

**DiKon**  
Digital Konvergens



**BIM**  
land  
skab

**VERSION 3.0 EN-UK**  
09 OKT 2018

# **SPECIFICATION OF BUILDING PARTS**

FOR SELECTED BUILDING PARTS IN BUILDING AND LANDSCAPE MODELS

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**Note to the English translation**

If there are any inconsistencies in this translation the Danish version has priority.

## Introduction

As the significance of building parts and their information (properties) contained in Building Information Models (BIM) increases, there is a need to clearly describe the contents of the BIM as it relates to reliability, geometric detail and information.

This need typically arises in two situations:

- In the contract phases to ensure clarity on building parts' reliability, geometric detail and information at a given point in time. This is agreed and typically described in a Model Delivery Specification
- To support the design process where there is a need specify when specific information shall be delivered and by whom.

Defining uses of the BIM for specific purposes is necessary and ensures clarity on which party is responsible for a specific element in the BIM.

In order to establish a simple method for describing the contents of the BIM at a given point in time, DiKon and BIM7AA have together developed the Specification of Building Parts for selected building parts (Danish: Bygningsdelsspecifikation)

The basis for the Specification of Building Parts is Description of services for Building and Landscape 2018, BIMforums LOD levels, Molio's CCS Information Levels, and the experience of the working groups' members.

LOD terminology is used in this publication to ensure future consistency with other international LOD standards and publications.

This publication applies exclusively to information present in the BIM and not to other project related information.

DiKon and BIM7AA have each developed a Model Delivery Specification describing the contents of the BIM. These can be used to describe the specific elements in the BIM for each professional discipline and project phase. Please visit [dikon.info](http://dikon.info) and [bim7aa.dk](http://bim7aa.dk) for more information.

## Definitions of LOD and related terminology

Level of Development (LOD) describes explicitly which information about model elements must be present in the BIM at different stages during the design and construction process.

LOD for building parts is comprised of:

**Level of Reliability (LOR)** describes the reliability of the information provided for the building part and it's properties.

**Level of Geometry (LOG)** describes the building parts' geometric representations and the extent of secondary components/parts

**Level of Information (LOI)** describes the building parts' properties contained in, linked to, or in some other way connected.

Any given LOD level defines in this way the required levels for geometric representation, properties and the reliability of those aspect.

## LOD levels

To avoid confusion with other international LOD specifications the Danish specification uses the Danish country code DK as part of the LOD levels – for example LOD 200 DK.

LOD levels include a predefined set of matching levels for LOR, LOG and LOI. For example LOD 200 DK includes in it's definition LOR 200 DK, LOG 200 DK and LOI 200 DK.

It is possible to combine LOR, LOG and LOI from different levels, for example if there is a need for a more detailed geometric representation and range of properties. In this case the projects LOD level can be describes with the following syntax: |200|325|300|, where the first number (200) specifies the LOR level, the next (325) specifies the LOG level and the last number (300) specifies the LOI level.

Note that the LOR level still determines the reliability of the LOG and LOI levels.

LOD-levels are not bound to specific phases. This allows building parts to be at different LOD levels in different project phases.

**LOD 200 DK** defines building parts modelled as generic objects and their associated properties. All information is defined at the 'assumed' level

**LOD 300 DK** defines building parts modelled as specific types of objects with their associated properties. All information is at the 'defined' level.

**LOD 325 DK** defines building parts modelled as detailed types of objects with their associated specific properties. All information is at the 'final' level.

**LOD 400 DK** defines building parts modelled based on specific product types with their associated product specific properties. All information is at the 'final detailed' level.

The BIMforum LOD levels use a level LOD 350 where DiKon og BIM7AA uses LOD325. This reflects the fact that the typical required deliverables in Denmark are structured differently from those in BIMforums LOD 350.

## Relationship to other Danish standards and agreement documents

The table below shows the connection between LOD DK levels, BIPS and CCS Levels of Information and §9.4 Digital Design from the Danish Description of services for Building and Landscape 2018 (YBL 2018).

LOD DK	LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
<b>CCS Information Level</b>	Info. level 3	Info. level 4	Info. level 5	Info. level 6
<b>BIPS C102(e) Information Level</b>	Info. level 2	Info. level 3	Info. level 4	Info. level 5
<b>YBL 2018, Digital Design</b>	Assumed geometry	Defined geometry	Final geometry	-

## Usage

For selected building parts in LOD Levels 200, 300, 325 and 400 there are specifications for LOR, LOG and LOI. In some cases the specifications are for specific building parts, in other cases the specifications apply to a group of building parts. LOD 200, 300 and 325 are directly linked to design services from YBL 2018, while LOD 400 is relevant to the production process for building parts. This is noted with each specification.

If §9.4 Digital Design Services are selected from YBL 2018 and LOD DK are used then all of LOR, LOG and LOI levels are required for each building part.

Specification of Building Parts is intended for use in its entirety. Changes and additions to the specification may not be made without being clearly marked. Clearly marked changes (typically in red) can be part of a project specific specification.

Note that requirements related to, for example, the extent of digital design services and use of classification and quantity take-off from the building information model, must be defined in the contract between the parties.

## Comments

Specification of Building Parts is updated continuously and comments and suggestions are warmly received. Please send them to

**DIKON** [mail@dikon.info](mailto:mail@dikon.info) or **BIM7AA** [mail@bim7aa.dk](mailto:mail@bim7aa.dk)

## Working group

The following companies have participated in working groups related to this publication:

### From DiKon:

NCC, COWI, Aarstiderne Arkitekter, Rambøll, Aarsleff, Arkitema and Sweco

### From BIM7AA:

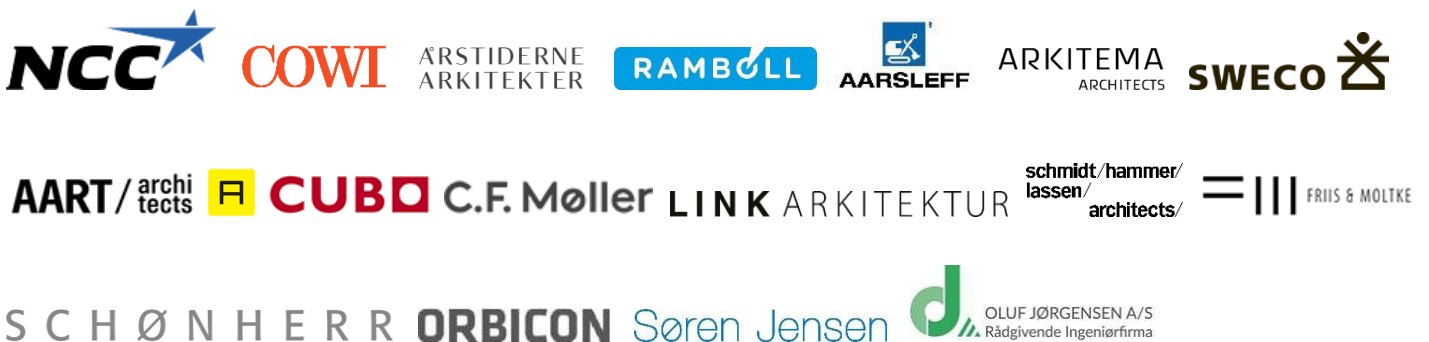
Arkitema, C.F. Møller, Aart, Arkitektskolen Aarhus, Cubo, Friis & Moltke, Link arkitektur, and Schmidt Hammer Lassen Architects.

