

Project

Statsbygg TEMPLATE: SIMBA 2.0

Actor

Architect (ARK)

Discipline Model

Architect (ARK)

Project Phase(s)

B3.1 : Outline conceptual design (B3.1 Skisseprosjekt)

B3.2 : Full conceptual design (B3.2 Forprosjekt)

B4.1 : Coordinated design (B4.1 Detaljprosjekt)

B5.1 : Handover (B5.1 Ferdigstillelse)

Date: 01.07.2021

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Project Description: [EN] SIMBA 2.0 contains new requirement set templates, independent from earlier versions. It is exclusively for use with IFC4 models. It is released 2021-01-29. [NO] SIMBA 2.0 inneholder nye kravsettmaler, uavhengig av tidligere versjoner. Den er kun for bruk med IFC4-modeller. Det lanseres 2021-01-29.

Project Phases and Use Cases

The following tables show the required specific applications and their use in the project phases.

Additional information on the selected phases

Code	Project Phase	Description
B3.1	Outline conceptual design (B3.1 Skisseprosjekt)	According to Statsbygg's Project Model 2016. B = Beslutningsport = Decision Gate.
B3.2	Full conceptual design (B3.2 Forprosjekt)	According to Statsbygg's Project Model 2016. B = Beslutningsport = Decision Gate.
B4.1	Coordinated design (B4.1 Detaljprosjekt)	According to Statsbygg's Project Model 2016. B = Beslutningsport = Decision Gate.
B5.1	Handover (B5.1 Ferdigstilling)	According to Statsbygg's Project Model 2016. B = Beslutningsport = Decision Gate.

Objects and Properties

The model elements and properties listed in the following overview table are the information requirements for the technical model in the respective project phases. The detailed assignment, the required geometric detailing and the element properties to the model elements are shown individually on the following pages.

Required Objects for each phase

Objects	B3.1	B3.2	B4.1	B5.1
Project	X	X	X	X
Site	X	X	X	X
Building	X	X	X	X
Building Storey	X	X	X	X
Spatial zone	X	X	X	X
Zone		X	X	X
Space	X	X	X	X
Grid	X	X	X	X
Annotation	X	X	X	X
Geographic Element	X	X	X	X
Flow Segment		X	X	X
Flow Terminal	X	X	X	X
Slab	X	X	X	X
Furniture	X	X	X	X
Building Element Proxy	X	X	X	X
Covering		X	X	X
Covering Ceiling		X	X	X
Covering Flooring		X	X	X
Covering Insulation		X	X	X
Ramp	X	X	X	X
Ramp Flight	X	X	X	X
Wall	X	X	X	X
Column	X	X	X	X
Beam	X	X	X	X
Curtain Wall		X	X	X
Door	X	X	X	X

Objects	B3.1	B3.2	B4.1	B5.1
Window	X	X	X	X
Roof	X	X	X	X
Chimney	X	X	X	X
Stair	X	X	X	X
Railing		X	X	X
Stair Flight	X	X	X	X
Opening Element		X	X	X
Light Fixture		X	X	X
Transport Element	X	X	X	X
Transport Element Elevator	X	X	X	X

Required properties per phase (with associated objects)

Properties	B3.1	B3.2	B4.1	B5.1
Name	X	X	X	X
Name	X	X	X	X
Name	X	X	X	X
Name		X	X	X
Name	X	X	X	X
Name	X	X	X	X
Name	X	X	X	X
Name	X	X	X	X
Name	X	X	X	X
Longname	X	X	X	X
Description	X	X	X	X
Longname	X	X	X	X
Description		X	X	X
Longname			X	X
Description		X	X	X
Longname	X	X	X	X
Description		X	X	X
Georeference	X	X	X	X
LandTitleNumber	X	X	X	X

Properties	B3.1	B3.2	B4.1	B5.1	
LongName	X	X	X	X	
LongName		X	X	X	
Predefined type	X	X	X	X	
FireExit		X	X	X	
GrossPlannedArea	X	X	X	X	
Duplicate object	X	X	X	X	
Has controls connection		X	X	X	
Thermal transmittance requirement		X	X	X	
Designed status	X	X	X	X	
Has data communication connection		X	X	X	
Constructed status				X	
Has electrical connection		X	X	X	
RequiredHeadroom		X	X	X	
NetPlannedArea	X	X	X	X	
TileWidth			X	X	
IsExternal	X	X	X	X	
FireExit		X	X	X	
HandicapAccessible	X	X	X	X	
PubliclyAccessible			X	X	
Has acoustic requirement		X	X	X	
Has thermal requirement		X	X	X	
Has fire safety requirement		X	X	X	
IsExternal	X	X	X	X	
HandicapAccessible			X	X	
Height		X	X	X	
FireRating		X	X	X	
FireExit		X	X	X	
IsExternal		X	X	X	
IsExternal	X	X	X	X	
FireRating		X	X	X	
AcousticRating		X	X	X	
LoadBearing	X	X	X	X	

Properties	B3.1	B3.2	B4.1	B5.1	
IsExternal	X	X	X	X	
LoadBearing	X	X	X	X	
SurfaceSpreadOfFlame			X	X	
ThermalTransmittance			X	X	
RequiredHeadroom		X	X	X	
Combustible			X	X	
IsExternal		X	X	X	
ThermalTransmittance		X	X	X	
IsExternal		X	X	X	
LoadBearing	X	X	X	X	
IsExternal	X	X	X	X	
ThermalTransmittance		X	X	X	
FireRating		X	X	X	
FireRating		X	X	X	
FireExit		X	X	X	
IsExternal		X	X	X	
HandicapAccessible	X	X	X	X	
LoadBearing	X	X	X	X	
FireRating		X	X	X	
LoadBearing	X	X	X	X	
HandicapAccessible			X	X	
FireExit		X	X	X	
IsExternal	X	X	X	X	
GlobalTradeItemNumber				X	
FireRating			X	X	
LoadBearing	X	X	X	X	
EntranceLevel		X	X	X	
Headroom		X	X	X	
LoadBearing	X	X	X	X	
AboveGround	X	X	X	X	
AcousticRating		X	X	X	
Headroom	X	X	X	X	

Properties	B3.1	B3.2	B4.1	B5.1
FireExit		X	X	X
FireRating		X	X	X
AcousticRating			X	X
Combustible		X	X	X
SurfaceSpreadOfFlame		X	X	X
ThermalTransmittance		X	X	X
IsExternal		X	X	X
HasDrive			X	X
AcousticRating		X	X	X
SecurityRating			X	X
FireRating		X	X	X
AcousticRating			X	X
IsExternal	X	X	X	X
SelfClosing			X	X
FireRating			X	X
AcousticRating		X	X	X
ThermalTransmittance		X	X	X
SecurityRating			X	X
FireRating		X	X	X
IsExternal	X	X	X	X
SmokeStop			X	X
Combustible		X	X	X
SurfaceSpreadOfFlame		X	X	X
ThermalTransmittance			X	X
ThermalTransmittance		X	X	X
IsExternal	X	X	X	X
MinimumHeadroom	X	X	X	X
IsOutlookDesirable	X	X	X	X
LoadBearing	X	X	X	X
HasDrive			X	X
BuildingID			X	X
IsExternal		X	X	X

Properties	B3.1	B3.2	B4.1	B5.1
Compartmentation		X	X	X
SmokeStop			X	X
Permeability			X	X

Detailed Information Requirements

The following sections contain a tabular summary of all geometrical and alphanumeric levels of detail.

<p>Project</p> <p>IfcProject indicates the undertaking of some design, engineering, construction, or maintenance activities leading towards a product. The project establishes the context for information to be exchanged or shared, and it may represent a construction project but does not have to. The IfcProject's main purpose in an exchange structure is to provide the root instance and the context for all other information items included.</p> <p>One and only one project object (IfcProject) shall be present for each project.</p> <p>NS3451: IFC 4 Add2: IfcProject</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
No requirements required.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name</p>	X	X	X	X
<p>Longname IFC 4 Add2 : IfcContext.LongName</p>	X	X	X	X
<p>Georeference IFC 4 Add2 : [Project Global Positioning] EPSG compound code is a unique code indicating the combination of geodetic datum (typically ETRS89 / EUREF89), projection (typically NTM zone 10, UTM Zone 32N etc.), and height datum (typically NN2000).</p>	X	X	X	X

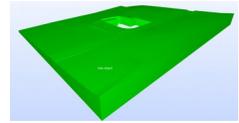
Site

A site is a defined area of land, possibly covered with water, on which the project construction is to be completed. A site may be used to erect, retrofit or turn down building(s), or for other construction related developments.

One and only one site object (IfcSite) shall be present for each project.

