = 22
+ Local network, Drammen = 23
+ Local network, Bergen_Askøy = 24
+ Local network, Trondheim = 25
+ Local network, Bodø = 26
+ Local network, Kristiansund = 27
+ Local network, Ålesund

GridSurface
+ skiTrailType : SurfaceWithQuality
+ position : PointWithQuality
+ gridType [0..1] : GridType

Gridlines
+ border : CurveWithQuality
+ gridType [0..1] : GridType

<<CodeList>> GridType
+ NGO local axis
+ Euref89 local UTM zone
+ Graticule
+ Other local

ZoneDivision
+ centerline : CurveWithQuality
+ zoneType [0..1] : ZoneType

<<CodeList>> ZoneType
+ EUREF89 UTM
+ NGO
+ ED50 UTM
+ Møre NGO 64

## Position quality

<<DataType>> PositionQuality
measuringMethod : MeasuringMethod accuracy [0..1] : Integer visibility [0..1] : Visibility measuringMethodHeight [0..1] : MeasuringMethodHeight accuracyHeight [0..1] : Integer maximumDeviation [0..1] : Integer

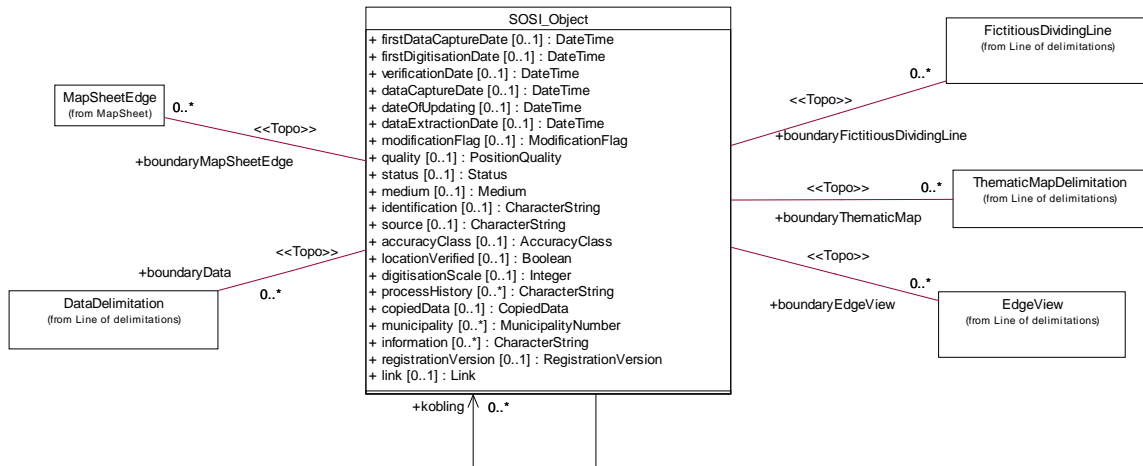
<<CodeList>> Visibility
+ Fully visible/locatable in terrain = 0 + Difficult to locate in terrain = 1 + Moderately visible in aerial photo/model = 2 + Poor visibility/not visible in aerial photo/model = 3

<<CodeList>> MeasuringMethodHeight
Measured in terrain = 10 Total station = 11 Theodolite with electronic rangefinder = 12 Theodolite with measuring tape = 13 Orthogonal method = 14 Levelling Taken from plan = 18 Miscellaneous = 19 Stereo instrument = 20 Aerotriangulated = 21 Analytical plotter = 22 Autograph - normal registration = 23 Digital stereo instrument = 24 Airbourne laser scanner = 36 Generated data (interpolation) = 60 Generated in terrain model = 61 Weighted mean = 62 Generated circular geometry = 63 Generalised = 64 Connection point/edge point = 66 Coordinates retrieved from JREG (?) = 67 Coordinates retrieved from GAB = 68 Calculated (?) = 69 Special methods = 70 Measured with rate of climb indicator Stipulated by court decision or royal decree = 78 Other (to be specified in file header) = 79 Inertial ??positioning/localization = 90 GPS code measurement, relative measurements = 91 GPS code measurement, individual point determination = 92 GPS phase measurement, static measurement = 93 GPS phase measurement, other methods = 94 Combination of GPS/Inertia = 95 GPS phase measurement RTK = 96