### From BIM i Landskabet:

Arkitema, C.F. Møller, Link arkitektur, Schönherr, Aarstiderne Arkitekter

### We also greatly appreciate additional participants from the following companies:

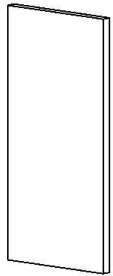
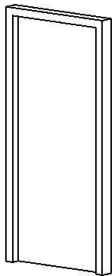
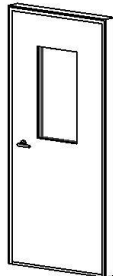
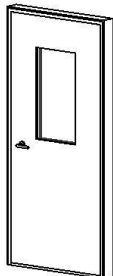
Søren Jensen, Orbicon and Oluf Jørgensen



## Specification for Doors

Applies to doors

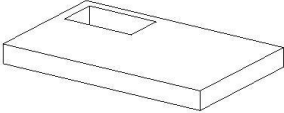
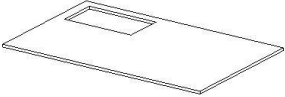
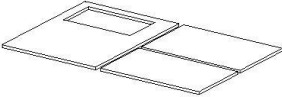
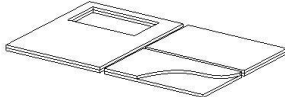
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LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Doors defined at the expected level for geometry, placement and associated properties.	DEFINED  Doors defined at the specified level for geometry, placement and associated properties.	FINAL  Doors defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Doors defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  	TYPE-LEVEL  	DETAILED TYPE-LEVEL  	PRODUCTION LEVEL  
Doors modelled with rough width and height, divided into expected types.	Doors modelled with rough width and height, frame and door leaf, organized into types.	Doors modelled with rough width and height, frame and door leaf, organized into types. Door panel modelled as glass or solid.	Doors modelled with rough width and height, frame and door leaf, organized into types. Door leaf geometry divided by material.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name Rough width Rough height	ASSOCIATED PROPERTIES  Type name Rough width Rough height	ASSOCIATED PROPERTIES  Type name Rough width Rough height Placement level Fire exit Hardware set Construction	ASSOCIATED PROPERTIES  Type name Rough width Rough height Placement level Fire exit Hardware set Construction
<p><b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.</p>			<p><b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Floor Assembly

Applies to generic floor assemblies at all levels of design

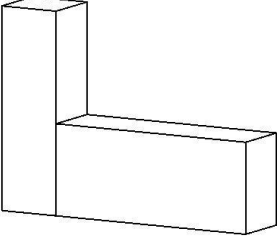
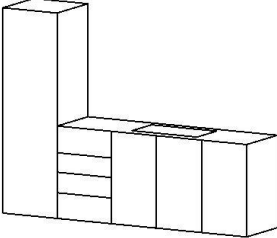
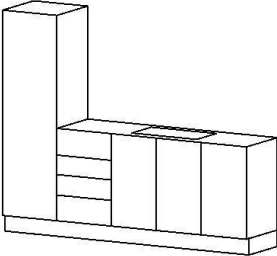
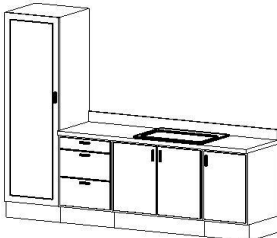
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LOD 200 DK		LOD 300 DK		LOD 325 DK		LOD 400 DK	
Information level 3		Information level 4		Information level 5		Information level 6	
LOR 200		LOR 300		LOR 325		LOR 400	
ASSUMED		DEFINED		FINAL		FINAL DETAILED	
Floor assembly defined at the expected level for geometry, placement and associated properties.		Floor assembly defined at the specified level for geometry, placement and associated properties.		Floor assembly defined at the final level for geometry, placement and associated properties.		Floor assembly defined at the final detailed level for geometry, placement and associated properties according to actually selected products.	
LOG 200		LOG 300		LOG 325		LOG 400	
GENERIC LEVEL		TYPE-LEVEL		DETAILED TYPE-LEVEL		PRODUCTION LEVEL	
 <p>Floor assembly incl. major openings, modelled in maximum outer dimensions, divided into expected types.</p>		 <p>Floor assembly incl. major openings, modelled in maximum outer dimensions, organized into types.</p>		 <p>Floor assembly incl. major openings, modelled in maximum outer dimensions, organized into types. Walls cut non-bearings layers.</p>		 <p>Floor assembly incl. major opening, modelled with construction layer and divided by intersecting walls, organized by type. Secondary construction layers can be combined.</p>	
LOI 200		LOI 300		LOI 325		LOI 400	
ASSOCIATED PROPERTIES		ASSOCIATED PROPERTIES		ASSOCIATED PROPERTIES		ASSOCIATED PROPERTIES	
Type Name Thickness		Type Name Thickness		Type Name Thickness Placement Level Construction		Type Name Thickness Placement Level Construction	
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>						<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>	

## Specification for Furniture & Fittings

Applies to furniture, fittings, casework

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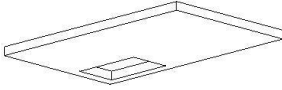
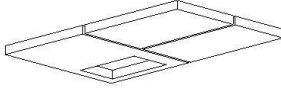
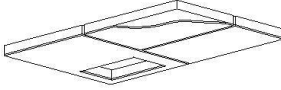
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED  Furniture & fittings defined at the expected level for geometry, placement and associated properties.	DEFINED  Furniture & fittings defined at the specified level for geometry, placement and associated properties.	FINAL  Furniture & fittings defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Furniture & fittings defined at the defined level for geometry, placement and associated properties according to actually selected products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL    Furniture & fittings modelled in maximum outer dimensions, divided into expected types.	TYPE-LEVEL    Furniture & fittings modelled in maximum outer dimensions, organized into types.	DETAILED TYPE-LEVEL    Furniture & fittings modelled in maximum outer dimensions, organized into types.	PRODUCTION LEVEL    Furniture & fittings modelled and organized into types.
LOI 200	LOI 300	LOI 325	LOI 400
ASSOCIATED PROPERTIES  Type name Height Width Depth	ASSOCIATED PROPERTIES  Type name Height Width Depth	ASSOCIATED PROPERTIES  Type name Height Width Depth Placement room	ASSOCIATED PROPERTIES  Type name Height Width Depth Placement room
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>



## Specification for Ceiling

Applies to ceilings

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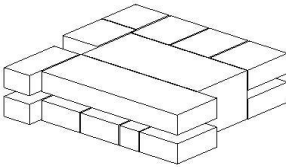
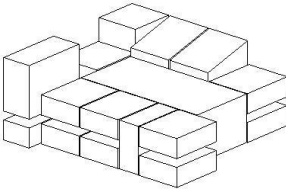
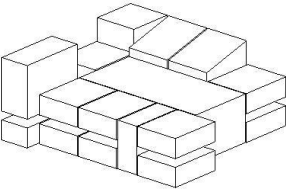
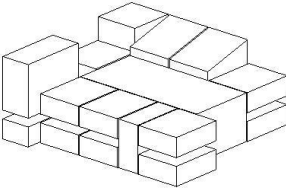
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
LOR 200	LOR 300	LOR 325	LOR 400
<p style="text-align: center;">ASSUMED</p> <p>See the specification for floor assemblies.</p>	<p style="text-align: center;">DEFINED</p> <p>Ceiling defined at the specified level for geometry, placement and associated properties.</p>	<p style="text-align: center;">FINAL</p> <p>Ceiling defined at the final level for geometry, placement and associated properties.</p>	<p style="text-align: center;">FINAL DETAILED</p> <p>Ceiling defined at the final detailed level for geometry, placement and associated properties according to actually selected products.</p>
LOG 200	LOG 300	LOG 325	LOG 400
<p style="text-align: center;">GENERIC LEVEL</p> <p>See the specification for floor assemblies.</p>	<p style="text-align: center;">TYPE-LEVEL</p> <div style="text-align: center;">  </div> <p>Ceiling, incl. major openings, modelled in maximum outer dimensions, organized into types.</p>	<p style="text-align: center;">DETAILED TYPE-LEVEL</p> <div style="text-align: center;">  </div> <p>Ceiling, incl. major openings, modelled in maximum outer dimensions, organized into types. Ceiling divided by intersecting walls.</p>	<p style="text-align: center;">PRODUCTION LEVEL</p> <div style="text-align: center;">  </div> <p>Ceiling incl. major opening, modelled with construction layer and divided by intersecting walls, organized by type. Secondary construction layers can be combined.</p>
LOI 200	LOI 300	LOI 325	LOI 400
<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>See the specification for floor assemblies.</p>	<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Type Name Thickness</p>	<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Type Name Thickness Placement level Structure</p>	<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Type Name Thickness Placement level Structure</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>