NS3451:

IFC 4 Add2: IfcSite



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
No requirements required.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name The official name of the property [no: Eiendomsnavn]			X	X
Longname IFC 4 Add2 : IfcSpatialElement.LongName			X	X
LandTitleNumber IFC 4 Add2 : IfcSite.LandTitleNumber The site shall contain the official ID of the Cadastre [no:Matrikkel] - the Cadastral Number. A complete Cadastral number [no:Matrikkelnummer] in Norway consists of the following components: knr - Municipality number [no:Kommunennummer] gnr - Estate Registration Number [no:gårdsnummer] bnr - Title Number [no:bruksnummer] fnr - Leasehold Number [no:festenummer] snr - Section Number [no:seksjonsnummer] In the IfcSite.LandTitleNumber the Cadastral number shall be expressed according to the following naming scheme: knr gnr bnr fnr snr The format shall always follow this layout: - The knr always has four digits, possibly with leading zeros - The gnr, bnr, fnr and snr must not have leading zeros - All fields must be included - Fields not in active use shall be defined by a zero (0). - knr is separated from gnr, bnr, and fnr fields by a hyphen. - gnr, bnr, snr, and fnr fields are separated by a slash . - Do not use characters other than spaces and numbers Examples: 0904-200/2430/0/14 (fnr is unused) 0904-200/2430/1 (snr is unused) 0904-200/2430 (fnr and snr are both unused)	X	X	X	X

<p>Building</p> <p>A building represents a structure that provides shelter for its occupants or contents and stands in one place. The building is also used to provide a basic element within the spatial structure hierarchy for the components of a building project (together with site, storey, and space).</p> <p>NS3451: IFC 4 Add2: IfcBuilding</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
No requirements required.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name A descriptive name of the building volume represented by the building object, e.g. "Block D".</p>	X	X	X	X
<p>Longname IFC 4 Add2 : IfcSpatialElement.LongName Statsbygg's internal "Byggnummer".</p>	X	X	X	X
<p><i>Pset_BuildingCommon</i> Properties common to the definition of all instances of IfcBuilding. Please note that several building attributes are handled directly at the IfcBuilding instance, the building number (or short name) by IfcBuilding.Name, the building name (or long name) by IfcBuilding.LongName, and the description (or comments) by IfcBuilding.Description. Actual building quantities, like building perimeter, building area and building volume are provided by IfcElementQuantity, and the building classification according to national building code by IfcClassificationReference.</p>				
<p>BuildingID IFC 4 Add2 : Pset_BuildingCommon.BuildingID Building Number - In Norway the Building number is assigned by the municipality in which the building is located. Each municipality has assigned a numbering range that can be used for the registration of new buildings. Example: 10469228</p>			X	X

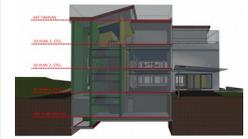
Building Storey

The building storey has an elevation and typically represents a (nearly) horizontal aggregation of spaces that are vertically bound.

One or more storey objects (IfcBuildingStorey) shall be present for each building, reflecting the number of floor levels in the building, including mezzanine floors and similar structures that cover only parts of a full storey.

NS3451:

IFC 4 Add2: IfcBuildingStorey



Level of Geometry (LOG)

B3.1

B3.2

B4.1

B5.1

No requirements required.

Level of Information (LOI)

B3.1

B3.2

B4.1

B5.1

Name

IFC 4 Add2 : IfcRoot.Name

NB! NEW: Storey names shall be set according to a numbering scheme decided in the project. If no specific scheme is set in the project storey names shall use integers, "0" for storey elevation at sea level, incrementing by one ("1", "2", "3" etc.) for increasing storey elevations above ground, and incrementing by minus one ("-1", "-2", "-3" etc.) for decreasing storey elevations below ground.

OLD: The storey names shall be an integer starting from "0" or "1" at a defined base level storey (typically the main entrance storey), incremented by one for each storey above the base level storey, and reduced by one below the base level storey.

X

X

X

X

Longname

IFC 4 Add2 : IfcSpatialElement.LongName

NB! NEW: Storey names shall be set according to a naming scheme decided in the project. If no specific scheme is set in the project storey names shall use storey names according to Statsbygg document "PA0603". This includes both the number and name parts, e.g. "02 PLAN 2. ETG".

OLD: Storey name according to Statsbygg document "PA0603" type naming scheme (if so required in the project).

X

X

X

X

Pset_BuildingStoreyCommon

Properties common to the definition of all instances of IfcBuildingStorey. Please note that several building attributes are handled directly at the IfcBuildingStorey instance, the building storey number (or short name) by IfcBuildingStorey.Name, the building storey name (or long name) by IfcBuildingStorey.LongName, and the description (or comments) by IfcBuildingStorey.Description. Actual building storey quantities, like building storey perimeter, building storey area and building storey volume are provided by IfcElementQuantity, and the building storey classification according to national building code by IfcClassificationReference.

EntranceLevel

IFC 4 Add2 : Pset_BuildingStoreyCommon.EntranceLevel

X

X

X

AboveGround

IFC 4 Add2 : Pset_BuildingStoreyCommon.AboveGround

X

X

X

X

<p>Spatial zone</p> <p>A spatial zone is a non-hierarchical and potentially overlapping decomposition of the project under some functional consideration. A spatial zone might be used to represent a thermal zone, a construction zone, a lighting zone, a usable area zone. A spatial zone might have its independent placement and shape representation.</p> <p>NS3451: IFC 4 Add2: IfcSpatialZone</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1	
No requirements required.					

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p>Name IFC 4 Add2 : IfcRoot.Name At least two spatial zone objects shall be present for each storey:</p> <p>GFA = Gross Floor Area [no: BRA = "bruttoareal" according to NS 3940]</p> <p>UA = Usable Area (total area within a storey, excluding external wall footprint area) [no: "bruksareal" according to NS 3940]</p> <p>There may be additional types of spatial zones as defined in projects.</p>	X	X	X	X	

<p>Zone</p> <p>A zone is a group of spaces, partial spaces or other zones. Zone structures may not be hierarchical (in contrary to the spatial structure of a project - see IfcSpatialStructureElement), i.e. one individual IfcSpace may be associated with zero, one, or several IfcZone's. IfcSpace's are grouped into an IfcZone by using the objectified relationship IfcRelAssignsToGroup as specified at the supertype IfcGroup.</p> <p>NS3451: IFC 4 Add2: IfcZone</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
No requirements required.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name Name for a zone. Used to specify type of zone. E.g. Security zone, fire safety zone, air handling zone, rental zone etc.</p>		X	X	X
<p>Description IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p>LongName IFC 4 Add2 : IfcZone.LongName</p>		X	X	X

<p>Space</p> <p>A space represents an area or volume bounded actually or theoretically. Spaces are areas or volumes that provide for certain functions within a building.</p> <p>NS3451:</p> <p>IFC 4 Add2: IfcSpace</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1</p> <p>From Outline conceptual design to coordinated full conceptual design.</p> <p>The space object can be used for e.g. but not limited to assessment of the buildings functional layout and validation according to room program.</p> <p>The space object represents the volume of its dedicated function.</p> <p>The space object extends from upper surface of floor slab to underside of slab above.</p>	X	X		
<p>LoG Level 3</p> <p>From final delivery of Full conceptual design to FM, Operation and maintenance.</p> <p>The space object can be used for e.g. but not limited to assessment of the buildings functional layout and validation according to spatial program.</p> <p>The space object represents the volume of its dedicated function.</p> <p>The space object extends from upper surface of floor slab to underside of slab above. The object geometry shall be fully adapted to slab geometry. No clashes or voids between space object and slabs are acceptable.</p>		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name</p> <p>IFC 4 Add2 : IfcRoot.Name</p> <p>Spatial Function Number (no: "Romfunksjonsnummer") according to the project specific spatial program, typically denoted by a main function number, a sub function number, and a sequential room number, dot delimited, e.g. 03.05.004.</p>	X	X	X	X
<p>Description</p> <p>IFC 4 Add2 : IfcRoot.Description</p> <p>Any further, more specified description of the spatial function (no: "Rombetegnelse") as named in the LongName field, e.g. "for 20 persons".</p>		X	X	X
<p>LongName</p> <p>IFC 4 Add2 : IfcSpatialElement.LongName</p> <p>3-digit spatial code and name (no: "Romnavn") according to Norwegian Standard NS3457-4:2015 Classification of construction works - Part 4: Spatial functions. Syntax according to the standard, i.e. first the 3-digit code followed by a space and then the name, e.g. "212 Møterom" (en: 212 Meeting room).</p> <p>Special case: Gross Floor Area (GFA) objects shall specifically be denoted "BTA" (no: "bruttoareal") in this field, optionally followed by a space and a further specification, e.g. "BTA Floor 3".</p>	X	X	X	X
<p><i>Pset_SpaceFireSafetyRequirements</i></p> <p>Properties related to fire protection of spaces that apply to the occurrences of IfcSpace or IfcZone.</p>				
<p>FireExit</p> <p>IFC 4 Add2 : Pset_SpaceFireSafetyRequirements.FireExit</p>		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p><i>Pset_SpaceCommon</i> Properties common to the definition of all occurrences of IfcSpace. Please note that several space attributes are handled directly at the IfcSpace instance, the space number (or short name) by IfcSpace.Name, the space name (or long name) by IfcSpace.LongName, and the description (or comments) by IfcSpace.Description. Actual space quantities, like space perimeter, space area and space volume are provided by IfcElementQuantity, and space classification according to national building code by IfcClassificationReference. The level above zero (relative to the building) for the slab row construction is provided by the IfcBuildingStorey.Elevation, the level above zero (relative to the building) for the floor finish is provided by the IfcSpace.ElevationWithFlooring.</p>				
<p>GrossPlannedArea IFC 4 Add2 : Pset_SpaceCommon.GrossPlannedArea</p>	X	X	X	X
<p>NetPlannedArea IFC 4 Add2 : Pset_SpaceCommon.NetPlannedArea Total PLANNED net area for the spatial function (no: "Programmert area"). Used for programming the space. If set to zero the planned spatial function may have requirements but NOT quantified for planned net area (this will typically be relevant for spatial functions like corridors, staircases and technical spaces where the area depends on the suggested design solution).</p>	X	X	X	X
<p>PubliclyAccessible IFC 4 Add2 : Pset_SpaceCommon.PubliclyAccessible</p>			X	X
<p>HandicapAccessible IFC 4 Add2 : Pset_SpaceCommon.HandicapAccessible</p>			X	X
<p>IsExternal IFC 4 Add2 : Pset_SpaceCommon.IsExternal</p>		X	X	X
<p><i>Pset_SpaceOccupancyRequirements</i> Properties concerning work activities occurring or expected to occur within one or a set of similar spatial structure elements.</p>				
<p>MinimumHeadroom IFC 4 Add2 : Pset_SpaceOccupancyRequirements.MinimumHeadroom Functional height of the spatial function, i.e. measured from top of floor covering to bottom of the lowest suspended ceiling, suspended light fixture or other relevant installation that limits the free height in the spatial function for the intended activity. Definition from IFC: Headroom required for the activity assigned to this space.</p>	X	X	X	X
<p>IsOutlookDesirable IFC 4 Add2 : Pset_SpaceOccupancyRequirements.IsOutlookDesirable A requirement for daylight exposure for the spatial function, normally by direct daylighting through glazed elements, but could also be indirectly through the use of mirror constructions, fibre optics etc. Definition from IFC: An indication of whether the outlook is desirable (set TRUE) or not (set FALSE)</p>	X	X	X	X