<<CodeList>> MeasuringMethod
+ Measured in terrain = 10 + Total station = 11 + Theodolite with electronic rangefinder = 12 + Theodolite with measuring tape = 13 + Orthogonal method = 14 + MeasureOut = 15 + Taken from plan = 18 + Stereo instrument = 20 + Aerotriangulated = 21 + Analytical plotter = 22 + Autograph - normal registration = 23 + Digital stereo instrument = 24 + Scanned from map = 30 + Scanned from pencilled original = 31 + Scanned from ??scribing folio = 32 + Scanned from transparency folio - good quality = 33 + Scanned from transparency folio - inferior quality = 34 + Scanned from paper / hard copy = 35 + Airbourne laser scanner = 36 + Digitised on dig.table from orthophoto/aerial photo = 40 + Digitised from orthophoto - film = 41 + Digitised from orthophoto - photocopy = 42 + Digitised from aerial photo - mono-digitised from film = 43 + Digitised from aerial photo - mono-digitised from photocopy = 44 + Digitised from orthophoto = 45 + Digitised on screen from satellite photo = 46 + Digitised on dig.table from line-map = 50 + Digitised on dig.table from pencilled original = 51 + Digitised on dig.table from ??scribing folio = 52 + Digitised on dig.table from transparency film - good quality = 53 + Digitised on dig.table from transparency film - lower quality = 54 + Digitised on dig.table from paper copy = 55 + Digitised on screen from scanned photographic combination = 56 + Generated data (interpolation) = 60 + Generated in terrain model = 61 + Weighted mean = 62 + Generated circular geometry = 63 + Generalised = 64 + Generated central point = 65 + Connection point/edge point = 66 + Coordinates retrieved from GAB = 67 + Coordinates retrieved from JREG = 68 + Calculated = 69 + Special methods + Measured with range pole = 71 + Measured with + Measured with measuring wheel = 73 + Measured with rate of climb indicator + Stipulated by court decision or royal decree = 78 + Free-hand drawing = 80 + Digitised from sketching on map = 81 + Directly input on screen = 82 + Inertial ??positioning/localization = 90 + GPS code measurement, relatively measurements = 91 + GPS code measurement, individual measurements = 92 + GPS phase measurement, static measurement = 93 + GPS phase measurement, other methods = 94 + Combination of GPS/Inertia = 95 + GPS phase measurement RTK = 96 + GPS phase measurement, float solution = 97 + Unknown measurement method = 99

<<CodeList>> SoilRegisterSreg (from Soil register)
+ Easily arable fully cultivated land = 1 + Less easily arable fully cultivated land = 2 + Fully cultivated land of low arability = 3 + ??(Surface-cultivated / Superficially cultivated) land = 4 + Home fields grazing land = 5 + Forest of particularly high productivity class = 6 + Forest of high productivity class = 7 + Forest of medium productivity class = 8 + Forest of low productivity class = 9 + Unproductive forest = 10 + Marsh = 11 + Other soil-covered firm ground = 12 + Shallow soil and exposed bedrock = 13

### SOSI\_objectFull



<<DataType>> ModificationFlag
+ typeOfModification : TypeOfChange + timeOfModification : DateTime

<<DataType>> RegistrationVersion
+ product : CharacterString + version : CharacterString

<<DataType>> PositionQuality (from PositionQuality)
+ measuringMethod : MeasuringMethod + accuracy [0..1] : Integer + visibility [0..1] : Visibility + measuringMethodHeight [0..1] : MeasuringMethodHeight + accuracyHeight [0..1] : Integer + maximumDeviation [0..1] : Integer

<<DataType>> CopiedData
+ areald : Integer + originalDataHost : CharacterString + copyDate : DateTime

<<CodeList>> Status
+ In use = B + Operations = D + Existing (default) = E + Obsolete = F + In disrepair = I + Condemned = K + Discontinued = N + Rebuilt = O + Planned = P + Illustrated as planned + Planned, engineered = P2 + In progress = U + Approved = V + Removed = FJ + Tenkt tatt i bruk = TT

<<CodeList>> AccuracyClass
+ Inferior = 1 + Good = 2 + Very good = 3 + Especially good = 4

<<CodeList>> Medium
+ Always in water = V + In Building/ building-related installation = B + In air = L + On glacier = I + On the seafloor = S + In the terrain/at ground level = T + On the water surface = O + Sporadically underwater = D + Under glacier = J + Under the seafloor + Under the terrain = U + Unknown = X



## Special lines and points with quality

Isogon
+ centerline : CurveWithQuality

Isoline
+ centerline : CurveWithQuality

Isotherm
+ centerline : CurveWithQuality

SpecialDetail
+ position : PointWithQuality
+ centerline : CurveWithQuality

FreeTextMap
+ position : PointWithQuality

## 1.2 Description

### 1.2.1 <<DataType>> UniversalDesign

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
1	Datatype UniversalDesign	indicates to what extent an object is accessible for disabled people				
1.1	accessibilityAppraisal	evaluation of accessibility for people with disabilities	1	1	AccessibilityAppraisal	
1.2	universalDesignFacility	description of accessible facilities in connection with the object	0	1	CharacterString	
	information		0	1	CharacterString	

### 1.3.1 CodeLists

#### 13.1.1<<CodeList>> AccessibilityAppraisal

Nr	Code name	Definition/Description	Code
1	CodeList AccessibilityAppraisal	fixed scale for appraisal of accessibility	
1.1	Not accessible	Assessed and found not to fulfil minimum requirements. This class has been added because one in certain connections, such as in efforts for	1
1.2	Poor accessibility	partially fulfils minimum requirements	2
1.3	Available	fulfils minimum requirements to accessibility for persons with	3
	Not assessed		4

**1.4.1 <<DataType>> DirectionVector**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
1	Datatype DirectionVector	directed line segment in the plane				
1.1	??directionValue/ bearingValue	a general element stating ??direction/bearing	1	1	Real	
1.2	directionUnits		1	1	DirectionUnits	
	directionReferen ce		1	1	DirectionRefer ence	