## Specification for Room

Applies to room elements

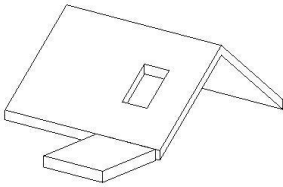
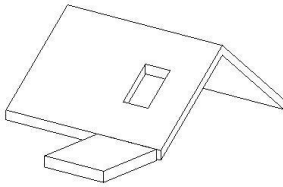
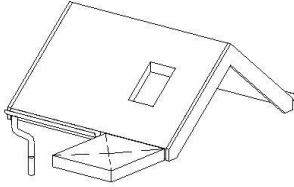
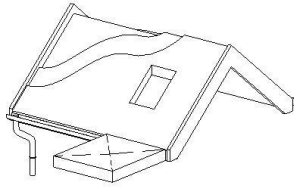
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LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
LOR 200	LOR 300	LOR 325	LOR 400
<p style="text-align: center;">ASSUMED</p> <p>Rooms defined at the expected level for geometry, placement and associated properties.</p>	<p style="text-align: center;">DEFINED</p> <p>Rooms defined at the specified level for geometry, placement and associated properties.</p>	<p style="text-align: center;">FINAL</p> <p>Rooms defined at the final level for geometry, placement and associated properties.</p>	<p style="text-align: center;">FINAL DETAILED</p> <p>Rooms defined at the final level for geometry, placement and associated properties according to actually selected products.</p>
LOG 200	LOG 300	LOG 325	LOG 400
<p style="text-align: center;">GENERIC LEVEL</p>  <p>Rooms modelled as objects.</p>	<p style="text-align: center;">TYPE-LEVEL</p>  <p>Rooms modelled as objects to upper limit.</p>	<p style="text-align: center;">DETAILED TYPE-LEVEL</p>  <p>Rooms modelled as objects to upper limit.</p>	<p style="text-align: center;">PRODUCTION LEVEL</p>  <p>Rooms modelled as objects to upper limit.</p>
LOI 200	LOI 300	LOI 325	LOI 400
<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Room name Area: floor</p>	<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Room name Room number Area: floor</p>	<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Room name Room number Area: floor Placement level</p>	<p style="text-align: center;">ASSOCIATED PROPERTIES</p> <p>Room name Room number Area: floor Placement level</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Roof

Applies to roofs

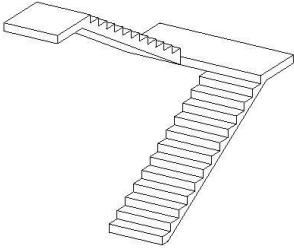
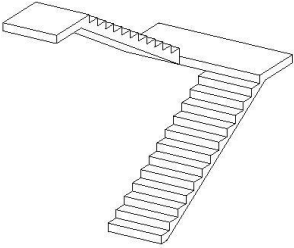
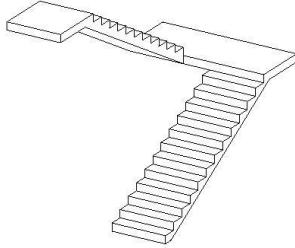
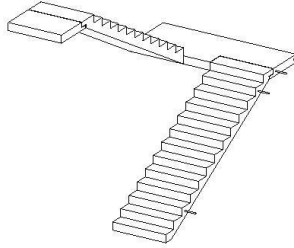
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LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED Roof defined at the expected level for geometry, placement and associated properties.	DEFINED Roof defined at the specified level for geometry, placement and associated properties.	FINAL Roof defined at the final level for geometry, placement and associated properties.	FINAL DETAILED Roof defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  Roof incl. major openings, modelled in maximum outer dimensions, divided into expected types.	TYPE-LEVEL  Roof incl. major openings, modelled in maximum outer dimensions, organized into types.	DETAILED TYPE-LEVEL  Roof incl. major openings, modelled in maximum outer dimensions, organized into types. Walls cut non-bearings layers.	PRODUCTION LEVEL  Roof incl. major openings modelled with construction layers and slope organized into types. Secondary construction layers can be combined.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES Type Name Thickness	ASSOCIATED PROPERTIES Type Name Thickness	ASSOCIATED PROPERTIES Type Name Thickness Placement Level Construction	ASSOCIATED PROPERTIES Type Name Thickness Placement Level Construction
<b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.			<b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

## Specification for Stairs and Ramps

Applies to in-situ and prefabricated stairs and ramps

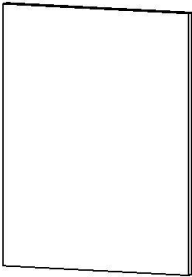
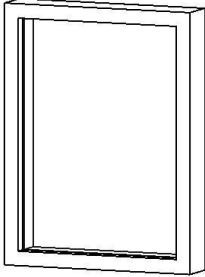
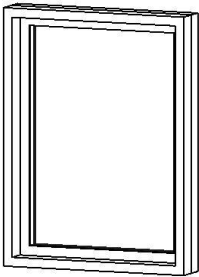
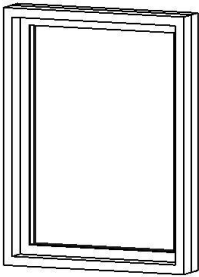
Version 2018-10-09

LOD 200 DK Information level 3		LOD 300 DK Information level 4		LOD 325 DK Information level 5		LOD 400 DK Information level 6	
<b>LOR 200</b>		<b>LOR 300</b>		<b>LOR 325</b>		<b>LOR 400</b>	
ASSUMED  Stairs defined at the expected level for geometry, placement and associated properties.		DEFINED  Stairs defined at the specified level for geometry, placement and associated properties.		FINAL  Stairs defined at the final level for geometry, placement and associated properties.		FINAL DETAILED  Stairs defined at the final detailed level for geometry, placement and associated properties according to actually selected products.	
<b>LOG 200</b>		<b>LOG 300</b>		<b>LOG 325</b>		<b>LOG 400</b>	
GENERISK NIVEAU  		TYPE-NIVEAU  		DETALJERET TYPE-NIVEAU  		PRODUKTIONS-NIVEAU  	
Stair runs and ramps modelled in maximum outer dimensions, divided into expected types.		Stair runs and ramps modelled in maximum outer dimensions, organized into types.		Stair runs and ramps modelled in maximum outer dimensions, organized into types.		Stair runs and ramps modelled as elements, organized into types. Final geometry for brackets and large holes.	
<b>LOI 200</b>		<b>LOI 300</b>		<b>LOI 325</b>		<b>LOI 400</b>	
ASSOCIATED PROPERTIES  Type name		ASSOCIATED PROPERTIES  Type name		ASSOCIATED PROPERTIES  Type name Placement level Construction		ASSOCIATED PROPERTIES  Type name Placement level Construction	
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>						<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>	

## Specification for Window

Applies to windows, panes and panels

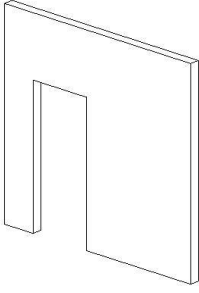
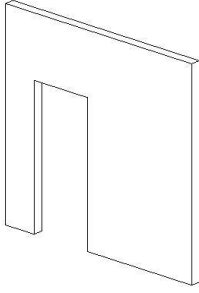
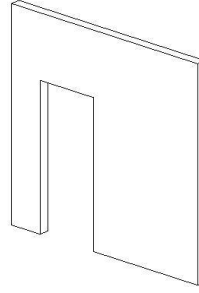
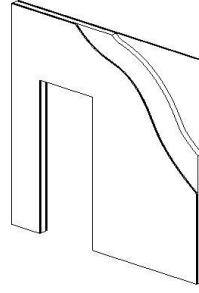
Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Window defined at the expected level for geometry, placement and associated properties.	DEFINED  Window defined at the specified level for geometry, placement and associated properties.	FINAL  Window defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Window defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL    Window modelled with rough width and height, divided into expected types.	TYPE-LEVEL    Window modelled with rough width and height, and frame, organized into types.	DETAILED TYPE-LEVEL    Window modelled with rough width and height, and frame and sash, organized into types.	PRODUCTION LEVEL    Window modelled with rough width and height, and final frame and sash, organized into types.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name Rough width Rough height	ASSOCIATED PROPERTIES  Typenavn Type name Rough width Rough height	ASSOCIATED PROPERTIES  Type name Rough width Rough height Placement level Fire exit Construction	ASSOCIATED PROPERTIES  Type name Rough width Rough height Placement level Fire exit Construction
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Partition Walls

Applies to non-load bearing walls

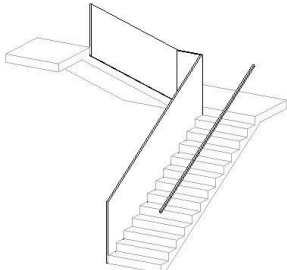
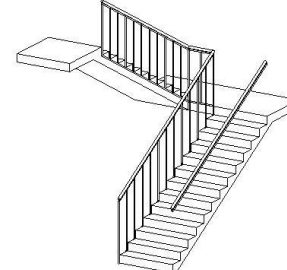
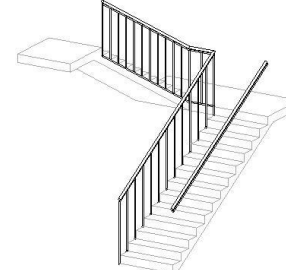
Version 2018-10-09