<p>Grid</p> <p>IfcGrid is a planar design grid defined in 3D space used as an aid in locating structural and design elements. The position of the grid (ObjectPlacement) is defined by a 3D coordinate system (and thereby the design grid can be used in plan, section or in any position relative to the world coordinate system). The position can be relative to the object placement of other products or grids. The XY plane of the 3D coordinate system is used to place the grid axes, which are 2D curves (for example, line, circle, arc, polyline).</p> <p>NS3451: IFC 4 Add2: IfcGrid</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1 Outline conceptual design.</p> <p>The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design.</p> <p>The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.</p>	X			
<p>LoG Level 2 Full conceptual design.</p> <p>The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design.</p> <p>The object represent a generic type. Geometry, location and orientation is approximate.</p>	X	X		
<p>LoG Level 3 Detailed design.</p> <p>The object can be used for, but not limited to, e.g. cost estimation and model coordination.</p> <p>The object represents both its types and instance. Geometry, location and orientation is exact after design coordination.</p>		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name</p>	X	X	X	X

Annotation

An annotation is a graphical representation within the geometric (and spatial) context of a project, that adds a note or meaning to the objects which constitutes the project model. Annotations include additional points, curves, text, dimensioning, hatching and other forms of graphical notes. It also include symbolic representations of additional model components, not representing products or spatial structures, such as survey points, contour lines or similar.

NS3451:

IFC 4 Add2: IfcAnnotation

Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
No requirements required.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X

<p>Geographic Element</p> <p>An IfcGeographicElement is a generalization of all elements within a geographical landscape. It includes occurrences of typical geographical elements, often referred to as features, such as trees or terrain. Common type information behind several occurrences of IfcGeographicElement is provided by the IfcGeographicElementType.</p> <p>NS3451: IFC 4 Add2: IfcGeographicElement</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1 Outline conceptual design.</p> <p>The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design.</p> <p>The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.</p>	X			
<p>LoG Level 2 Full conceptual design.</p> <p>The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design.</p> <p>The object represent a generic type. Geometry, location and orientation is approximate.</p>		X		
<p>LoG Level 3 Detailed design.</p> <p>The object can be used for, but not limited to, e.g. cost estimation and model coordination.</p> <p>The object represents both its types and instance. Geometry, location and orientation is exact after design coordination.</p>			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name</p>	X	X	X	X
<p>Description IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i> A collection of properties used in information management processes.</p>				
<p>Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.</p>		X	X	X
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X

<p>Flow Segment</p> <p>The distribution flow element IfcFlowSegment defines the occurrence of a segment of a flow distribution system.</p> <p>NS3451: IFC 4 Add2: IfcFlowSegment</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 2</p> <p>The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>		X	X	
<p>LoG Level 3</p> <p>The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name</p> <p>IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>		X	X	X
<p>Description</p> <p>IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i></p> <p>Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Duplicate object</p> <p>IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.</p>		X	X	X
<p>Designed status</p> <p>IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status</p> <p>IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>Pset_ManufacturerTypeInfo</i></p> <p>Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>				
<p>GlobalTradeItemNumber</p> <p>IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X

<p>Flow Terminal</p> <p>The distribution flow element IfcFlowTerminal defines the occurrence of a permanently attached element that acts as a terminus or beginning of a distribution system (such as an air outlet, drain, water closet, or sink). A terminal is typically a point at which a system interfaces with an external environment. Its type is defined by IfcFlowTerminalType or its subtypes.</p> <p>NS3451: IFC 4 Add2: IfcFlowTerminal</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1 The object is represented with an approximate geometry.</p>	X	X		
<p>LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>		X	X	
<p>LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
<p>LoG Level 5</p>				X

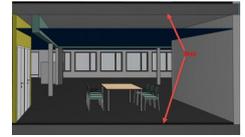
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>	X	X	X	X
<p><i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.</p>		X	X	X
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>				
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X

Slab

A slab is a component of the construction that normally encloses a space vertically. The slab may provide the lower support (floor) or upper construction (roof slab) in any space in a building.

NS3451:

IFC 4 Add2: IfcSlab



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 Outline conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design. The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.	X			
LoG Level 2 Full conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design. The object represent a generic type. Geometry, location and orientation is approximate.	X	X		
LoG Level 3 Detailed design. The object can be used for, but not limited to, e.g. cost estimation and model coordination. The object represents both its types and instance. Geometry, location and orientation is exact after design coordination.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the available predefined types of slabs that can further specify an IfcSlab or IfcSlabType. Enumerations; FLOOR: The slab is used to represent a floor slab. ROOF: The slab is used to represent a roof slab (either flat or sloped). LANDING: The slab is used to represent a landing within a stair or ramp. BASESLAB: The slab is used to represent a floor slab against the ground (and thereby being a part of the foundation). Another name is mat foundation. USERDEFINED: NOTDEFINED:	X	X	X	X
NOSSB_Process Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.	X	X	X	X	
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X	
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X	
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.					
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X	
<i>Pset_SlabCommon</i> Properties common to the definition of all occurrences of IfcSlab. Note: Properties for PitchAngle added in IFC 2x3					
IsExternal IFC 4 Add2 : Pset_SlabCommon.IsExternal	X	X	X	X	
LoadBearing IFC 4 Add2 : Pset_SlabCommon.LoadBearing	X	X	X	X	

Furniture

Furniture defines complete furnishings such as a table, desk, chair, or cabinet, which may or may not be permanently attached to a building structure.

NS3451:

IFC 4 Add2: IfcFurniture



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location.	X	X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Use ComponentTypeID (RefCompType) aggregated from Component class according to three letter code, NS3457-8 + Component Type Number level 1. + Optional Component Subtype Number level 2. Number of digits in type numbers to be agreed in the project. Example: Chair = FOZ.012:06	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

<p>Building Element Proxy</p> <p>NOTE! Only to be used if the element cannot be expressed by a specific object class in IFC.</p> <p>The IfcBuildingElementProxy is a proxy definition that provides the same functionality as subtypes of IfcBuildingElement, but without having a predefined meaning of the special type of building element, it represents. Proxies can also be used as spatial place holders or provisions, that are later replaced by special types of elements.</p> <p>NS3451: IFC 4 Add2: IfcBuildingElementProxy</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The object is represented with an approximate geometry.	X			
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.		X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description User defined description of element type, including material.	X	X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.		X	X	X
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has controls connection IFC 4 Add2 : NOSSB_ReqTriggers.HasControlsConnection		X	X	X
Has data communication connection IFC 4 Add2 : NOSSB_ReqTriggers.HasDataCommunication		X	X	X
Has electrical connection IFC 4 Add2 : NOSSB_ReqTriggers.HasElectricalConnection		X	X	X
Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements		X	X	X
Has thermal requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements		X	X	X
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>NOSSB_Thermal</i> A collection of properties that are commonly used by objects that have thermal requirements.				
Thermal transmittance requirement IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq		X	X	X
<i>Pset_BuildingElementProxyCommon</i> Properties common to the definition of all instances of IfcBuildingElementProxy.				
IsExternal IFC 4 Add2 : Pset_BuildingElementProxyCommon.IsExternal		X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_BuildingElementProxyCommon.ThermalTransmittance		X	X	X
LoadBearing IFC 4 Add2 : Pset_BuildingElementProxyCommon.LoadBearing	X	X	X	X
FireRating IFC 4 Add2 : Pset_BuildingElementProxyCommon.FireRating		X	X	X
<i>Pset_ManufacturerTypeInfoInformation</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfoInformation.GlobalTradeItemNumber				X

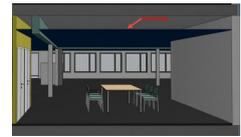
Covering

A covering is an element which covers some part of another element and is fully dependent on that other element. The IfcCovering defines the occurrence of a covering type, that (if given) is expressed by the IfcCoveringType.

NOT to used for Ceiling, Insulation, Flooring or Membrane. Only for completing element.