## 1.5.1 CodeLists

### 1.5.1.1 <<CodeList>> DirectionUnits

Nr	Code name	Definition/Description	Code
1	CodeList DirectionUnits	units for direction	
1.1	Grad (angular unit of measurement, 1/400 of a full circle)	400 ??[sic] degree division with positive clockwise direction	2
1.2	Degree (angular unit of measurement, 1/360 of a full circle)	360 degree division with positive clockwise direction	1
1.3	Radians	Radians with positive clockwise direction	3

### 1.5.1.2 <<CodeList>> DirectionReference

Nr	Code name	Definition/Description	Code
2	CodeList DirectionReference	reference system for direction	
2.1	Local		3
2.2	Magnetic north		2
2.3	True north	(default)	1

### 1.5.1.3 <<CodeList>> AreaValueIndicator

Nr	Code name	Definition/Description	Code
3	CodeList AreaValueIndicator	indication which shows to what extent one may expect objections if changes to the land-use plan are made Note: Must not be confused with mapping standards, FKB A-D which are indicated area by area within a municipality.	
3.1	A-indicator	FF-Indicates an A-area (very valuable area). Will normally entail that new planned uses which reduce the value will meet very strong objections.	A
3.2	B-Indicator	FF-Indicates a B-area (valuable area). Entails that appropriation for other planned uses must be carefully evaluated in relation to the value.	B
3.3	C-Indicator	FF-Indicates a C-area (ordinary areas). Re-zoning for development purposes will normally not be opposed based on the value.	C
3.4	Not classified	FF-No assessment. Areas which for various reasons are not included in the assessment, for	X

		example as a result of insufficient basis in data.	
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#### 1.5.1.4 <<CodeList>> HeightReference

Nr	Code name	Definition/Description	Code
4	CodeList HeightReference	coordinate registration carried out on the top or bottom of an object	
4.1	Height measured to the foot of the object		FOT
4.2	Height measured to the top of the object		TOP
4.3	Unknown	FF-is not used during new registration	UKJENT

#### 1.5.1.5 <<CodeList>> TimeReference

Nr	Code name	Definition/Description	Code
5	CodeList TimeReference	reference system for statement of time	
5.1	Coordinated Universal Time	Maintained by the Bureau International des Poids et Mesures (International Bureau of Weights and Measures) and the International Earth Rotation Service (IERS) that forms the basis of a coordinated dissemination of standard frequencies and time signals [Re	UTC
5.2	Local time		LOK

#### 1.5.1.6 <<CodeList>> Ownership

Nr	Code name	Definition/Description	Code
6	CodeList Ownership	ownership in connection with an object	
6.1	Public		
6.2	Private		
6.3	Miscellaneous		

**1.6.1 <<DataType>> Link**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
1	Datatype Link	reference to an element of information, either locally or globally Examples:As local: //skrisrv2/tjenester/sosiforv/web/welcome.htm As global: http://www.statkart.no/standard/sosi/ACCESS/welcome.htm Note: One should be careful about using URI/URL on				Subtype of CharacterS tring

**1.6.2 <<DataType>> Name**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
2	Datatype Name	word by which someone or something is named				Subtype of CharacterS tring

**1.6.3 <<DataType>> Depth**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
3	Datatype Depth	vertical distance from a given reference level down to the bottom or another object [H]				Subtype of Real

**1.6.4 <<DataType>> Height**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
4	Datatype Height	the vertical distance of a point above a physical or mathematically defined reference surface [H]				Subtype of Real

**1.6.5 <<DataType>> HeightAboveGround**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
5	Datatype HeightAboveGround	the objects height above the ground Note: May be relevant in connection with various types of objects				Subtype of Real

		with a vertical extent, such as telephone poles, fences, etc. Must be used with caution and it must be clear which detail of the object or the objects				
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### 1.6.6 <<DataType>> GeodataOwner

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
6	Datatype GeodataOwner	holder of the legal rights to the data set/service				Subtype of CharacterS tring

### 1.6.7 <<DataType>> GeodataProducer

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
7	Datatype GeodataProduce r	the organization which has produced the data set/service				Subtype of CharacterS tring

### 1.6.8 <<DataType>> ContactPerson

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
8	Datatype ContactPerson	person who may be contacted in connection with a request/inquiry				Subtype of CharacterS tring

### 1.6.9 DataDelimitation

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
9	Class DataDelimitation	general line of delimitation , e.g., between data sets of varying quality, content or detail				
9.1	border	course following the transition between different real world phenomena	1	1	CurveWithQual ity	
9.2	Role (unnamed) LandArea		0	1	LandArea	
9.3	Role (unnamed) SeaSurface		0	2	SeaSurface	
9.4	Role (unnamed) SOSI_Object		1	1	SOSI_Object	



**1.6.10 FictitiousDividingLine**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
10	Class FictitiousDividing Line	line used to split up large surface objects Note: The line does not represent any object in the terrain.				
10.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	
10.2	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

**1.6.11 ThematicMapDelimitation**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
11	Class ThematicMapDelimitation	delimitation line for a thematic map				
11.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	
11.2	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

**1.6.12 Discontinuity**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
12	Class Discontinuity	line where a mathematical object (function) has a break				
12.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	

**1.6.13 EdgeView**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
13	Class EdgeView	delimitation of a view				
13.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	