LOD 200 DK		LOD 300 DK		LOD 325 DK		LOD 400 DK	
Information level 3		Information level 4		Information level 5		Information level 6	
LOR 200		LOR 300		LOR 325		LOR 400	
ASSUMED		DEFINED		FINAL		FINAL DETAILED	
Partition walls defined at the expected level for geometry, placement and associated properties.		Partition walls defined at the specified level for geometry, placement and associated properties.		Partition Walls defined at the final level for geometry, placement and associated properties.		Partition walls defined at the final detailed level for geometry, placement and associated properties according to actually selected products.	
LOG 200		LOG 300		LOG 325		LOG 400	
GENERIC LEVEL		TYPE-LEVEL		DETAILED TYPE-LEVEL		PRODUCTION LEVEL	
							
Partition walls incl. major openings, modelled in maximum outer dimensions, divided into expected types.		Partition walls incl. major openings, modelled in maximum outer dimensions, organized into types.		Partition walls incl. major openings, modelled in maximum outer dimensions, organized into types. Walls cut non-bearings layers.		Partition walls incl. major opening, modelled with construction layer and divided by intersecting walls, organized by type. Secondary construction layers can be combined.	
LOI 200		LOI 300		LOI 325		LOI 400	
ASSOCIATED PROPERTIES		ASSOCIATED PROPERTIES		ASSOCIATED PROPERTIES		ASSOCIATED PROPERTIES	
Type Name Thickness		Type Name Thickness		Type Name Thickness Placement: Level Construction		Type Name Thickness Placement: Level Construction	
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>						<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>	

## Specification for Railings

Applies to railings

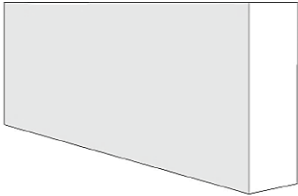
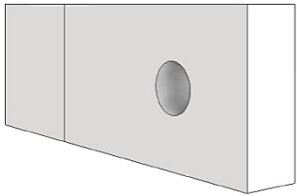
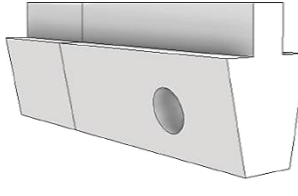
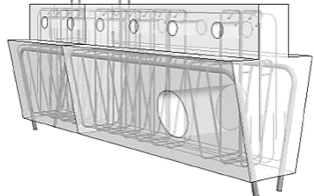
Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED Not relevant for LOR200	DEFINED Railing defined at the specified level for geometry, placement and associated properties.	FINAL Railing defined at the final level for geometry, placement and associated properties.	FINAL DETAILED Railing defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL Not relevant for LOG200	TYPE-LEVEL  Railing modelled in maximum outer dimensions organized into types.	DETAILED TYPE-LEVEL  Railing modelled in maximum outer dimensions with general geometry of railings and handrails, organized into types.	PRODUCTION LEVEL  Railing modelled with railing types and handrails in their final construction, organized into types.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES Not relevant for LOI200	ASSOCIATED PROPERTIES Type name Height	ASSOCIATED PROPERTIES Type name Height Placement level Construction	ASSOCIATED PROPERTIES Type name Height Placement level Construction
<b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.			<b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

## Specification for Concrete Beams

Applies to in-situ and prefabricated concrete beams

Version 2018-10-09

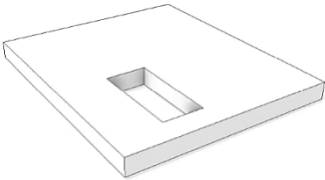
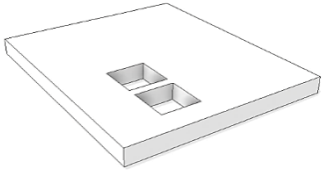
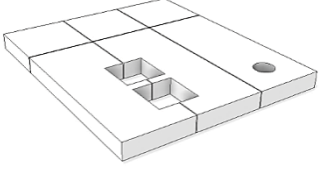
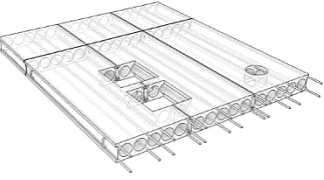
<b>LOD 200 DK</b> Information level 3	<b>LOD 300 DK</b> Information level 4	<b>LOD 325 DK</b> Information level 5	<b>LOD 400 DK</b> Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
<p>ASSUMED</p> <p>Beams defined at the expected level for geometry, location and associated properties.</p>	<p>DEFINED</p> <p>Beams defined at the specified level for geometry, location and associated properties.</p>	<p>FINAL</p> <p>Beams defined at the final level for geometry, location and associated properties.</p>	<p>FINAL DETAILED</p> <p>Beams defined at the final detailed level for geometry, location and associated properties according to actually selected products.</p>
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
<p>GENERIC LEVEL</p>  <p>Beams modelled as generic objects in maximum outer dimensions, divided into expected types.</p>	<p>TYPE-LEVEL</p>  <p>Beams modelled incl. major openings for building services.</p>	<p>DETAILED TYPE-LEVEL</p>  <p>Beams modelled in production-ready lengths, including corbels, and with openings for building services.</p>	<p>PRODUCTION LEVEL</p>  <p>Beams modelled in production length with corbels, openings for building services, joints, reinforcing incl. laps, mounting points, bevells, inserts and cast-plates.</p>
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
<p>ASSOCIATED PROPERTIES</p> <p>Type name: cross section Length</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name: Cross section Length Load bearing</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name: Cross section Length Load bearing Placement: Level</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name: Cross section Length Load bearing Placement: Level Surface treatment Surface requirement Concrete compressive strength Environment class Max. aggregate size</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>



## Specification for Concrete Slab

Applies to in-situ and prefabricated concrete slab

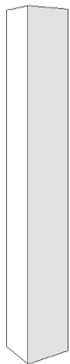

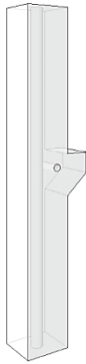
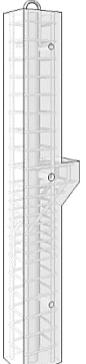
Version 2018-10-09

<b>LOD 200 DK</b> Information level 3	<b>LOD 300 DK</b> Information level 4	<b>LOD 325 DK</b> Information level 5	<b>LOD 400 DK</b> Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
<p><b>ASSUMED</b></p> <p>Concrete slabs defined at the expected level for geometry, placement and associated properties.</p>	<p><b>DEFINED</b></p> <p>Concrete slabs defined at the specified level for geometry, placement and associated properties.</p>	<p><b>FINAL</b></p> <p>Concrete slab defined at the final level for geometry, placement and associated properties.</p>	<p><b>FINAL DETAILED</b></p> <p>Concrete slabs defined at the final detailed level for geometry, placement and associated properties according to actually selected products.</p>
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
<p><b>GENERIC LEVEL</b></p>  <p>Slabs modelled as generic objects in maximum outer dimensions, divided into expected types.</p>	<p><b>TYPE-LEVEL</b></p>  <p>Slabs modelled with major openings for main routings for building services.</p>	<p><b>DETAILED TYPE-LEVEL</b></p>  <p>Slabs modelled with specified span direction, major in-situ areas, and major openings and holes for building services with a diameter or edge distance over 150 mm. Extent of modelling individual elements agreed for each specific project.</p>	<p><b>PRODUCTION LEVEL</b></p>  <p>Slabs modelled for production with openings and holes for building services, corbels, joints, connectors in joints, reinforcement incl. laps, reinforcement used during installation, bevels, inserts and plates, structural joints and screed.</p>
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name Thickness</p>	<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name Thickness Load bearing</p>	<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name Thickness Load bearing Placement: Level</p>	<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name Thickness Load bearing Placement: Level Surface treatment Surface requirements Concrete compressive strength Environment class Max. aggregate size</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Concrete Column

