

CONSTRUCTION ELEMENT SPECIFICATIONS

– for selected construction elements in building and landscaping models

REV4

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THE CONSTRUCTION ELEMENT SPECIFICATIONS
ARE A RESULT OF A COLLABORATION BETWEEN

INSTRUCTION

INTRODUCTION

As construction elements (objects) and the associated information (properties) gets an increasing significance for the participants in construction projects, there is a demand for specifications of the contents of a building model in terms of reliability, geometrical representation and the associated properties.

This demand will typically arise in two situations:

- When making agreements where there must be a precise mutual understanding of the reliability, geometrical representation and properties of construction elements at a given point in time. This is typically agreed and documented in a model delivery specification.
- Support of the project execution, where there is a need to establish when to deliver which information in the process and by whom.

These insights are preconditions for using the building model for specific purposes, as well as determining the responsibility for a specific object in the building model.

In order to establish a simple method for describing the contents of the building model at a given point in time, DiKon and BIM7AA have collaboratively developed the Specification of Construction elements for selected construction elements (Danish: Bygningsdelsspecifikation) in collaboration with Molio.

The basis for the Specification of Construction elements is Description of services for Building and Landscape 2018, BIMforums LOD levels, Molios Levels of Information as well as the experience of the members of the working groups.

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 building model and not to other project related information.

DiKon and BIM7AA have each developed a Model Delivery Specification describing the contents of the building model. These can be used to describe the specific elements in the building model for each professional discipline and project phase. Please visit dikon.info and bim7aa.dk for more information.

In the forthcoming work it is the ambition to create one common delivery specification.

DEFINITION OF LOD AND ASSOCIATED CONCEPTS

Level of Development (LOD) gives an explicit specification of the information about construction elements, which must be present in the building model at different stages during the design and construction process.

LOD for construction elements is comprised of:

Level of Reliability (LOR) specifies the reliability of the information provided for the construction elements and associated properties.

Level of Geometry (LOG) specifies the geometric representation of the construction element as well as the extent of included components/parts.

Level of Information (LOI) specifies the properties of the construction element either contained in, linked to, or in some other way connected.

LOD LEVELS

A given LOD level thereby specifies the required levels for geometrical representation and properties as well as the reliability of those aspect.

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 includes a predefined set of matching levels for LOR, LOG and LOI. E.g., LOD 200 DK consists of LOR 200 DK, LOG 200 DK and LOI 200 DK.

It is possible to combine LOR, LOG and LOI from different levels, e.g., if there is a need for a more detailed geometric representation and range of properties. In this case the LOD level is specified using 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 different construction elements to be at different LOD levels in a specific project phase.

LOD 200 DK specifies construction elements modelled as generic objects with associated properties. All information is specified as 'assumed'.

LOD 300 DK specifies construction elements modelled as specific types of objects with associated properties. All information is specified as 'defined'.

LOD 325 DK specifies construction elements modelled as detailed types of objects with associated specific properties. All information is specified as 'final'.

LOD 400 DK specifies construction elements modelled based on specific product types with associated product specific properties. All information is specified as 'final detailed'.

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

COHERENCE WITH OTHER DANISH STANDARDS AND AGREEMENT DOCUMENTS

The table below illustrates an approximate relation between the LOD DK-levels and the MOLIO Levels of information as well as the service §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
Molio Levels of Information	3	4	5	6
YBL 2018, Digital design	Assumed geometry	Defined geometry	Final geometry	-

USE

For selected construction elements in LOD Levels 200, 300, 325 and 400 there are specifications for LOR, LOG and LOI. In some cases, the specifications regard specific construction elements, in other cases the specifications apply to a group of construction elements.

LOD 200, 300 and 325 are directly linked to design services from YBL 2018, while LOD 400 is relevant to the production process for construction elements. 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 construction element.

The Specification of Construction elements is intended for use in its entirety. Changes and additions are not allowed in the catalogue. Changes and/or additions should be specified in the delivery specification or an individual attachment.