13.2	Role (unnamed) View		0	N	View	
13.3	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

### 1.6.14 View

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
14	Class View	geographical area which is delimited by an edge view Note: The term "View" often refers to editing/clipping polygons, which one wants to manage for subsequent use				
14.1	skiTrailType		0	1	SurfaceWithQuality	
14.2	position	location where the object exists	0	1	PointWithQuality	
14.3	Role boundaryEdgeView		0	N	EdgeView	Aggregation

### 1.6.15 Association <<Topo>> View-EdgeView

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
15	Association View-EdgeView					
15.1	Role boundaryEdgeView		0	N	EdgeView	Aggregation
15.2	Role (unnamed) View		0	N	View	

### 1.6.16 MapSheet

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
16	Class MapSheet	coverage of a defined geographical area, often based on public map sheet divisions				
16.1	skiTrailType		1	1	SurfaceWithQuality	
16.2	mapType	type of map sheet series	0	1	MapType	
16.3	scale	relationship between a distance on a map and the corresponding distance in the terrain, designated as	0	1	Integer	

		a scale number Note: Scale 1:100 000 is designated as 100000				
16.4	mapSheetIndex	official map sheet reference	0	1	CharacterString	
16.5	mapSheetName		0	1	Name	
16.6	Role corner		4	4	MapSheetCorner	
16.7	Role boundaryMapSheetEdge		1	N	MapSheetEdge	Aggregation

### 1.6.17 MapSheetEdge

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
1717	Class MapSheetEdge	delimitation line for a map that covers a defined geographical area, often based on public map sheet divisions				
17.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	
17.2	mapType	type of map sheet series	0	1	MapType	
17.3	Role (unnamed) MapSheet		1	1	MapSheet	
17.4	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

### 1.6.18 MapSheetCorner

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
18	Class MapSheetCorner	corner of a map sheet edge				
18.1	position	location where the object exists	1	1	PointWithQuality	
18.2	Role (unnamed) MapSheet		1	1	MapSheet	

### 1.6.19 MapSheetEdgeUTM

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
19	Class MapSheetEdgeUTM	delimitation line for a map in accordance with the map sheet divisions for				Subtype of MapSheetEdge

		UTM				
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### 1.6.20 Gridlines

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
20	Class Gridlines	technical division of a geographical area in rectangles				
20.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	
20.2	gridType	rectangles based on geographical or projected coordinates, consisting of horizontal and vertical lines	0	1	GridType	
20.3	Role (unnamed) GridSurface		1	1	GridSurface	

### 1.6.21 GridSurface

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
21	Class GridSurface	surface in a grid				
21.1	skiTrailType		1	1	SurfaceWithQuality	
21.2	position	location where the object exists	1	1	PointWithQuality	
21.3	gridType	rectangles based on geographical or projected coordinates, consisting of horizontal and vertical lines	0	1	GridType	
21.4	Role boundaryGridlines		0	N	Gridlines	Aggregation

### 1.6.22 ZoneDivision

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
22	Class ZoneDivision	technical division of a geographical area into zones, based on the UTM map sheet divisions				
22.1	centerline	course followed by the central part of the object	1	1	CurveWithQuality	
22.2	zoneType	technical division of a geographical area into zones, based on public	0	1	ZoneType	

		map sheet series				
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### 1.6.23 Association <<Topo>> GridSurface-Gridlines

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
23	Association GridSurface- Gridlines					
23. 1	Role boundaryGridlines		0	N	Gridlines	Aggregation
23. 2	Role (unnamed) GridSurface		1	1	GridSurface	

### 1.6.24 Association MapSheet-MapSheetCorner

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
24	Association MapSheet- MapSheetCorner					
24. 1	Role corner		4	4	MapSheetCorner	
24. 2	Role (unnamed) MapSheet		1	1	MapSheet	

### 1.6.25 Association <<Topo>> MapSheet-MapSheetEdge

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
25	Association MapSheet- MapSheetEdge					
25. 1	Role boundaryMapSheetEdge		1	N	MapSheetEdge	Aggregation
25. 2	Role (unnamed) MapSheet		1	1	MapSheet	

**1.6.26.1 <<CodeList>> MapType**

Nr	Code name	Definition/Description	Code
1	CodeList MapType	type of map sheet series	
1.1	Norway 1 to 50000_M711 in NGO1948		1
1.2	Norway 1 to 50000_M711 in EUREF89		2
1.3	Touring map 1		
1.4	Norway 1 to 250000 in NGO1948		4
1.5	Norway 1 to 250000 in UTM		
1.6	ECON Techn. map 1 to 500 NGO1948	Eksempel: CX035-05-50-4	
1.7	ECON Techn. map 1 to 1000 NGO1948	Eksempel: CX035-1-60	7
1.8	ECON Techn. map 1 to 5000 NGO1948	Eksempel: CX035-5-1	8
1.9	ECON Techn. map 1 to 500 EUREF89	Eksempel: 33-05-499-304-70-01	9
1.10	ECON Techn. map 1 to 1000 EUREF89	Eksempel: 33-1-499-304-61	10
1.11	ECON Techn. map 1 to 2000 EUREF89	Eksempel: 33-2-499-304-21	11
1.12	ECON Techn. map 1 to 5000 EUREF89	Eksempel: 33-5-499-304-00	12
1.13	ECON Techn. map 1 to 10000 EUREF89	Eksempel: 33-10-499-305	13
1.14	ECON Techn. map 1 to 20000 EUREF89	Eksempel: 33-20-498-304	14
1.15	Møre - NGO 56A NGO1948		15
1.16	Møre - NGO 56B NGO1948		16
1.17	Møre - NGO 64A NGO1948		17