Applies to in-situ and prefabricated concrete columns

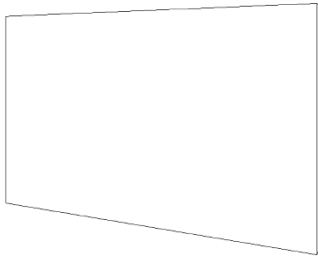
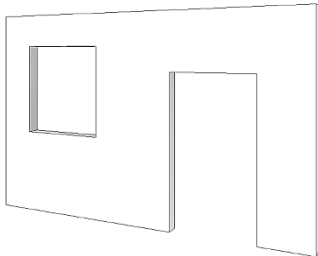
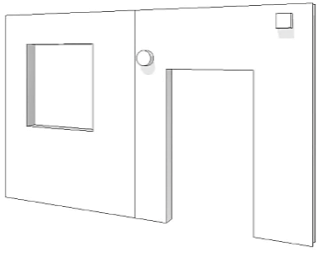
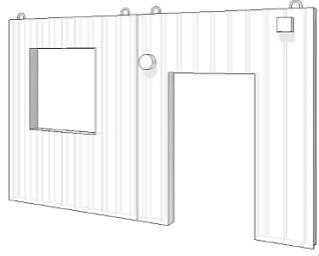
Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Columns defined at the expected level for geometry, placement and associated properties.	DEFINED  Columns defined at the specified level for geometry, placement and associated properties.	FINAL  Columns defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Columns defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL    Columns modelled as generic object in maximum outer dimensions, divided into expected types.	TYPE-LEVEL    Columns modelled with major openings for building services.	DETAILED TYPE-LEVEL    Columns modelled in production-ready lengths, including corbels, anchoring and openings for building services.	PRODUCTION LEVEL    Columns modelled in production lengths, including corbels, anchoring, with openings for building services, joints, reinforcement including, laps, reinforcement for erection, bevel, inserts and cast-in plates.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name: Cross section Length	ASSOCIATED PROPERTIES  Type name: Cross section Length Load bearing	ASSOCIATED PROPERTIES  Type name: Cross section Length Load bearing Placement: Level	ASSOCIATED PROPERTIES  Type name: Cross section Length Construction type Placement: Level Surface treatment Surface requirement Concrete compressive strength Environment class Max. aggregate size
<p><b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.</p>			<p><b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Concrete Wall

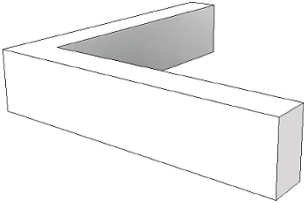
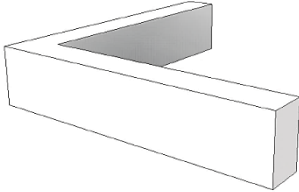
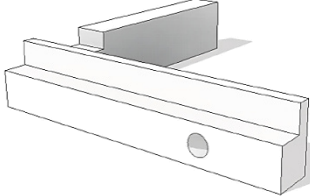
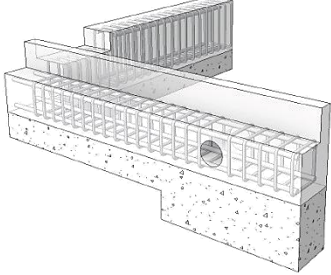
Applies to site-cast concrete and prefabricated concrete walls

Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Walls are defined at an expected level for geometry, location, and associated properties.	DEFINED  Walls are defined at a specified level for geometry, location and associated properties.	FINAL  Walls are defined at a final level for geometry, location and associated properties.	FINALLY DETAILED  Wall are defined at a finally detailed level for geometry, location and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL    Walls are modeled as generic objects with maximum outer contour, organized into generalized types	TYPE-LEVEL    Walls are modeled with major openings and openings for large mechanical elements.	DETAILED TYPE-LEVEL    Walls are modeled with major openings and openings for mechanical elements with a diameter or edge length over 150 mm, brackets and corrugated tubes. Scope of element layout, skirts and folds is agreed on project-specific basis.	PRODUCTION LEVEL    Walls are modeled with major openings for mechanical elements, brackets, corrugated tubes, joints, joint sealing, reinforcement incl. shocks, mounting bars, slings, inserts, and plates.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name Thickness Height Length	ASSOCIATED PROPERTIES  Type name Thickness Height Length Load-bearing	ASSOCIATED PROPERTIES  Type name Thickness Height Length Load-bearing Placement: Level Construction	ASSOCIATED PROPERTIES  Type name Thickness Height Length Load-bearing Placement: Level Construction Surface treatment Surface requirements Compressive strength Maks. aggregate size
<b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.			<b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

**Specification for Foundations**  
Applies to strip and point foundations

Version 2018-10-09

<b>LOD 200 DK</b> Information level 3	<b>LOD 300 DK</b> Information level 4	<b>LOD 325 DK</b> Information level 5	<b>LOD 400 DK</b> Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Foundations defined at the assumed level for geometry, placement and associated properties.	DEFINED  Foundations defined at the specified level for geometry, placement and associated properties.	FINAL  Foundation defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Foundations defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL    Foundations modelled as generic objects with maximum outer dimensions, divided into expected types	TYPE-LEVEL    Foundations are modelled with major openings for building services.	DETAILED TYPE-LEVEL    Foundations are modelled with stepping, plinths, openings for building services with a diameter or edge length over 150 mm.	PRODUCTION LEVEL    Foundations are modelled with stepping, plinths, corbels, openings for building services, reinforcement incl. laps, reinforcement for installations, bevels, inserts and plates.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name: Cross section Length: Linear	ASSOCIATED PROPERTIES  Type name: Cross section Length: Strip foundation Load-bearing	ASSOCIATED PROPERTIES  Type name: Cross section Length: Strip foundation Load-bearing Placement: Level	ASSOCIATED PROPERTIES  Type name: Cross section Length: Strip foundation Load-bearing Placement: Level Surface treatment Surface requirements Concrete compressive strength Environment class Max. aggregate size

**Delivery specification from the Danish ARK and FRI**

The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.

See also the instructions for this publication.

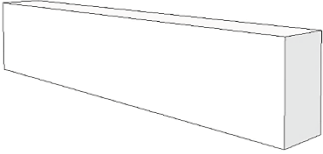
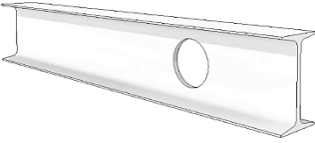

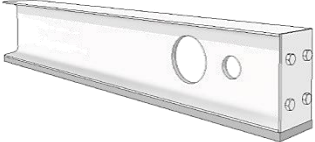
**Production**

The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

## Specification for Steel Beams

Applies to Steel Beams

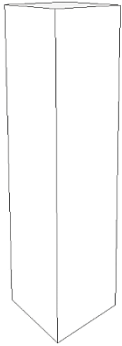

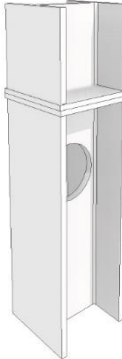
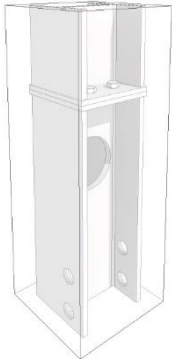
Version 2018-10-09

<b>LOD 200 DK</b> Information level 3	<b>LOD 300 DK</b> Information level 4	<b>LOD 325 DK</b> Information level 5	<b>LOD 400 DK</b> Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Beams defined at the expected level for geometry, placement and associated properties.	DEFINED  Beams defined at the specified level for geometry, placement and associated properties.	FINAL  Beams defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Beams defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION LEVEL
  Beams modelled as a generic object in maximum outer dimensions, divided into expected types.	  Beams modelled incl. major openings for building services.	  Beams modelled in production-ready lengths, including corbels and openings for building services. Fire insulation included on lower side of beams where it is crucial for interdisciplinary coordination.	  Beams modelled in production lengths, including corbels, with openings for building services, bolts, connection plates, welds and fire insulation.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name: profile Length	ASSOCIATED PROPERTIES  Type name: profile Length Load-bearing	ASSOCIATED PROPERTIES  Type name: profile Length Load-bearing Placement: Level	ASSOCIATED PROPERTIES  Type name: profile Length Load-bearing Placement: Level Steel quality
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Steel Columns