NS3451:

IFC 4 Add2: IfcCovering



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
LoG				
LoG Level 1 The object is represented with an approximate geometry.		X		
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.		X	X	
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01		X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the range of different types of covering that can further specify an IfcCovering or an IfcCoveringType. Enumerations; CEILING: The covering is used to represent a ceiling. FLOORING: The covering is used to represent a flooring. CLADDING: The covering is used to represent a cladding. ROOFING: The covering is used to represent a roof covering. MOLDING: The covering is used to represent a molding being a strip of material to cover the transition of surfaces (often between wall cladding and ceiling). SKIRTINGBOARD: The covering is used to represent a skirting board being a strip of material to cover the transition between the wall cladding and the flooring. INSULATION: The covering is used to insulate an element for thermal or acoustic purposes. MEMBRANE: An impervious layer that could be used for e.g. roof covering (below tiling - that may be known as sarking etc.) or as a damp proof course membrane. SLEEVING: The covering is used to isolate a distribution element from a space in which it is contained. WRAPPING: The covering is used for wrapping particularly of distribution elements using tape. USERDEFINED: User defined type of covering. NOTDEFINED: Undefined type of covering.		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus		X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements		X	X	X
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>Pset_CoveringCommon</i> Properties common to the definition of all occurrence and type objects of covering				
FireRating IFC 4 Add2 : Pset_CoveringCommon.FireRating		X	X	X
AcousticRating IFC 4 Add2 : Pset_CoveringCommon.AcousticRating		X	X	X
SurfaceSpreadOfFlame IFC 4 Add2 : Pset_CoveringCommon.SurfaceSpreadOfFlame			X	X
Combustible IFC 4 Add2 : Pset_CoveringCommon.Combustible			X	X
IsExternal IFC 4 Add2 : Pset_CoveringCommon.IsExternal		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

<p>Covering Ceiling</p> <p>The covering is used to represent a ceiling.</p> <p>NS3451:</p> <p>IFC 4 Add2: IfcCovering CEILING</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1</p> <p>The object is represented with an approximate geometry.</p>		X		
<p>LoG Level 2</p> <p>The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>		X	X	
<p>LoG Level 3</p> <p>The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
<p>LoG Level 5</p>				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name</p> <p>IFC 4 Add2 : IfcRoot.Name</p>		X	X	X
<p>Description</p> <p>IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i></p> <p>Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Designed status</p> <p>IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status</p> <p>IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>NOSSB_ReqTriggers</i></p> <p>A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>				
<p>Has acoustic requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements</p>		X	X	X
<p>Has thermal requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements</p>		X	X	X
<p>Has fire safety requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X
<p><i>Pset_CoveringCommon</i></p> <p>Properties common to the definition of all occurrence and type objects of covering</p>				
<p>FireRating</p> <p>IFC 4 Add2 : Pset_CoveringCommon.FireRating</p>		X	X	X
<p>AcousticRating</p> <p>IFC 4 Add2 : Pset_CoveringCommon.AcousticRating</p>		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
SurfaceSpreadOfFlame				
FireRating IFC 4 Add2 : Pset_CoveringCommon.FireRating			X	X
AcousticRating IFC 4 Add2 : Pset_CoveringCommon.AcousticRating			X	X
IsExternal IFC 4 Add2 : Pset_CoveringCommon.IsExternal		X	X	X
<i>Pset_ManufacturerTypeInfoInformation</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfoInformation.GlobalTradeItemNumber				X
<i>Pset_CoveringCeiling</i> Properties common to the definition of all occurrence and type objects of covering with the predefined type set to CEILING.				
TileWidth IFC 4 Add2 : Pset_CoveringCeiling.TileWidth			X	X
Permeability IFC 4 Add2 : Pset_CoveringCeiling.Permeability			X	X

<p>Covering Flooring</p> <p>The covering is used to represent a flooring.</p> <p>NS3451:</p> <p>IFC 4 Add2: IfcCovering FLOORING</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1</p> <p>The object is represented with an approximate geometry.</p>		X		
<p>LoG Level 2</p> <p>The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>		X	X	
<p>LoG Level 3</p> <p>The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
<p>LoG Level 5</p>				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name</p> <p>IFC 4 Add2 : IfcRoot.Name</p> <p>Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>		X	X	X
<p>Description</p> <p>IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i></p> <p>Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Designed status</p> <p>IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status</p> <p>IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>NOSSB_ReqTriggers</i></p> <p>A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>				
<p>Has acoustic requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements</p>		X	X	X
<p>Has thermal requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements</p>		X	X	X
<p><i>Pset_CoveringCommon</i></p> <p>Properties common to the definition of all occurrence and type objects of covering</p>				
<p>AcousticRating</p> <p>IFC 4 Add2 : Pset_CoveringCommon.AcousticRating</p>		X	X	X
<p>IsExternal</p> <p>IFC 4 Add2 : Pset_CoveringCommon.IsExternal</p>		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>					
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X	

<p>Covering Insulation</p> <p>The covering is used to insulate an element for thermal or acoustic purposes.</p> <p>NS3451:</p> <p>IFC 4 Add2: IfcCovering INSULATION</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1</p> <p>The object is represented with an approximate geometry.</p>		X		
<p>LoG Level 2</p> <p>The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>		X	X	
<p>LoG Level 3</p> <p>The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
<p>LoG Level 5</p>				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name</p> <p>IFC 4 Add2 : IfcRoot.Name</p> <p>Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>		X	X	X
<p>Description</p> <p>IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i></p> <p>Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Designed status</p> <p>IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status</p> <p>IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>NOSSB_ReqTriggers</i></p> <p>A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>				
<p>Has acoustic requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements</p>		X	X	X
<p>Has thermal requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements</p>		X	X	X
<p>Has fire safety requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X
<p><i>NOSSB_Thermal</i></p> <p>A collection of properties that are commonly used by objects that have thermal requirements.</p>				
<p>Thermal transmittance requirement</p> <p>IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq</p>			X	X

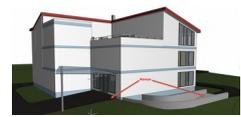
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<i>Pset_CoveringCommon</i> Properties common to the definition of all occurrence and type objects of covering				
IsExternal IFC 4 Add2 : Pset_CoveringCommon.IsExternal		X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_CoveringCommon.ThermalTransmittance		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

Ramp

A ramp is a vertical passageway which provides a human circulation link between one floor level and another floor level at a different elevation. It may include a landing as an intermediate floor slab. A ramp normally does not include steps.

NS3451:

IFC 4 Add2: IfcRamp



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 Outline conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design. The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.	X			
LoG Level 2 Full conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design. The object represent a generic type. Geometry, location and orientation is approximate.	X	X		
LoG Level 3 Detailed design. The object can be used for, but not limited to, e.g. cost estimation and model coordination. The object represents both its types and instance. Geometry, location and orientation is exact after design coordination.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. For ramp the duplicate status communicates whether the construction is structural and thus part of the structural model or part of the architectural model. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc. If not a duplicate fill out value with a dash "-".	X	X	X	X
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>Pset_RampCommon</i> Properties common to the definition of all occurrences of IfcRamp.				
RequiredHeadroom IFC 4 Add2 : Pset_RampCommon.RequiredHeadroom		X	X	X
IsExternal IFC 4 Add2 : Pset_RampCommon.IsExternal	X	X	X	X
FireRating IFC 4 Add2 : Pset_RampCommon.FireRating		X	X	X
FireExit IFC 4 Add2 : Pset_RampCommon.FireExit		X	X	X
HandicapAccessible IFC 4 Add2 : Pset_RampCommon.HandicapAccessible	X	X	X	X
LoadBearing IFC 4 Add2 : Pset_RampCommon.LoadBearing	X	X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

<p>Ramp Flight</p> <p>A ramp comprises a single inclined segment, or several inclined segments that are connected by a horizontal segment, referred to as a landing. A ramp flight is the single inclined segment and part of the ramp construction. In case of single flight ramps, the ramp flight and the ramp are identical.</p> <p>NS3451: IFC 4 Add2: IfcRampFlight</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1 Outline conceptual design.</p> <p>The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design.</p> <p>The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.</p>	X			
<p>LoG Level 2 Full conceptual design.</p> <p>The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design.</p> <p>The object represent a generic type. Geometry, location and orientation is approximate.</p>	X	X		
<p>LoG Level 3 Detailed design.</p> <p>The object can be used for, but not limited to, e.g. cost estimation and model coordination.</p> <p>The object represents both its types and instance. Geometry, location and orientation is exact after design coordination.</p>		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name</p>	X	X	X	X
<p>Description IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.</p>	X	X	X	X
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>	X	X	X	X
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X

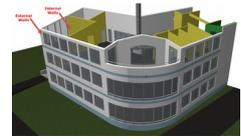
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<i>Pset_RampFlightCommon</i> Properties common to the definition of all occurrences of IfcRampFlight.				
Headroom IFC 4 Add2 : Pset_RampFlightCommon.Headroom		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

Wall

The wall represents a vertical construction that bounds or subdivides spaces. Wall are usually vertical, or nearly vertical, planar elements, often designed to bear structural loads. A wall is however not required to be load bearing.

NS3451:

IFC 4 Add2: IfcWall



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 Outline conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design. The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.	X			
LoG Level 2 Full conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design. The object represent a generic type. Geometry, location and orientation is approximate.	X	X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the different types of walls that can further specify an IfcWall or IfcWallType.</p> <p>Enumerations; MOVABLE: A movable wall that is either movable, such as folding wall or a sliding wall, or can be easily removed as a removable partitioning or mounting wall. Movable walls do normally not define space boundaries and often belong to the furnishing system. PARAPET: A wall-like barrier to protect human occupants from falling, or to prevent the spread of fires. Often designed at the edge of balconies, terraces or roofs. PARTITIONING: A wall designed to partition spaces that often has a light-weight, sandwich-like construction (e.g. using gypsum board). Partitioning walls are normally non load bearing. PLUMBINGWALL: A pier, or enclosure, or encasement, normally used to enclose plumbing in sanitary rooms. Such walls often do not extent to the ceiling. SHEAR: A wall designed to withstand shear loads. Such shear walls are often designed having a non-rectangular cross section along the wall path. Also called retaining walls or supporting walls they are used to protect against soil layers behind. SOLIDWALL: A massive wall construction for the wall core being the single layer or having multiple layers attached. Such walls are often masonry or concrete walls (both cast in-situ or precast) that are load bearing and fire protecting. STANDARD: A standard wall, extruded vertically with a constant thickness along the wall path. POLYGONAL: A polygonal wall, extruded vertically, where the wall thickness varies along the wall path. IFC4 DEPRECATION The enumerator POLYGONAL is deprecated and shall no longer be used. ELEMENTEDWALL: A stud wall framed with studs and faced with sheetings, sidings, wallboard, or plasterwork. USERDEFINED: User-defined wall element. NOTDEFINED: Undefined wall element.</p>	X	X	X	X
<p><i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate The property "Duplicate object" communicates that another discipline is responsible for information of the element. Walls can both be a structural element belonging to RIB and a functional element belonging to ARK.</p> <p>Functional wall (ARK) - Only represented in the ARK model. - The Duplicate object value shall be "-" (dash, signifying that it is not a duplicate). - All requirements in the ARK template for Wall applies to the element.</p> <p>Structural wall (RIB) - Only represented in the ARK model for coordination or model technical purpose. - The Duplicate object value shall be "RIB". - Property requirements for a duplicate wall are "Name", "Description", "LoadBearing", "IsExternal", "DuplicateObject" and "Designed Status" until B3.2.9.</p>	X	X	X	X
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>	X	X	X	X
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>				
<p>Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements</p>		X	X	X
<p>Has thermal requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements</p>		X	X	X
<p>Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X