1.18	Møre - NGO 64B NGO1948		18
1.19	Local network, Oslo		19
1.20	Local network, Bærum		20
1.21	Local network, Asker		21
1.22	Local network, Lillehammer		22
1.23	Local network, Drammen		23
1.24	Local network, Bergen_Askøy		24
1.25	Local network, Trondheim		25
1.26	Local network, Bodø		26
1.27	Local network, Kristiansund		27
1.28	Local network, Ålesund		

### 1.6.26.2 <<CodeList>> ZoneType

Nr	Code name	Definition/Description	Code
2	CodeList ZoneType	technical division of a geographical area into zones, based on public map sheet series	
2.1	EUREF89 UTM	Geometri-egenskap	
2.2	NGO		
2.3	ED50 UTM		
2.4	Møre NGO 64		

### 1.6.26.3 <<CodeList>> GridType

Nr	Code name	Definition/Description	Code
3	CodeList GridType	rectangles based on geographical or projected coordinates, consisting of horizontal and vertical lines	
3.1	NGO local axis	rektangulært rutenett i aktuell projeksjon, basert på NGO48	
3.2	Euref89 local UTM zone	rektangulært rutenett i aktuell projeksjon, basert på Euref89	
3.3	Graticule	tilordning av ellipsoiden av den fysiske jord i form av et nettverk med utgangspunkt i lengde- og breddegrad	
3.4	Other local		

**1.6.27 <<DataType>> PositionQuality**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
27	Datatype PositionQuality	description of the quality of the localization				
27.1	measuringMethod	method for measuring in ground outline (x,y), and height (z) when the method is the same as when measuring in ground outline	1	1	MeasuringMethod	
27.2	accuracy	the point standard deviation in ground outline for points as well as lateral deviation of lines Note: Stated in cm	0	1	Integer	
27.3	visibility	how good the visibility of the mapped detail was during mapping	0	1	Visibility	
27.4	measuringMethodHeight	method to measure height	0	1	MeasuringMethodHeight	
27.5	accuracyHeight	accuracy for height in cm	0	1	Integer	
	maximumDeviation	absolute tolerance for geometrical deviation	0	1	Integer	



**1.6.28.1<<CodeList>> MeasuringMethod**

Nr	Code name	Definition/Description	Code
1	CodeList MeasuringMethod	method on which registration of position is based	
1.1	Measured in terrain	Terrengmålt	10
1.2	Total station	Totalstasjon	11
1.3	Theodolite with electronic rangefinder	Teodolitt med elektronisk avstandsmåler	12
1.4	Theodolite with measuring tape	Teodolitt med målebånd	13
1.5	Orthogonal method	Ortogonalmetoden	14
1.6	MeasureOut	Punkt beregnet på bakgrunn av andre punkter, slik som to avstander eller avstand + retning	15
1.7	Taken from plan	Tatt fra plan	18
1.8	Stereo instrument	Stereoinstrument	20
1.9	Aerotriangulated	(Pkt. beregnet v/ aerotriangulering)	21
1.10	Analytical plotter	Analytisk plotter	22
1.11	Autograph - normal registration	Autograf - vanlig registrering	23
1.12	Digital stereo instrument	Digitalt stereoinstrument	24
1.13	Scanned from map	Scannet fra kart	30
1.14	Scanned from pencilled original	Blyantoriginal	31
1.15	Scanned from ??scribing folio	Rissefolie	32
1.16	Scanned from transparency folio - good quality	Transparent folie - god kvalitet	33
1.17	Scanned from transparency folio - inferior quality	Transparent folie - mindre god kvalitet	34
1.18	Scanned from paper / hard copy	Papirkopi	35
1.19	Airbourne laser scanner	Flybåren laserscanner	36
1.20	Digitised on dig.table from orthophoto/aerial photo	Fra ortofoto/flybilde	40
1.21	Digitised from orthophoto - film	Ortofoto - film	41
1.22	Digitised from orthophoto - photocopy	Ortofoto - fotokopi	42
1.23	Digitised from aerial photo - mono-digitised from film	Flybilde - monodigitalisert fra film	43
1.24	Digitised from aerial photo - mono-	Flybilde - monodigitalisert fra fotokopi	44