Applies to Steel Columns

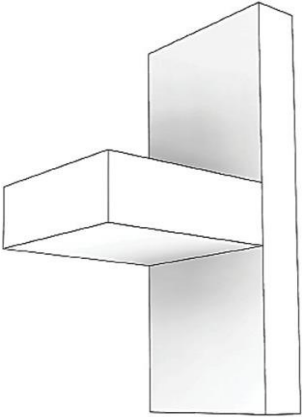
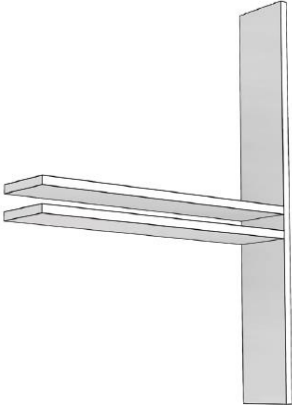
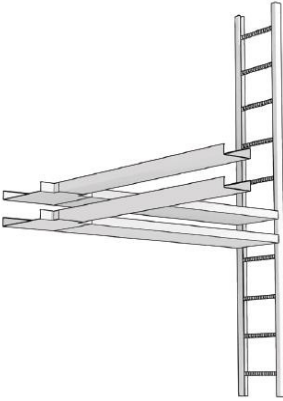
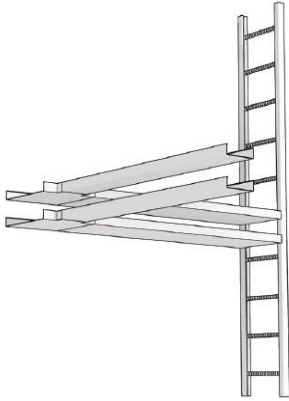
Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
<p>ASSUMED</p> <p>Columns defined at the expected level for geometry, placement and associated properties.</p>	<p>DEFINED</p> <p>Columns defined at the specified level for geometry, placement and associated properties.</p>	<p>FINAL</p> <p>Columns defined at the final level for geometry, placement and associated properties.</p>	<p>FINAL DETAILED</p> <p>Columns defined at the final detailed level for geometry, placement and associated properties according to actually selected products.</p>
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
<p>GENERIC LEVEL</p>  <p>Columns modelled as generic object in maximum outer dimensions, divided into expected types.</p>	<p>TYPE-LEVEL</p>  <p>Columns modelled with major openings for installation routings.</p>	<p>DETAILED TYPE-LEVEL</p>  <p>Columns modelled in production-ready lengths, including corbels, and openings for building services. Fire insulation included where it is crucial for interdisciplinary coordination.</p>	<p>PRODUCTION LEVEL</p>  <p>Columns modelled in profile length for production, including corbels, with openings for building services, bolts, connection plates, welds, and fire insulation.</p>
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
<p>ASSOCIATED PROPERTIES</p> <p>Type name: Profile Length</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name: Profile Length Load-bearing</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name: Profile Length Load-bearing Placement: Level</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name: Profile Length Load-bearing Placement: Level Steel quality</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Electrical Routings

Applies to cable trays & ladders, installation channels & cable ducts etc.

Version 2018-10-09

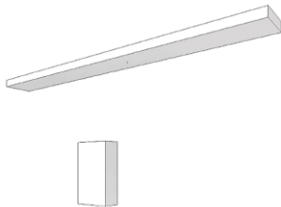
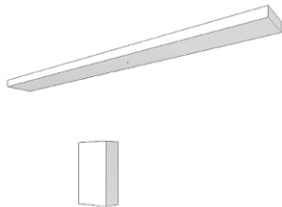
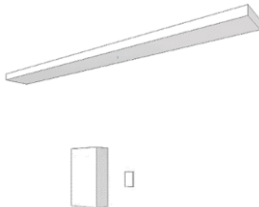
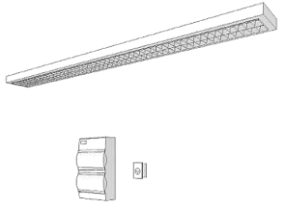
LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Routings defined at the expected level for geometry, placement and associated properties.	DEFINED  Routings defined at the specified level for geometry, placement and associated properties.	FINAL  Routings defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Routings defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  	TYPE-LEVEL  	DETAILED TYPE-LEVEL  	PRODUCTION LEVEL  
Routings as common generic volume objects for all building services modelled in maximum outer dimensions, incl. clearances to neighboring objects.	Routings modelled in maximum outer dimensions.	Routings modelled in outer dimensions	Routings modelled in dimensions of actual selected products based on production lengths.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name Dimensions	ASSOCIATED PROPERTIES  Type name Dimensions Center elevation	ASSOCIATED PROPERTIES  Type name Dimensions Center elevation Placement: Level	ASSOCIATED PROPERTIES  Type name Dimensions Center elevation Placement: Level Material Line divisions
<p><b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.</p>			<p><b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>



## Specification for Electrical Components

Relevant for all types of electrical components  
(distribution boards, lighting, workstations etc.)

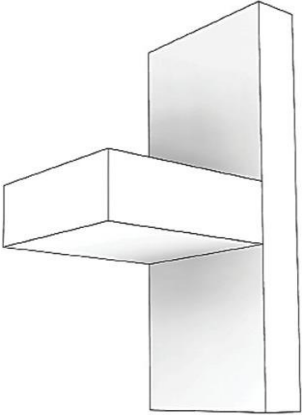

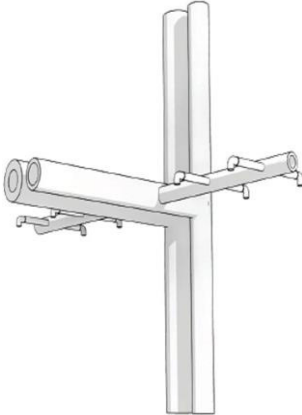
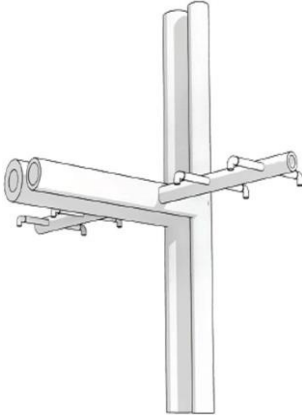
Version 2018-10-09

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
<p><b>ASSUMED</b></p> <p>Components defined at the expected level for geometry, placement and associated properties.</p>	<p><b>DEFINED</b></p> <p>Components defined at the specified level for geometry, placement and associated properties.</p>	<p><b>FINAL</b></p> <p>Components defined at the final level for geometry, placement and associated properties.</p>	<p><b>FINAL DETAILED</b></p> <p>Components defined at the final detailed level for geometry, placement and associated properties according to actually selected products.</p>
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
<p><b>GENERIC LEVEL</b></p>  <p>Components are modelled as generic volume objects in maximum outer dimensions.</p>	<p><b>TYPE-LEVEL</b></p>  <p>Components are modelled in maximum outer dimensions.</p>	<p><b>DETAILED TYPE-LEVEL</b></p>  <p>Components are modelled in outer dimensions.</p>	<p><b>PRODUCTION LEVEL</b></p>  <p>Components are modelled in dimensions based on actual selected product.</p>
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name</p>	<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name</p>	<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name Elevation Level</p>	<p><b>ASSOCIATED PROPERTIES</b></p> <p>Type name Elevation Level Distribution board</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Ventilation Routings

Applies to ducts and duct fittings

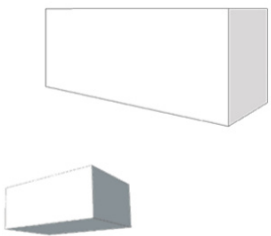
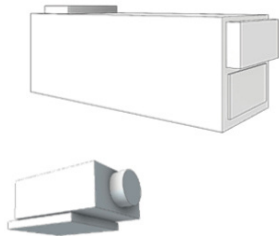
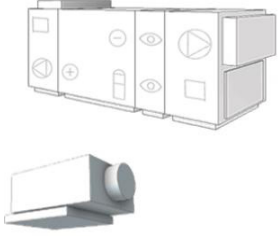
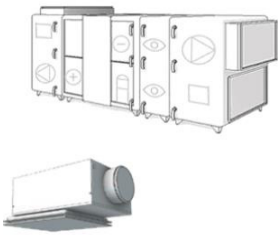
Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Routing defined at the expected level for geometry, placement and associated properties.	DEFINED  Routing defined at the specified level for geometry, placement and associated properties.	FINAL  Routing defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Routing defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL    Routings as common generic volume objects for all building services modelled in maximum outer dimensions, incl. clearances to neighboring objects.	TYPE-LEVEL    Routings modelled in maximum outer duct dimensions. Including duct fittings and necessary insulation.	DETAILED TYPE-LEVEL    Routings modelled in maximum outer duct dimensions. Including duct fittings and required insulation.	PRODUCTION LEVEL    Routings modelled in maximum outer duct dimensions. Including duct fittings and required insulation, based on production length.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name Dimensions	ASSOCIATED PROPERTIES  Type name Dimensions Center elevation Insulation thickness	ASSOCIATED PROPERTIES  Type name Dimensions Center elevation Insulation thickness Insulation type Placement: Level System Air direction	ASSOCIATED PROPERTIES  Type name Dimensions Center elevation Insulation thickness Insulation type Placement: Level System Air direction Air volume Material
<b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.			<b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

## Specification for Ventilation Components

Applies to all types of components in ventilation systems  
(ventilation units, fans, diffusers, valves etc.)