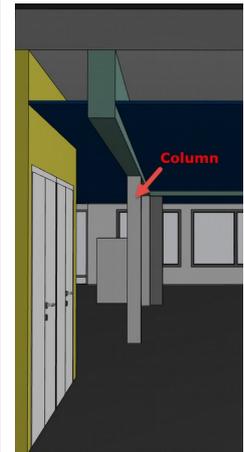
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<i>NOSSB_Thermal</i> A collection of properties that are commonly used by objects that have thermal requirements.				
Thermal transmittance requirement IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X
<i>Pset_WallCommon</i> Properties common to the definition of all occurrences of IfcWall and IfcWallStandardCase.				
AcousticRating IFC 4 Add2 : Pset_WallCommon.AcousticRating		X	X	X
FireRating IFC 4 Add2 : Pset_WallCommon.FireRating		X	X	X
Combustible IFC 4 Add2 : Pset_WallCommon.Combustible		X	X	X
SurfaceSpreadOfFlame IFC 4 Add2 : Pset_WallCommon.SurfaceSpreadOfFlame		X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_WallCommon.ThermalTransmittance		X	X	X
IsExternal IFC 4 Add2 : Pset_WallCommon.IsExternal	X	X	X	X
LoadBearing IFC 4 Add2 : Pset_WallCommon.LoadBearing	X	X	X	X
Compartmentation IFC 4 Add2 : Pset_WallCommon.Compartmentation		X	X	X

Column

IfcColumn is a vertical structural member which often is aligned with a structural grid intersection. It represents a vertical, or nearly vertical, structural member that transmits, through compression, the weight of the structure above to other structural elements below. It represents such a member from an architectural point of view. It is not required to be load bearing.

NS3451:

IFC 4 Add2: IfcColumn



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The object is represented with an approximate geometry.	X			
LoG Level 2 Full conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design. The object represent a generic type. Geometry, location and orientation is approximate.	X	X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.	X	X	X	X
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>Pset_ColumnCommon</i> Properties common to the definition of all occurrence and type objects of column.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
IsExternal IFC 4 Add2 : Pset_ColumnCommon.IsExternal	X	X	X	X	
LoadBearing IFC 4 Add2 : Pset_ColumnCommon.LoadBearing	X	X	X	X	
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.					
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X	

Beam

An IfcBeam is a horizontal, or nearly horizontal, structural member that is capable of withstanding load primarily by resisting bending. It represents such a member from an architectural point of view. It is not required to be load bearing.

NS3451:

IFC 4 Add2: IfcBeam



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 Outline conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of outline conceptual design. The object represent either a conceptual geometry or a placeholder volume. The object geometry is a draft regardless of level of detail. Object location and orientation is conceptual.	X			
LoG Level 2 Full conceptual design. The object can be used for, but not limited to, e.g. visualisation and assessment of multi-disciplinary conceptual design. The object represent a generic type. Geometry, location and orientation is approximate.	X	X		
LoG Level 3 Detailed design. The object can be used for, but not limited to, e.g. cost estimation and model coordination. The object represents both its types and instance. Geometry, location and orientation is exact after design coordination.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.	X	X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X	
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X	
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.					
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X	
<i>Pset_BeamCommon</i> Properties common to the definition of all occurrence and type objects of beam.					
IsExternal IFC 4 Add2 : Pset_BeamCommon.IsExternal	X	X	X	X	
LoadBearing IFC 4 Add2 : Pset_BeamCommon.LoadBearing	X	X	X	X	

Curtain Wall

A curtain wall is an exterior wall of a building which is an assembly of components, hung from the edge of the floor/roof structure rather than bearing on a floor. Curtain wall is represented as a building element assembly and implemented as a subtype of IfcBuildingElement that uses an IfcRelAggregates relationship.

NS3451:

IFC 4 Add2: IfcCurtainWall



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The object is represented with an approximate overall geometry.		X		
LoG Level 2 The object is represented with approximate geometry. Mullions are represented but not final.		X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Mullions and materials are determined and modelled. Doors and opening windows are modelled.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name		X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus		X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements		X	X	X
Has thermal requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements		X	X	X
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>NOSSB_Thermal</i> A collection of properties that are commonly used by objects that have thermal requirements.				
Thermal transmittance requirement IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq		X	X	X

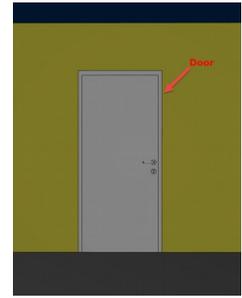
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<i>Pset_CurtainWallCommon</i> Properties common to the definition of all occurrences of IfcCurtainWall.				
AcousticRating IFC 4 Add2 : Pset_CurtainWallCommon.AcousticRating		X	X	X
FireRating IFC 4 Add2 : Pset_CurtainWallCommon.FireRating		X	X	X
Combustible IFC 4 Add2 : Pset_CurtainWallCommon.Combustible		X	X	X
SurfaceSpreadOfFlame IFC 4 Add2 : Pset_CurtainWallCommon.SurfaceSpreadOfFlame		X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_CurtainWallCommon.ThermalTransmittance		X	X	X
IsExternal IFC 4 Add2 : Pset_CurtainWallCommon.IsExternal		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

Door

The door is a building element that is predominately used to provide controlled access for people and goods. It includes constructions with hinged, pivoted, sliding, and additionally revolving and folding operations. A door consists of a lining and one or several panels.

NS3451:

IFC 4 Add2: IfcDoor



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The door is represented with an approximate geometry and location.	X			
LoG Level 2 The door is represented with approximate type, geometry and location.		X		
LoG Level 3 The door's type, geometry, location, operation type is exact. Layers, materials and surface treatment are determined.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the different predefined types of an IfcDoor or IfcDoorType object. Enumerations; DOOR: A standard door usually within a wall opening, as a door panel in a curtain wall, or as a "free standing" door. GATE: A gate is a point of entry to a property usually within an opening in a fence. Or as a "free standing" gate. TRAPDOOR: A special door that lies horizontally in a slab opening. Often used for accessing cellar or attic. USERDEFINED: User-defined linear beam element. NOTDEFINED: Undefined linear beam element.	X	X	X	X
NOSSB_Process Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
NOSSB_ReqTriggers A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements		X	X	X
Has thermal requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements		X	X	X
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>NOSSB_Thermal</i> A collection of properties that are commonly used by objects that have thermal requirements.				
Thermal transmittance requirement IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq		X	X	X
<i>Pset_DoorCommon</i> Properties common to the definition of all occurrences of IfcDoor.				
IsExternal IFC 4 Add2 : Pset_DoorCommon.IsExternal	X	X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_DoorCommon.ThermalTransmittance			X	X
HandicapAccessible IFC 4 Add2 : Pset_DoorCommon.HandicapAccessible			X	X
FireRating IFC 4 Add2 : Pset_DoorCommon.FireRating			X	X
FireExit IFC 4 Add2 : Pset_DoorCommon.FireExit		X	X	X
AcousticRating IFC 4 Add2 : Pset_DoorCommon.AcousticRating			X	X
HasDrive IFC 4 Add2 : Pset_DoorCommon.HasDrive			X	X
SecurityRating IFC 4 Add2 : Pset_DoorCommon.SecurityRating			X	X
SelfClosing IFC 4 Add2 : Pset_DoorCommon.SelfClosing			X	X
SmokeStop IFC 4 Add2 : Pset_DoorCommon.SmokeStop			X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

Window

The window is a building element that is predominately used to provide natural light and fresh air. It includes vertical opening but also horizontal opening such as skylights or light domes. It includes constructions with swinging, pivoting, sliding, or revolving panels and fixed panels. A window consists of a lining and one or several panels.