	digitised from photocopy		
1.25	Digitised from orthophoto	Digitalisert fra ortofoto	45
1.26	Digitised on screen from satellite photo	Digitalisert på skjerm fra satellittbilde	46
1.27	Digitised on dig.table from line-map	Digitalisert på dig.bord fra strek-kart	50
1.28	Digitised on dig.table from pencilled original	Blyantoriginal	51
1.29	Digitised on dig.table from ??scribing folio	Rissefolie	52
1.30	Digitised on dig.table from transparency film - good quality	Transparent film - god kvalitet	53
1.31	Digitised on dig.table from transparency film - lower quality	Transparent film - mindre god kvalitet	54
1.32	Digitised on dig.table from paper copy	Papirkopi	55
1.33	Digitised on screen from scanned photographic combination	(Raster)	56
1.34	Generated data (interpolation)	Genererte data (interpolasjon)	60
1.35	Generated in terrain model	Generert i terrengmodell	61
1.36	Weighted mean	Vektet middel	62
1.37	Generated circular geometry	Generert sirkelgeometri	63
1.38	Generalised	Generalisert	64
1.39	Generated central point	Generert sentralpunkt	65
1.40	Connection point/edge point	Sammenknytningspunkt/randpunkt	66
1.41	Coordinates retrieved from GAB	Koordinater hentet fra GAB	67
1.42	Coordinates retrieved from JREG	Koordinater hentet fra JREG	68
1.43	Calculated	Beregnet	69
1.44	Special methods	Spesielle metoder	
1.45	Measured with range pole	Målt med stikkstang	71
1.46	Measured with	Målt med waterstang	
1.47	Measured with measuring wheel	Målt med målehjul	73
1.48	Measured with rate of climb indicator	Målt med stigningsmåler	
1.49	Stipulated by court decision or royal decree	Fastsatt ved dom eller kongelig resolusjon	78
1.50	Free-hand drawing	Frihåndstegning	80
1.51	Digitised from sketching on map	Digitalisert fra kroking på kart	81

1.52	Directly input on screen	Direkte innlagt på skjerm	82
1.53	Inertial ??positioning/localization	Treghetsstedfesting	90
1.54	GPS code measurement, relatively measurements	Tidligere GPS-Differensiell, pseudorange	91
1.55	GPS code measurement, individual measurements	Tidligere GPS, Absolutt, pseudorange	92
1.56	GPS phase measurement, static measurement	Tidligere GPS, Differensiell	93
1.57	GPS phase measurement, other methods	(utenom RTK). Tidligere GPS-Absolutt, fase	94
1.58	Combination of GPS/Inertia	Kombinasjon av GPS/Treghet	95
1.59	GPS phase measurement RTK	(Realtids kinematisk måling). Tidligere GPS kinematisk (Real time kinematic)	96
1.60	GPS phase measurement, float solution		97
1.61	Unknown measurement method		99

### 1.6.28.2 <<CodeList>> MeasuringMethodHeight

Nr	Code name	Definition/Description	Code
2	CodeList MeasuringMethodHeight	method for measuring the height value of the object type	
2.1	Measured in terrain		10
2.2	Total station		11
2.3	Theodolite with electronic rangefinder		12
2.4	Theodolite with measuring tape		13
2.5	Orthogonal method		14
2.6	Levelling		
2.7	Taken from plan		18
2.8	Miscellaneous		19
2.9	Stereo instrument		20
2.10	Aerotriangulated		21
2.11	Analytical plotter		22
2.12	Autograph - normal registration		23
2.13	Digital stereo instrument		24
2.14	Airbourne laser scanner		36
2.15	Generated data (interpolation)		60

2.16	Generated in terrain model		61
2.17	Weighted mean		62
2.18	Generated circular geometry		63
2.19	Generalised		64
2.20	Connection point/edge point		66
2.21	Coordinates retrieved from JREG (?)		67
2.22	Coordinates retrieved from GAB		68
2.23	Calculated (?)		69
2.24	Special methods		70
2.25	Measured with rate of climb indicator		
2.26	Stipulated by court decision or royal decree		78
2.27	Other (to be specified in file header)		79
2.28	Inertial ??positioning/localization		90
2.29	GPS code measurement, relative measurements		91
2.30	GPS code measurement, individual point determination		92
2.31	GPS phase measurement, static measurement		93
2.32	GPS phase measurement, other methods		94
2.33	Combination of GPS/Inertia		95
2.34	GPS phase measurement RTK		96

### 1.6.28.3 <<CodeList>> Visibility

Nr	Code name	Definition/Description	Code
3	CodeList Visibility	how good the visibility of the mapped detail was during mapping	
3.1	Fully visible/locatable in terrain	Default	0
3.2	Difficult to locate in terrain	Forøvrigt grei å innmåle. (Benyttes bl.a. for innmåling av ledninger på lukket grøft)	1
3.3	Moderately visible in aerial photo/model		2
3.4	Poor visibility/not visible in aerial photo/model	Dårlig/ikke synlig i flybilde/modell	3

## 1.6.29 SOSI\_object

### 1.6.29.1<<DataType>> ModificationFlag

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
29	Datatype ModificationFlag	information about the modification of an object Note: For the time being, the entire object will be marked with the modification flag. In the further work (future versions) this may be expanded, e.g. by indicating whether the change is related to geometry, attributes or relations				
29.1	typeOfModification	modification status for the object	1	1	TypeOfChange	
29.2	timeOfModification	time of modification to the object	1	1	DateTime	

### 1.6.29.2<<DataType>> CopiedData

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
2	Datatype CopiedData	statement that the object has been retrieved from a copy of the original data Note: May be used if one extracts data from a database which does not contain the original data.				
2.1	areald	Merknad: Kan angis med kommunenummer eller fylkesnummer. Disse bør spesifiseres nærmere.	1	1	Integer	
2.2	originalDataHost	agency responsible for management of data	1	1	CharacterString	
2.3	copyDate	date when the object was copied from the original data set Note: Is a part of the property copyData. Is used in those cases where a database copy is used for distribution.	1	1	DateTime	