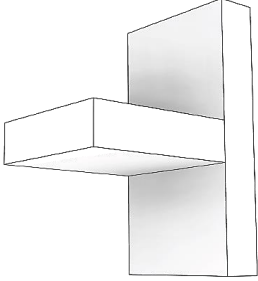

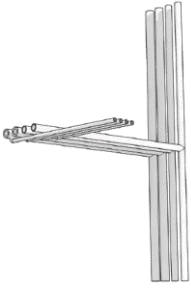

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LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
<p>ASSUMED</p> <p>Components defined at the expected level for geometry, placement and associated properties.</p>	<p>DEFINED</p> <p>Components defined at the specified level for geometry, placement and associated properties.</p>	<p>FINAL</p> <p>Components defined at the final level for geometry, placement and associated properties.</p>	<p>FINAL DETAILED</p> <p>Components defined at the final detailed level for geometry, placement and associated properties according to actually selected products.</p>
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
<p>GENERIC LEVEL</p>  <p>Components are modelled as generic volume objects in maximum outer dimensions.</p>	<p>TYPE-LEVEL</p>  <p>Components are modelled in maximum outer dimensions.</p>	<p>DETAILED TYPE-LEVEL</p>  <p>Components are modelled in outer dimensions.</p>	<p>PRODUCTION LEVEL</p>  <p>Components are modelled in dimensions based on actual selected product.</p>
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
<p>ASSOCIATED PROPERTIES</p> <p>Type name</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name Elevation Placement: Level System</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name Elevation Placement: Level System Air volume</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Heating and Sanitation Routings

Applies to pipes, pipe fittings and pipe insulation

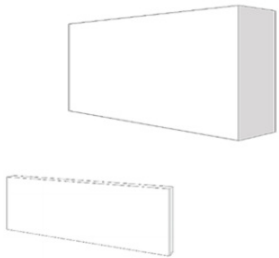
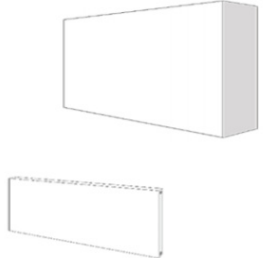
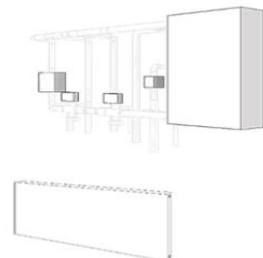

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LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
<p>EXPECTED</p> <p>Routings defined at the expected level for geometry, placement and associated properties.</p>	<p>SPECIFIED</p> <p>Routings defined at the specified level for geometry, placement and associated properties.</p>	<p>FINAL</p> <p>Routings defined at the final level for geometry, placement and associated properties.</p>	<p>FINAL DETAILED</p> <p>Routings defined at the final detailed level for geometry, placement and associated properties according to actually selected products.</p>
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
<p>GENERIC LEVEL</p>  <p>Routings as common generic volume objects for all building services modelled in maximum outer dimensions, incl. clearances to neighboring objects.</p>	<p>TYPE-LEVEL</p>  <p>Routings modelled in maximum outer pipe dimensions plus any necessary insulation.</p>	<p>DETAILED TYPE-LEVEL</p>  <p>Routings modelled in outer pipe dimensions plus any insulation.</p>	<p>PRODUCTION LEVEL</p>  <p>Routings modelled in outer pipe dimensions plus any insulation based on production lengths.</p>
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
<p>ASSOCIATED PROPERTIES</p> <p>Type name Dimension</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name Dimension Center elevation Insulation thickness</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name Dimension Center elevation Insulation thickness Insulation type Placement: Level System</p>	<p>ASSOCIATED PROPERTIES</p> <p>Type name Dimension Center elevation Insulation thickness Insulation type Placement: Level System Material</p>
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Heating and Sanitation Components

Applies to components of heating and sanitation installations  
(heat exchangers, cylinders, pumps, regulators, sprinkler heads,  
radiators etc.)

Version 2018-10-09

LOD 200 DK Information level 3	LOD 300 DK Information level 4	LOD 325 DK Information level 5	LOD 400 DK Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Components defined at the expected level for geometry, placement and associated properties.	DEFINED  Components defined at the specified level for geometry, placement and associated properties.	FINAL  Components defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Components defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL    Components are modelled as generic volume objects in maximum outer dimensions.	TYPE-LEVEL    Components are modelled in maximum outer dimensions.	DETAILED TYPE-LEVEL    Components are modelled in outer dimensions.	PRODUCTION LEVEL    Components are modelled in dimensions based on actual selected product.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name	ASSOCIATED PROPERTIES  Type name	ASSOCIATED PROPERTIES  Type name Elevation Placement: Level System	ASSOCIATED PROPERTIES  Type name Elevation Placement: Level System
<b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.			<b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

## Introduction

The publication of the Building Parts Specifications for landscape/site models is the first visible result of collaboration between five landscape architecture offices: Arkitema Architects, C. F. Møller, Link Arkitektur, Schønherr and Årstiderne Arkitekter. The collaboration grew out of the professional network BIM i Landskabet.

The ambition has been that landscape architecture offices, on an equal footing with other members of DiKon and BIM7AA, should have their own building parts specifications developed by landscape architects for landscape architects. This first publication of building parts specifications has primarily focused on landscaping related to buildings.

Landscape Architects have experienced over recent years a digital journey as landscape architects are met with requirements for landscape models on an equal footing with building models.

Because of this, and in order to strengthen collaboration across a profession seeing rapid digital development, there is a need to develop a shared collaboration tool which ensures shared digital standards in construction processes so all parties know what they can expect from landscape models, and how they integrate with the rest of the project.

The structure of the Building Parts Specifications for landscape is identical to those for architecture and engineering disciplines.

To keep pace with the increasing importance of building parts (model objects) and their associated properties there is a need to clearly describe the contents of a landscape model as related to the building parts' reliability, geometric representation and associated properties.

Precisely by clarifying the progression of a landscape models contents through the projects phases we can ensure we create the greatest possible value rooted in the landscape architecture disciplines practice and the contents of YBL18.

The Buildings Parts Specifications are in four parts:

Outdoor Surfaces in the Landscape

Landscape Vegetation

Stairs and Retaining Walls in the Landscape

Outdoor Furniture in the Landscape

The descriptions are based on what the landscape model contains rather than what it does not contain. To maintain uniformity between disciplines the term "building parts" has been retained.

The ambition is to update the Building Parts Specifications in their first year after publication based on accumulated experiences.

See also the introduction to this publication.