NS3451:

IFC 4 Add2: IfcWindow



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The window is represented with an approximate geometry and location.	X			
LoG Level 2 The window is represented with approximate type, geometry and location.		X		
LoG Level 3 The window's type, geometry, location, operation type is exact. Layers, materials and surface treatment are determined.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the different predefined types of windows that can further specify an IfcWindow or IfcWindowType. Enumerations; WINDOW: A standard window usually within a wall opening, as a window panel in a curtain wall, or as a "free standing" window. SKYLIGHT: A window within a sloped building element, usually a roof slab. LIGHTDOME: A special window that lies horizontally in a roof slab opening. USERDEFINED: User-defined window element. NOTDEFINED: Undefined window element.	X	X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements		X	X	X

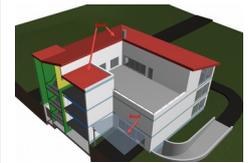
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Has thermal requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements		X	X	X
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>NOSSB_Thermal</i> A collection of properties that are commonly used by objects that have thermal requirements.				
Thermal transmittance requirement IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X
<i>Pset_WindowCommon</i> Properties common to the definition of all occurrences of Window.				
FireExit IFC 4 Add2 : Pset_WindowCommon.FireExit		X	X	X
AcousticRating IFC 4 Add2 : Pset_WindowCommon.AcousticRating			X	X
FireRating IFC 4 Add2 : Pset_WindowCommon.FireRating			X	X
SecurityRating IFC 4 Add2 : Pset_WindowCommon.SecurityRating			X	X
IsExternal IFC 4 Add2 : Pset_WindowCommon.IsExternal	X	X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_WindowCommon.ThermalTransmittance			X	X
HasDrive IFC 4 Add2 : Pset_WindowCommon.HasDrive			X	X
SmokeStop IFC 4 Add2 : Pset_WindowCommon.SmokeStop			X	X

Roof

A roof is the covering of the top part of a building, it protects the building against the effects of weather.

NS3451:

IFC 4 Add2: IfcRoof



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The object is represented with an approximate geometry.	X			
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.	X	X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.	X	X	X	X
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has acoustic requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasAcousticRequirements		X	X	X
Has thermal requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasThermalRequirements		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>NOSSB_Thermal</i> A collection of properties that are commonly used by objects that have thermal requirements.				
Thermal transmittance requirement IFC 4 Add2 : NOSSB_Thermal.ThermalTransmittanceReq		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X
<i>Pset_RoofCommon</i> Properties common to the definition of all occurrences of IfcRoof. Note: Properties for ProjectedArea and TotalArea added in IFC 2x3				
LoadBearing IFC 4 Add2 : Pset_RoofCommon.LoadBearing	X	X	X	X
AcousticRating IFC 4 Add2 : Pset_RoofCommon.AcousticRating		X	X	X
FireRating IFC 4 Add2 : Pset_RoofCommon.FireRating		X	X	X
IsExternal IFC 4 Add2 : Pset_RoofCommon.IsExternal	X	X	X	X
ThermalTransmittance IFC 4 Add2 : Pset_RoofCommon.ThermalTransmittance		X	X	X

<p>Chimney</p> <p>Chimneys are typically vertical, or as near as vertical, parts of the construction of a building and part of the building fabric. Often constructed by pre-cast or insitu concrete, today seldom by bricks.</p> <p>NS3451: IFC 4 Add2: IfcChimney</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1 The object is represented with an approximate geometry.</p>	X			
<p>LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>	X	X		
<p>LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>		X	X	
<p>LoG Level 5</p>				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name</p>	X	X	X	X
<p>Description IFC 4 Add2 : IfcRoot.Description</p>		X	X	X
<p><i>NOSSB_Process</i> A collection of properties used in information management processes.</p>				
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>	X	X	X	X
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>				
<p>Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X
<p><i>Pset_ChimneyCommon</i> Properties common to the definition of all occurrence and type objects of chimneys.</p>				
<p>IsExternal IFC 4 Add2 : Pset_ChimneyCommon.IsExternal</p>		X	X	X
<p>LoadBearing IFC 4 Add2 : Pset_ChimneyCommon.LoadBearing</p>	X	X	X	X
<p>FireRating IFC 4 Add2 : Pset_ChimneyCommon.FireRating</p>		X	X	X

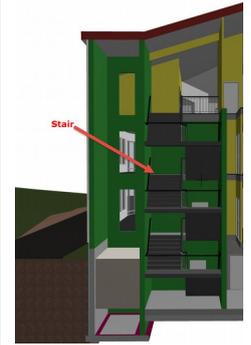
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>					
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X	

Stair

A stair is a vertical passageway allowing occupants to walk (step) from one floor level to another floor level at a different elevation. It may include a landing as an intermediate floor slab.

NS3451:

IFC 4 Add2: IfcStair



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The object is represented with an approximate geometry.	X			
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.	X	X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01	X	X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
<i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X

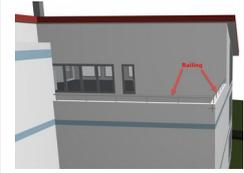
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>				
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X
<p><i>Pset_StairCommon</i> Properties common to the definition of all occurrences of IfcStair.</p>				
<p>RequiredHeadroom IFC 4 Add2 : Pset_StairCommon.RequiredHeadroom</p>		X	X	X
<p>HandicapAccessible IFC 4 Add2 : Pset_StairCommon.HandicapAccessible</p>	X	X	X	X
<p>IsExternal IFC 4 Add2 : Pset_StairCommon.IsExternal</p>	X	X	X	X
<p>FireRating IFC 4 Add2 : Pset_StairCommon.FireRating</p>		X	X	X
<p>FireExit IFC 4 Add2 : Pset_StairCommon.FireExit</p>		X	X	X

Railing

The railing is a frame assembly adjacent to human circulation spaces and at some space boundaries where it is used in lieu of walls or to compliment walls. Designed to aid humans, either as an optional physical support, or to prevent injury by falling.

NS3451:

IFC 4 Add2: IfcRailing



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location.		X	X	
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01		X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the different types of IfcRailing or IfcRailingType that can be predefined using the enumeration values. Enumerations; HANDRAIL: A type of railing designed to serve as an optional structural support for loads applied by human occupants (at hand height). Generally located adjacent to ramps and stairs. Generally floor or wall mounted. GUARDRAIL: A type of railing designed to guard human occupants from falling off a stair, ramp or landing where there is a vertical drop at the edge of such floors/landings. BALUSTRADE: Similar to the definitions of a guardrail except the location is at the edge of a floor, rather than a stair or ramp. Examples are balustrates at roof-tops or balconies. USERDEFINED: User-defined railing element, a term to identify the user type is given by the attribute IfcRailing.ObjectType. NOTDEFINED: Undefined railing element, no type information available.		X	X	X
NOSSB_Process Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus		X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
Pset_RailingCommon Properties common to the definition of all occurrences of IfcRailing.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Height IFC 4 Add2 : Pset_RailingCommon.Height		X	X	X
IsExternal IFC 4 Add2 : Pset_RailingCommon.IsExternal		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

<p>Stair Flight</p> <p>A stair flight is an assembly of building components in a single "run" of stair steps (not interrupted by a landing). The stair steps and any stringers are included in the stair flight. A winder is also regarded a part of a stair flight.</p> <p>NS3451: IFC 4 Add2: IfcStairFlight</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1	
<i>LoG</i>					
<p>LoG Level 1 The object is represented with an approximate geometry.</p>	X				
<p>LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>	X	X			
<p>LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>		X	X		
<p>LoG Level 5</p>				X	

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p>Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>	X	X	X	X	
<p>Description IFC 4 Add2 : IfcRoot.Description</p>		X	X	X	
<p><i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>					
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>	X	X	X	X	
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X	
<p><i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>					
<p>Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X	
<p><i>Pset_StairFlightCommon</i> Properties common to the definition of all occurrences of IfcStairFlight.</p>					
<p>Headroom IFC 4 Add2 : Pset_StairFlightCommon.Headroom</p>	X	X	X	X	

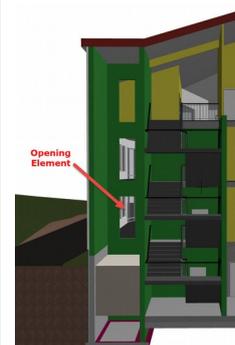
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>					
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X	

Opening Element

The opening element stands for opening, recess or chase, all reflecting voids. It represents a void within any element that has physical manifestation. Openings can be inserted into walls, slabs, beams, columns, or other elements.

NS3451:

IFC 4 Add2: IfcOpeningElement



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.		X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.		X	X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01		X	X	X
Description IFC 4 Add2 : IfcRoot.Description		X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration defines the basic types for opening elements. Enumerations; OPENING: An opening as subtraction feature that cuts through the element it voids. It thereby creates a hole. An opening in addition have a particular meaning for either providing a void for doors or windows, or an opening to permit flow of air and passing of light. RECESS: An opening as subtraction feature that does not cut through the element it voids. It creates a niche or similar voiding pattern. USERDEFINED: User-defined opening element. NOTDEFINED: Undefined opening element.		X	X	X
NOSSB_Process Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus		X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p><i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>					
<p>Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X	

<p>Light Fixture</p> <p>A light fixture is a container that is designed for the purpose of housing one or more lamps and optionally devices that control, restrict or vary their emission.</p> <p>NS3451: IFC 4 Add2: IfcLightFixture</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1 The object is represented with an approximate geometry.</p>		X		
<p>LoG Level 2 The object is represented with approximate dimension, shape, orientation and location.</p>		X	X	
<p>LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
<p>LoG Level 5</p>				X

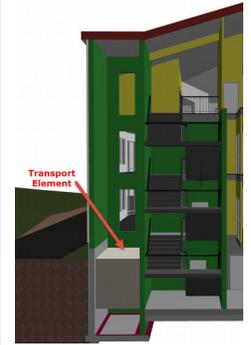
Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>		X	X	X
<p><i>NOSSB_Process</i> Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.</p>		X	X	X
<p>Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>		X	X	X
<p>Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>				
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X

Transport Element

A transport element is a generalization of all transport related objects that move people, animals or goods within a building or building complex. The IfcTransportElement defines the occurrence of a transport element, that (if given), is expressed by the IfcTransportElementType.