### 1.6.29.3 SOSI\_Object

No	Name/	Description	Obligation/	Maximum	Type	Constraint
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	Role name		Condition	Occurrence		
3	Class SOSI_Object	abstract object which carries a number of attributes which are independent of specific disciplines and may be used for all object types				Abstract
3.1	firstDataCaptureDate	date when data were registered/observed/measured for the first time, as a starting point for the first digitisation Note: firstDataCaptureDate is used if it is of interest to manage information on when one became aware of the object. This may for example apply to ??<truncated text>	0	1	DateTime	
3.2	firstDigitisationDate	date when a representation of the object in digital form was established for the first time Note: firstDigitisationDate may differ from firstDataCaptureDate by the first data capture having been analog and converted into digital form later in a production ??<truncated text>	0	1	DateTime	
3.3	verificationDate	date when it is established that the data conform to reality Note: Verification date is identical to ..DATE in previous versions of SOSI	0	1	DateTime	
3.4	dataCaptureDate	date when the object most recently was registered/observed/measured in the terrain Note: In many cases this is different from the date of updating, as registered modifications may be buffered for a shorter or longer period of time, before being entered into the database. Upon f ??<truncated text>	0	1	DateTime	
3.5	dateOfUpdating	date of latest modification of object data Note: Date of updating may differ from	0	1	DateTime	

		date of data capture in that data which is registered may be buffered for a shorter or longer period of time, before being entered into the computer system (the database).				
3.6	dataExtractionDate	date of extraction from a database Note: Distinguished from copyDate by the fact that there is no differentiation between extraction from an original database or a database copy.	0	1	DateTime	
3.7	modificationFlag	information about the modification of an object Note: The rules in connection with the use of modification flags has not been clarified in this version. To be elaborated upon in the product specifications based on 4.0. Note: Modification flags may be used to tag erased objects. Examp ??<truncated text>	0	1	ModificationFlag	
3.8	quality	description of the quality of the localization Note: This is identical to ..KVALITET (quality) in previous ersions of SOSI.	0	1	PositionQuality	
3.9	status	the condition of the object Example: In use, in operation, obsolete, planned, etc.	0	1	Status	
3.10	medium	the location of the object relative to the earth's surface Examples: On bridge, in tunnel, inside a building-related installation, etc.	0	1	Medium	
3.11	identification	unique identification of an object Note: Should use UUID. See <a href="http://en.wikipedia.org/wiki/UUID">http://en.wikipedia.org/wiki/UUID</a> Those not using UUID must themselves ensure that this is globally unique.	0	1	CharacterString	
3.12	source	reference to the original material, the source material, organization/publication	0	1	CharacterString	

		source Note: May also describe the name of a person and reason for updating				
3.1 3	accuracyClass	coarse classification of the accuracy of the location of a point or place in relation to something which is assumed to be known	0	1	AccuracyClass	
3.1 4	locationVerified	statement of whether the location (coordinates) has been checked and found to be in order (verified)	0	1	Boolean	
3.1 5	digitisationScale	map scale from which the registrations / data have been made / registered Examples: 1:50 000 = 50000.	0	1	Integer	
3.1 6	processHistory	description of the processes through which the data has gone, and which may be significant for the quality and use of the data Note: ProcessHistory may contain information on transformations. What kind of information is given is often indicated in other standards ??<truncated text>	0	N	CharacterString	
3.1 7	copiedData	statement that the object has been retrieved from a copied data set and not from the original data set Note: Contains information on when the copied data set was copied from the original data set and who is responsible for the original data	0	1	CopiedData	
3.1 8	municipality	numbering of municipalities in accordance with Statistics Norway's official list Note: It must be emphasised that the municipality number always consists of 4 digits, i.e. sometimes with leading zero. Municipality is used for establishing relations to a number of other registers which also use 4 digits.	0	N	MunicipalityNumber	



3.19	information	general information Note: allows for entry of supplemental information about the object	0	N	CharacterString	
3.20	registrationVersion	statement of which product specification is the point of departure for the data	0	1	RegistrationVersion	
3.21	link		0	1	Link	
3.22	Role (unnamed) IpBoundaryArea		1	1	IpBoundaryArea	
3.23	Role boundaryFictitiousDividingLine		0	N	FictitiousDividingLine	
3.24	Role boundaryThematicMap		0	N	ThematicMapDelimitation	
3.25	Role boundaryEdgeView		0	N	EdgeView	
3.26	Role boundaryData		0	N	DataDelimitation	
3.27	Role boundaryMapSheetEdge		0	N	MapSheetEdge	
3.28	Role (unnamed) SOSI_Object		1	1	SOSI_Object	
3.29	Role (unnamed) Datasett		1	1	Datasett	
3.30	Role metadata		0	1	MD_Metadata	

#### 1.6.29.4 <<DataType>> RegistrationVersion

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
4	Datatype RegistrationVersion	indicates which version of the registration instructions were used during data capture Examples:In a data set, there may be objects which have been established from various registration versions. For example, the registration instructions for the object type RoofEdge in FKB have been/become				
4.1	product	unique name of the product in the form of an abbreviated name	1	1	CharacterString	
4.2	version	versionNumber	1	1	CharacterString	