## Working Group

The following companies have participated in working groups related to this publication:


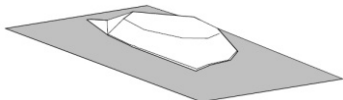
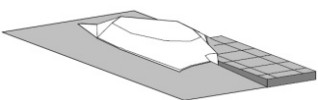
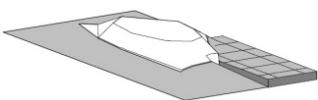
**From BIM i Landskabet:**

Arkitema, C.F. Møller, Link arkitektur, Schønherr, Aarstiderne Arkitekter

## Specification for surfaces of outside areas in the landscape

Applies to paved and unpaved surfaces outdoors in the landscape

Version 2018-10-09

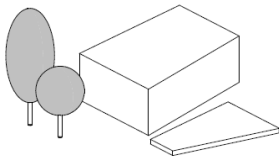
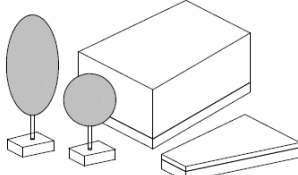
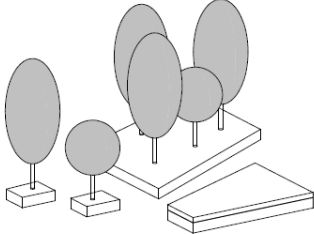
<b>LOD 200 DK</b>	<b>LOD 300 DK</b>	<b>LOD 325 DK</b>	<b>LOD 400 DK</b>
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Surfaces of outdoor areas defined at the expected level for geometry, placement and associated properties.	DEFINED  Surfaces of outdoor areas defined at the specified level for geometry, placement and associated properties.	FINAL  Surfaces of outdoor areas defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Surfaces of outdoor areas defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  	TYPE-LEVEL  	DETAILED TYPE-LEVEL  	PRODUCTION LEVEL  
Surfaces of outdoor areas modelled with the expected general elevations. Paved and unpaved surfaces are not separate. Existing surfaces can be used.	Surfaces of outdoor areas modelled to the project boundary. Defined general elevations and intended drainage elevation, including elevations at entrances, building corners and neighboring surfaces. Paved and unpaved surfaces are modelled separately.	Surfaces of outdoor areas modelled to the project boundary. Final elevations for surfaces as basis for ground works. Different types of paved and unpaved surfaces are modelled separately.	Project specific elevations of building parts. Basic perimeter of building parts follows surface types.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Type name Width Length	ASSOCIATED PROPERTIES  Type name Width Length Top and bottom elevation Elevation at entrances & building corners	ASSOCIATED PROPERTIES  Type name Width Length Top and bottom elevation Elevation at entrances & building corners Dimensions of substrate layers	ASSOCIATED PROPERTIES  Type name Width Length Top and bottom elevation Elevation at entrances & building corners Dimensions of substrate layers
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>



## Specification for Landscape Vegetation

Applies to individual and groups of plants in the landscape

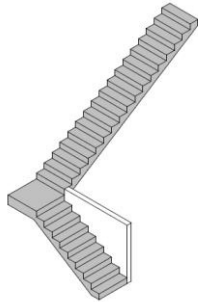
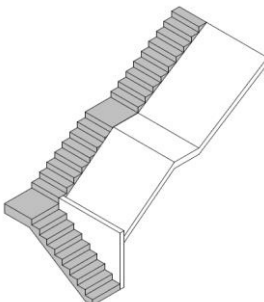
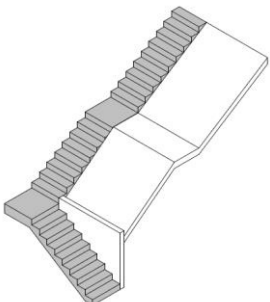
Version 2018-10-09

<b>LOD 200 DK</b>	<b>LOD 300 DK</b>	<b>LOD 325 DK</b>	<b>LOD 400 DK</b>
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Objects for vegetation are not modelled in LOD 200. See instead Outdoor Surface Areas.	DEFINED  Vegetation defined at the specifies level for geometry, placement and associated properties.	FINAL  Vegetation defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Vegetation defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  Objects for vegetation are not modelled in LOD 200. See instead Outdoor Surface Areas.	TYPE-LEVEL    Defined planning and placement principles for planting individually or in groups.	DETAILED TYPE-LEVEL    Final placement of planting individually or in groups.	PRODUCTION LEVEL    Finally detailed placement of planting individually or in groups.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Objects for vegetation are not modelled in LOD 200. See instead Outdoor Surface Areas.	ASSOCIATED PROPERTIES  Type name Width Height	ASSOCIATED PROPERTIES  Type name Width Height Placement	ASSOCIATED PROPERTIES  Type name Width Height Placement Construction
<p><b>Delivery specification from the Danish ARK and FRI</b> The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.  See also the instructions for this publication.</p>			<p><b>Production</b> The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Stairs and Retaining Walls in the Landscape

Applies to stairs and retaining walls in the landscape




Version 2018-10-09

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
ASSUMED  Objects for stairs and retaining walls are not modelled in LOD 200. See instead Outdoor Surface Areas.	DEFINED  Stairs and retaining walls defined at the specified level for geometry, placement and associated properties.	FINAL  Stairs and retaining walls defined at the final level for geometry, placement and associated properties.	FINAL DETAILED  Stairs and retaining walls defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  Objects for stairs and retaining walls are not modelled in LOD 200. See instead Outdoor Surface Areas.	TYPE-LEVEL    Stairs and retaining walls modelled in maximum outer dimensions, divided into types.	DETAILED TYPE-LEVEL    Stairs and retaining walls modelled in maximum outer dimensions, divided into types.	PRODUCTION LEVEL    Stairs and retaining walls modelled in maximum outer dimensions, divided into types. Including brackets and major openings.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Objects for stairs and retaining walls are not modelled in LOD 200. See instead Outdoor Surface Areas.	ASSOCIATED PROPERTIES  Type name Width Height Placement above terrain	ASSOCIATED PROPERTIES  Type name Width Height Placement above terrain Construction	ASSOCIATED PROPERTIES  Type name Width Height Placement above terrain Construction
<p><b>Delivery specification from the Danish ARK and FRI</b></p> <p>The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.</p> <p>See also the instructions for this publication.</p>			<p><b>Production</b></p> <p>The above delivery requirements are to be seen in relation to services related to contractor / supplier design.</p>

## Specification for Furniture in the Landscape

Applies to fixed furniture in the landscape

Version 2018-10-09

<b>LOD 200 DK</b>	<b>LOD 300 DK</b>	<b>LOD 325 DK</b>	<b>LOD 400 DK</b>
Information level 3	Information level 4	Information level 5	Information level 6
<b>LOR 200</b>	<b>LOR 300</b>	<b>LOR 325</b>	<b>LOR 400</b>
FORVENTET  Furniture is not modelled in LOD 200.	FASTLAGT  Furniture defined at the specified level for geometry, placement and associated properties.	ENDELIG  Furniture defined at the final level for geometry, placement and associated properties.	ENDELIG DETALJERET  Furniture defined at the final detailed level for geometry, placement and associated properties according to actually selected products.
<b>LOG 200</b>	<b>LOG 300</b>	<b>LOG 325</b>	<b>LOG 400</b>
GENERIC LEVEL  Furniture is not modelled in LOD 200.	TYPE-LEVEL    Standard furniture objects modelled in maximum outer dimensions divided into types.	DETAILED TYPE-LEVEL    Standard furniture objects modelled in maximum outer dimensions divided into types. Manufacturer content can be used.	PRODUCTION LEVEL    Standard furniture objects modelled as actually selected furniture, divided by type.
<b>LOI 200</b>	<b>LOI 300</b>	<b>LOI 325</b>	<b>LOI 400</b>
ASSOCIATED PROPERTIES  Furniture is not modelled in LOD 200.	ASSOCIATED PROPERTIES  Type name Width Height	ASSOCIATED PROPERTIES  Type name Width Height Placement	ASSOCIATED PROPERTIES  Type name Width Height Placement Construction

### Delivery specification from the Danish ARK and FRI

The above delivery requirements must be seen in relation to services selected in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting both the 9.4 Digital Design Service in YBL2018 and the above LOD DK levels, the levels LOR, LOG and LOI are mandatory for each model element.

See also the instructions for this publication.

### Production

The above delivery requirements are to be seen in relation to services related to contractor / supplier design.

## Comments

The Specification of Building Parts are continuously updated, and your comments and suggestions are very welcome, please send them to:

**DIKON** [mail@dikon.info](mailto:mail@dikon.info) or **BIM7AA** [mail@bim7aa.dk](mailto:mail@bim7aa.dk)

## Working group

The following companies have participated in working groups related to this publication:

**From DiKon:**

NCC, COWI, Aarstiderne Arkitekter, Rambøll, Aarsleff, Arkitema and Sweco

**From BIM7AA:**

Arkitema, C.F. Møller, Aart, Arkitektskolen Aarhus, Cubo, Friis & Moltke, Link arkitektur, and Schmidt Hammer Lassen Architects.

**From BIM i Landskabet:**

Arkitema, C.F. Møller, Link arkitektur, Schønherr, Aarstiderne Arkitekter

**We also greatly appreciate additional participants from the following companies:**

Søren Jensen, Orbicon and Oluf Jørgensen