NS3451:

IFC 4 Add2: IfcTransportElement



Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
LoG Level 1 The object is represented with an approximate geometry.	X			
LoG Level 2 The object is represented with approximate dimension, shape, orientation and location.		X		
LoG Level 3 The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.			X	
LoG Level 5				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Name IFC 4 Add2 : IfcRoot.Name Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01	X	X	X	X
Predefined type IFC 4 Add2 : [ProductConceptTemplate] [Definition from IFC]: This enumeration is used to identify primary transport element types. Enumerations; ELEVATOR: Elevator or lift being a transport device to move people of good vertically. ESCALATOR: Escalator being a transport device to move people. It consists of individual linked steps that move up and down on tracks while keeping the threads horizontal. MOVINGWALKWAY: Moving walkway being a transport device to move people horizontally or on an incline. It is a slow conveyor belt that transports people. CRANEWAY: A crane way system, normally including the crane rails, fasteners and the crane. It is primarily used to move heavy goods in a factory or other industry buildings. LIFTINGGEAR: A device used for lifting or lowering heavy goods. It may be manually operated or electrically or pneumatically driven. USERDEFINED: NOTDEFINED:	X	X	X	X
NOSSB_Process Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.				

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
Duplicate object IFC 4 Add2 : NOSSB_Process.IsDuplicate Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.	X	X	X	X
Designed status IFC 4 Add2 : NOSSB_Process.DesignedStatus	X	X	X	X
Constructed status IFC 4 Add2 : NOSSB_Process.ConstructedStatus				X
<i>NOSSB_ReqTriggers</i> A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.				
Has fire safety requirement IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements		X	X	X
<i>Pset_TransportElementCommon</i> Properties common to the definition of all occurrences of IfcTransportElement or IfcTransportElementType				
FireExit IFC 4 Add2 : Pset_TransportElementCommon.FireExit		X	X	X
<i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.				
GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber				X

<p>Transport Element Elevator</p> <p>Elevator or lift being a transport device to move people of good vertically.</p> <p>NS3451:</p> <p>IFC 4 Add2: IfcTransportElement ELEVATOR</p>	
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Level of Geometry (LOG)	B3.1	B3.2	B4.1	B5.1
<i>LoG</i>				
<p>LoG Level 1</p> <p>The object is represented with an approximate geometry.</p>	X			
<p>LoG Level 2</p> <p>The object is represented with approximate dimension, shape, orientation and location. Cutouts for MEP installations (e.g. electrical, plumbing fixtures) is modelled with approximate location, dimensions and orientation.</p>		X		
<p>LoG Level 3</p> <p>The object's dimensions, shape, orientation and location is exact. Layers and materials are determined and modelled. Penetrations for equipment (e.g. electrical, plumbing fixtures) is modelled with exact dimensions, shape, location and orientation.</p>			X	
<p>LoG Level 5</p>				X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1
<p>Name</p> <p>IFC 4 Add2 : IfcRoot.Name</p> <p>Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001 Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>	X	X	X	X
<p><i>NOSSB_Process</i></p> <p>Pset contains properties related to process codes. Default process codes for design will be the MMI (Model Maturity Index) Guidance document from associations EBA, RIF and Arkitektbedriftene in Norway.</p>				
<p>Duplicate object</p> <p>IFC 4 Add2 : NOSSB_Process.IsDuplicate</p> <p>Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE etc.</p>	X	X	X	X
<p>Designed status</p> <p>IFC 4 Add2 : NOSSB_Process.DesignedStatus</p>	X	X	X	X
<p>Constructed status</p> <p>IFC 4 Add2 : NOSSB_Process.ConstructedStatus</p>				X
<p><i>NOSSB_ReqTriggers</i></p> <p>A collection of properties expressing the need for connection to a system and activating model checking according requirements in a property set specific for the system.</p>				
<p>Has fire safety requirement</p> <p>IFC 4 Add2 : NOSSB_ReqTriggers.HasFireRequirements</p>		X	X	X
<p><i>Pset_TransportElementCommon</i></p> <p>Properties common to the definition of all occurrences of IfcTransportElement or IfcTransportElementType</p>				
<p>FireExit</p> <p>IFC 4 Add2 : Pset_TransportElementCommon.FireExit</p>		X	X	X

Level of Information (LOI)	B3.1	B3.2	B4.1	B5.1	
<p><i>Pset_ManufacturerTypeInfo</i> Defines characteristics of types (ranges) of manufactured products that may be given by the manufacturer. Note that the term 'manufactured' may also be used to refer to products that are supplied and identified by the supplier or that are assembled off site by a third party provider. HISTORY: This property set replaces the entity IfcManufacturerInformation from previous IFC releases. IFC 2x4: AssemblyPlace property added.</p>					
<p>GlobalTradeItemNumber IFC 4 Add2 : Pset_ManufacturerTypeInfo.GlobalTradeItemNumber</p>				X	

Description of Properties

In the overview table, the element properties mentioned in the detailed information requirements are described in more detail and the characteristics to be used (if available), data types and units are specified.

Properties	Description	Data Type
Name	<p>Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001</p> <p>Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>	Label
Name		Label
Name	A descriptive name of the grid.	Label
Name	<p>Ny entitetstype i IFC4, gjør at man kan definere en sone med EGEN geometri, uavhengig av geometri på romobjekter. Den vanlige IfcZone er bare en container for IfcSpace-objekter, og/eller andre IfcZones og har ikke egen geometri, mens IfcSpatialZone kan definere et fritt valgt område/volum, f.eks. brukes for å angi en råteskadd del av ev vegg. har vi krav til bruk av slike SpatialZones? Man kunne tenke seg bruk av det på f.eks. "kontrollsoner" knyttet til Lean Construction-prosjekter...</p>	Label
Name	<p>Space Function Number (no: "Romfunksjonsnummer") according to the project specific spatial program, typically denoted by a main function number, a sub function number, and a sequential number, dot delimited, e.g. 03.05.004.</p> <p>Space Gross Floor Area objects shall be named GFA, and Usable Areas shall be named UA</p>	Label
Name	<p>Mandatory: Building component code (no: NS3457-8:2021 Komponentkode) + type code (three digit serial number). Example syntax AVA.001</p> <p>Optionally: In case a subcode is required to differ between variations within an object type or specific object type functions an sub type code (two digit number) can be added. Example syntax AVA.001.01</p>	Label
Name	Optional name for use by the participating software systems or users. For some subtypes of IfcRoot the insertion of the Name attribute may be required. This would be enforced by a where rule.	Label

Properties	Description	Data Type
Name	The storey names shall be an integer number starting from "1" at the lowest floor level and incrementing by one for each floor level – i.e. storey numbers must not be negative even for storeys below ground.	Label
Name	Statsbygg official Project Number (seven digits) <i>Enumeration: 1234567, 12345678</i>	Label
Longname	Statsbygg official Project Name	Text
Description	User defined wall type description	Text
Longname		Label
Description	Any further description of the zone.	Text
Longname	The site may additionally have a Statsbygg "complex number" [no.Kompleksnummer] if so required in the project. If required this naming shall be captured in IfcSite.Longname.	Label
Description	Any further description of the space function as named in the LongName field, e.g. "for 20 persons".	Text
Longname	Statsbyggs "Byggnummer"	Label
Description	<p>User defined description of element type, its material and when applicable composite. Description shall communicate all properties relevant for cost and construction that are not communicated by other object properties.</p> <p>Applies to disciplines Architect (ARK), Structural Engineer (RIB) and Landscape Architect (LARK):</p> <p>If the software does not allow usage of Description, Statsbygg accepts usage of IfcMaterial for describing the object type. Usage of Description or Material shall be consistent for all objects and all models from the same discipline.</p> <p>Applies to disciplines Mechanical and Plumbing Engineer and Electrical Engineer:</p> <p>To the extent the Name sufficiently communicates all properties relevant for cost and construction that are not communicated by other object properties, the Description requirement can be omitted. This shall be confirmed by the appointing party.</p>	Text
Georeference	EPSG compound code is a unique code indicating the combination of geodetic datum (typically ETRS89 / EUREF89), projection (typically NTM zone 10, UTM Zone 32N etc.), And height datum (typically NN2000).	Label

Properties	Description	Data Type
LandTitleNumber	The site shall contain the official ID of the Cadastre [no:Matrikkel] - the Cadastral Number.	Label
LongName	3-digit space code and name according to Norwegian Standard NS3457-2:2015 Classification of construction works - Part 4: Spatial functions. Syntax according to the standard, i.e. first the 3-digit code followed by a space and then the name, e.g. "212 Møterom" (en: meeting room). Special case: Gross Floor Area (GFA) objects shall specifically be denoted "BTA" (no: "bruttoareal") in this field, optionally followed by a space and a further specification, e.g. "BTA Floor 3".	Label
LongName	Long name for a zone, used for informal purposes. It should be used, if available, in conjunction with the inherited Name attribute.	Label
Predefined type	[Definition from IFC]:	
FireExit	Indication whether this object is designed to serve as an exit in the case of fire (TRUE) or not (FALSE). Here it defines an exit window in accordance to the national building code.	Boolean
GrossPlannedArea	Total planned gross area for the space. Used for programming the space.	Area
Duplicate object	Communicates that another discipline is responsible for information of the element. The duplicate object is represented in this model for coordination or model technical purpose. The attribute specifies the code for the responsible discipline e.g. RIB, ARK, RIV, RIE, LARK, RIVA, RIBr, RIA, RIEen etc.	Label
Has controls connection	Communicates the object depends on connection to building controle. Activates checking of object according to NOSSB_BuildingControls.	Boolean
Thermal transmittance requirement	Required thermal transmittance (W/(m ² K)).	Label
Designed status	Communicates the objects maturity in the decision and QA process in the design phase. Unless other is agreed use the code from EBAs MMI-veiledere. It is possible to use user-defined MMI codes to suit the project needs. Designed status use from MMI000 and up to MMI399. Use the Prefix MMI in the code e.g. MMI100, MMI200, MMI350 etc.	Label
Has data communication connection	Communicates the object depends on connection to ICT communication. Activates checking of object according to NOSSB_Communication.	Boolean