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### 1.6.29.5 Association <<Topo>> SOSI\_Object-FictitiousDividingLine

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
5	Association SOSI_Object- FictitiousDividing Line					
5.1	Role boundaryFictitiou sDividingLine		0	N	FictitiousDividi ngLine	
5.2	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

### 1.6.29.6 Association <<Topo>> SOSI\_Object-ThematicMapDelimitation

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
6	Association SOSI_Object- ThematicMapDeli mitation					
6.1	Role boundaryThemati cMap		0	N	ThematicMapD elimitation	
6.2	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

### 1.6.29.7 Association <<Topo>> SOSI\_Object-EdgeView

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
7	Association SOSI_Object- EdgeView					
7.1	Role boundaryEdgeVi ew		0	N	EdgeView	
7.2	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

### 1.6.29.8 Association <<Topo>> DataDelimitation-SOSI\_Object

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
8	Association DataDelimitation- SOSI_Object					
8.1	Role		1	1	SOSI_Object	

	(unnamed) SOSI_Object					
8.2	Role boundaryData		0	N	DataDelimitation	

### 1.6.29.9 Association <<Topo>> MapSheetEdge-SOSI\_Object

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
9	Association MapSheetEdge- SOSI_Object					
9.1	Role (unnamed) SOSI_Object		1	1	SOSI_Object	
9.2	Role boundaryMapSheetEdge		0	N	MapSheetEdge	

### 1.6.29.10 Association SOSI\_Object-SOSI\_Object

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
10	Association SOSI_Object- SOSI_Object					
10.1	Role kobling	angivelse av objekt dette objektet er knyttet til	0	N	SOSI_Object	
10.2	Role (unnamed) SOSI_Object		1	1	SOSI_Object	

**1.6.30.1 <<CodeList>> Status**

Nr	Code name	Definition/Description	Code
1	CodeList Status	coarse classification of the accuracy of the location of a point or place in relation to something which is assumed to be known Note: Should be specified in those cases where this is indicated, i.e., product specification	
1.1	In use		B
1.2	Operations		D
1.3	Existing (default)	Identisk med tidligere SITSTAT = 3	E
1.4	Obsolete	Identisk med tidligere SITSTAT = 4 historisk	F
1.5	In disrepair		I
1.6	Condemned		K
1.7	Discontinued		N
1.8	Rebuilt		O
1.9	Planned		P
1.10	Illustrated as planned	Illustrert fremtidig situasjon (Tidligere SITSTAT = 1)	
1.11	Planned, engineered	Prosjektert fremtidig situasjon (Tidligere SITSTAT = 2)	P2
1.12	In progress		U
1.13	Approved		V
1.14	Removed		FJ
1.15	Tenkt tatt i bruk		TT

**1.6.30.2 <<CodeList>> Medium**

Nr	Code name	Definition/Description	Code
2	CodeList Medium	the location of the object relative to the earthXzXs surface Examples: Road on bridge, in tunnel, inside building-related facility, etc.	
2.1	Always in water		V
2.2	In Building/ building-related installation		B
2.3	In air		L
2.4	On glacier		I
2.5	On the seafloor		S
2.6	In the terrain/at ground level	default	T

2.7	On the water surface		O
2.8	Sporadically underwater		D
2.9	Under glacier		J
2.10	Under the seafloor		
2.11	Under the terrain		U
2.12	Unknown	unknown	X

### 1.6.30.3 <<CodeList>> TypeOfChange

Nr	Code name	Definition/Description	Code
3	CodeList TypeOfChange	modification status for the object	
3.1	Modified		E
3.2	New		N
3.3	Deleted		S

### 1.6.30.4 <<CodeList>> AccuracyClass

Nr	Code name	Definition/Description	Code
4	CodeList AccuracyClass	coarse classification of the accuracy of the location of a point or place in relation to something which is assumed to be known Note: Should be specified in those cases where this is indicated, i.e., product specification	
4.1	Inferior		1
4.2	Good		2
4.3	Very good		3
4.4	Especially good		4

**1.6.31 Isogon**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
1	Class Isogon	line which connects points with the same magnetic deviation				
1.1	centerline	course followed by the central part of the object	1	1	CurveWithQuality	

**1.6.32 Isoline**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
2	Class Isoline	line which connects points with the same value or condition				
2.1	centerline	course followed by the central part of the object	1	1	CurveWithQuality	

**1.6.33 Isotherm**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
3	Class Isotherm	line which connects points with the same temperature				
3.1	centerline	course followed by the central part of the object	1	1	CurveWithQuality	

**1.6.34 SpecialDetail**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
4	Class SpecialDetail	object types which it is necessary to designate for cartographic reasons and which are not covered by defined object types				
4.1	position	location where the object exists	1	1	PointWithQuality	
4.2	centerline	course followed by the central part of the object	1	1	CurveWithQuality	

**1.6.35 FreeTextMap**

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
5	Class FreeTextMap	text which is used where the text points to an object which is not coded				
5.1	position	location where the object exists	1	1	PointWithQuality	