Properties	Description	Data Type
Constructed status	Communicates the objects maturity in the decision and QA process in the construction phase. Unless other is agreed use the code from EBAs MMI-veiledet. It is possible to use user-defined MMI codes to suit the project needs. Constructed status use from MMI400 to MMI499. Use the Prefix MMI in the code e.g. MMI400, MMI450, MMI475 etc.	Label
Has electrical connection	Communicates the object depends on connection to electrical power. Activates checking of object according to NOSSB_ElectricalDevice.	Boolean
RequiredHeadroom	Required headroom clearance for the passageway according to the applicable building code or additional requirements.	Length (positive, >0)
NetPlannedArea	Total planned net area for the space. Used for programming the space.	Area
TileWidth	Width of ceiling tiles. The size information is provided in addition to the shape representation and the geometric parameters used within. In cases of inconsistency between the geometric parameters and the size properties, provided in the attached property set, the geometric parameters take precedence.	Length (positive, >0)
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
FireExit	Indication whether this object is designed to serve as an exit in the case of fire (TRUE) or not (FALSE). Here whether the transport element (in case of e.g., a lift) is designed to serve as a fire exit, e.g., for fire escape purposes.	Boolean
HandicapAccessible	Indication that this object is designed to be accessible by the handicapped. Set to (TRUE) if this stair is rated as handicap accessible according the local building codes, otherwise (FALSE). Accessibility maybe provided by additional means.	Boolean
PubliclyAccessible	Indication whether this space (in case of e.g., a toilet) is designed to serve as a publicly accessible space, e.g., for a public toilet (TRUE) or not (FALSE).	Boolean
Has acoustic requirement	Communicates the object has acoustical requirements. Activates checking of object according to NOSSB_Acoustic	Boolean
Has thermal requirement	Communicates the object has thermal requirements. Activates checking of object according to NOSSB_Thermal.	Boolean
Has fire safety requirement	Communicates the object has fire safety requirements. Activates checking of object according to NOSSB_Fire. Applies to elements.	Boolean

Properties	Description	Data Type
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
HandicapAccessible	Indication whether this space (in case of e.g., a toilet) is designed to serve as an accessible space for handicapped people, e.g., for a public toilet (TRUE) or not (FALSE). This information is often used to declare the need for access for the disabled and for special design requirements of this space.	Boolean
Height	Height of the object. It is the upper height of the railing above the floor or stair. The size information is provided in addition to the shape representation and the geometric parameters used within. In cases of inconsistency between the geometric parameters and the size properties, provided in the attached property set, the geometric parameters take precedence.	Length (positive, >0)
FireRating	Fire rating for this object. It is given according to the national fire safety classification.	Label
FireExit	Indication whether this object is designed to serve as an exit in the case of fire (TRUE) or not (FALSE). Here it defines an exit stair in accordance to the national building code.	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
FireRating	Fire rating for this object. It is given according to the national fire safety classification.	Label
AcousticRating	Acoustic rating for this object. It is given according to the national building code. It indicates the sound transmission resistance of this object by an index rating (instead of providing full sound absorption values).	Label
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).	Boolean

Properties	Description	Data Type
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.	Label
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of a material. It applies to the total door construction.	Thermal Transmittance
RequiredHeadroom	Required headroom clearance for the passageway according to the applicable building code or additional requirements.	Length (positive, >0)
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of the element. It is the total thermal transmittance coefficient through the building element proxy within the direction of the thermal flow (including all materials). Note: new property in IFC4	Thermal Transmittance
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of an element. Here the total thermal transmittance coefficient through the covering (including all materials).	Thermal Transmittance
FireRating	Fire rating for the element. It is given according to the national fire safety classification.	Label
FireRating	Fire rating for this object. It is given according to the national fire safety classification.	Label
FireExit	Indication whether this object is designed to serve as an exit in the case of fire (TRUE) or not (FALSE). Here it defines an exit ramp in accordance to the national building code.	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean

Properties	Description	Data Type
HandicapAccessible	Indication that this object is designed to be accessible by the handicapped. Set to (TRUE) if this ramp is rated as handicap accessible according the local building codes, otherwise (FALSE).	Boolean
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).	Boolean
FireRating	Fire rating for the element. It is given according to the national fire safety classification.	Label
LoadBearing		
HandicapAccessible	Indication that this object is designed to be accessible by the handicapped. It is giving according to the requirements of the national building code.	Boolean
FireExit	Indication whether this object is designed to serve as an exit in the case of fire (TRUE) or not (FALSE). Here whether the space (in case of e.g., a corridor) is designed to serve as an exit space, e.g., for fire escape purposes.	Boolean
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
GlobalTradeItemNumber	The Global Trade Item Number (GTIN) is an identifier for trade items developed by GS1 (www.gs1.org).	Identifier
FireRating	Fire rating for this object. It is given according to the national fire safety code or regulation.	Label
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).	Boolean
EntranceLevel	Indication whether this building storey is an entrance level to the building (TRUE), or (FALSE) if otherwise.	Boolean
Headroom	Actual headroom clearance for the passageway according to the current design. The shape information is provided in addition to the shape representation and the geometric parameters used within. In cases of inconsistency between the geometric parameters and the shape properties, provided in the attached property, the geometric parameters take precedence.	Length (positive, >0)
LoadBearing		
AboveGround	Indication whether this building storey is fully above ground (TRUE), or below ground (FALSE), or partially above and below ground (UNKNOWN) - as in sloped terrain.	Logical

Properties	Description	Data Type
AcousticRating	Acoustic rating for this object. It is provided according to the national building code. It indicates the sound transmission resistance of this object by an index ratio (instead of providing full sound absorption values).	Label
Headroom	Actual headroom clearance for the passageway according to the current design. The shape information is provided in addition to the shape representation and the geometric parameters used within. In cases of inconsistency between the geometric parameters and the shape properties, provided in the attached property, the geometric parameters take precedence.	Length (positive, >0)
FireExit	Indication whether this object is designed to serve as an exit in the case of fire (TRUE) or not (FALSE). Here it defines an exit door in accordance to the national building code.	Boolean
FireRating	Fire rating given according to the national fire safety classification.	Label
AcousticRating	Acoustic rating for this object. It is provided according to the national building code. It indicates the sound transmission resistance of this object by an index ratio (instead of providing full sound absorption values).	Label
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).	Boolean
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.	Label
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of a material. Here the total thermal transmittance coefficient through the wall (including all materials).	Thermal Transmittance
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
HasDrive	Indication whether this object has an automatic drive to operate it (TRUE) or no drive (FALSE)	Boolean
AcousticRating	Acoustic rating for this object. It is provided according to the national building code. It indicates the sound transmission resistance of this object by an index ratio (instead of providing full sound absorption values).	Label

Properties	Description	Data Type
SecurityRating	Index based rating system indicating security level. It is giving according to the national building code.	Label
FireRating	Fire rating for this object. It is given according to the national fire safety classification.	Label
AcousticRating	Acoustic rating for this object. It is provided according to the national building code. It indicates the sound transmission resistance of this object by an index ratio (instead of providing full sound absorption values).	Label
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
SelfClosing	Indication whether this object is designed to close automatically after use (TRUE) or not (FALSE).	Boolean
FireRating	Fire rating for this object. It is given according to the national fire safety classification.	Label
AcousticRating	Acoustic rating for this object. It is provided according to the national building code. It indicates the sound transmission resistance of this object by an index ratio (instead of providing full sound absorption values).	Label
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of a material. Here the total thermal transmittance coefficient through the roof surface (including all materials).	Thermal Transmittance
SecurityRating	Index based rating system indicating security level. It is giving according to the national building code.	Label
FireRating	Fire rating given according to the national fire safety classification. <i>Enumeration: EI30</i>	Label
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
SmokeStop	Indication whether the object is designed to provide a smoke stop (TRUE) or not (FALSE).	Boolean
Combustible	Indication whether the object is made from combustible material (TRUE) or not (FALSE).	Boolean
SurfaceSpreadOfFlame	Indication on how the flames spread around the surface, It is given according to the national building code that governs the fire behaviour for materials.	Label
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of a material. It applies to the total door construction.	Thermal Transmittance

Properties	Description	Data Type
ThermalTransmittance	Thermal transmittance coefficient (U-Value) of a material. Here the total thermal transmittance coefficient through the wall (including all materials).	Thermal Transmittance
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
MinimumHeadroom	Headroom required for the activity assigned to this space.	Length
IsOutlookDesirable	An indication of whether the outlook is desirable (set TRUE) or not (set FALSE)	Boolean
LoadBearing	Indicates whether the object is intended to carry loads (TRUE) or not (FALSE).	Boolean
HasDrive	Indication whether this object has an automatic drive to operate it (TRUE) or no drive (FALSE)	Boolean
BuildingID	A unique identifier assigned to a building [No:Bygningsnummer]. A temporary identifier is initially assigned at the time of making a planning application. This temporary identifier is changed to a permanent identifier when the building is registered into a statutory buildings and properties database.	Identifier
IsExternal	Indication whether the element is designed for use in the exterior (TRUE) or not (FALSE). If (TRUE) it is an external element and faces the outside of the building.	Boolean
Compartmentation	Indication whether the object is designed to serve as a fire compartmentation (TRUE) or not (FALSE).	Boolean
SmokeStop	Indication whether the object is designed to provide a smoke stop (TRUE) or not (FALSE).	Boolean
Permeability	Ratio of the permeability of the ceiling. The ration can be used to indicate an open ceiling (that enables identification of whether ceiling construction should be considered as impeding distribution of sprinkler water, light etc. from installations within the ceiling area).	Ratio (normalised, 0-1)