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

ORGANIZATION OF THE WORK

The development of the Construction element specifications is governed by a steering group consisting of 2 representatives

from BIM7AA, 2 representatives from DiKon, 1 client representative, 1 representative from a product manufacturer as well as 1 representative from Molio.

The steering group decides scope and time schedule for publication and foresees coordination with the BIM7AA and DiKon groups and communication with the construction sector as a whole. The development of the content of the specifications is carried out in 3 working groups for Architecture, Structural and MEP respectively.

COMMENTS

The Construction element specifications are updated on a regular basis and comments and suggestions will be appreciated. They can be mailed to:
DiKon: mail@dikon.info, BIM7AA: mail@bim7aa.dk or Molio: info@molio.dk.

WORKING GROUP

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

From DiKon:
Arkitema, COWI, NCC, Rambøll, Sweco and Aarsleff

From BIM7AA:
AART, Arkitema, C.F. Møller, Cubo, Friis & Moltke, Link arkitektur and Schmidt Hammer Lassen Architects.

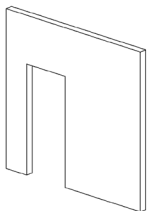
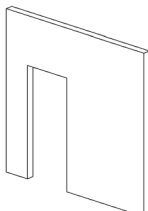
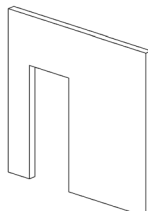
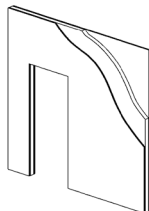
WHO ARE BIM7AA AND DIKON?

BIM7AA is a voluntary collaboration between 7 architectural companies in Denmark (AART architects, Arkitema Architects, C.F.Møller, CUBO Arkitekter A/S, Friis & Moltke, LINK arkitektur and schmidt hammer lassen architects). The objective for BIM7AA is to develop and finetune common BIM-tools, -methods and -processes focusing on collaboration across professional disciplines. DiKon is a collaboration between 6 construction companies (Arkitema Architects, COWI, NCC, Rambøll, Sweco and Aarsleff), who all share a vision of establishing precise IT-standards and streamline the digital construction process in the Danish construction industry. The Vision behind DiKon is to develop strong common industry standards, based on a common understanding of the need for digital standards, which can constitute a firm basis for the collaboration between parties in the digital construction process.



SPECIFICATION FOR WALL

Applies to all external and internal non-loadbearing walls

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Walls are specified on an assumed level for geometry, location and associated properties.	DEFINED Walls are specified on a defined level for geometry, location and associated properties.	FINAL Walls are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Walls are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Walls including larger openings are modelled in maximum outer dimensions divided into expected types.	Walls including larger openings are modelled in maximum outer dimensions organized into types.	Walls including larger openings are modelled in maximum outer dimensions organized into types.	Walls including larger openings are modelled with constructive layers organized into types. Secondary constructive layers can be accumulated. Larger holes and components are modelled.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name Width	9.4 Digital design Type Name Width	9.4 Digital design Type Name Width Location: Storey Construction	9.4 Digital design Type Name Width Location: Storey Construction Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI


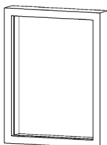
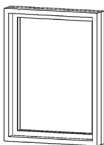
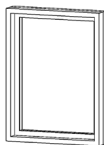
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018).
By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element.
Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR WINDOW

Applies to all windows, panes and panels

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Windows are specified on an assumed level for geometry, location and associated properties.	DEFINED Windows are specified on a defined level for geometry, location and associated properties.	FINAL Windows are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Windows are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Windows are modelled with overall width and height divided into expected types.	Windows are modelled with overall width and height and frame organized into types.	Windows are modelled with overall width and height and frame and sash organized into types.	Windows are modelled with overall width and height and final frame and sash organized into types.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name Overall width Overall height	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Overall width Overall height	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Overall width Overall height Location: Storey Fire exit Construction Firetechnical class Acoustic rating	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Overall width Overall height Location: Storey Fire exit Construction Firetechnical class Acoustic rating Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI



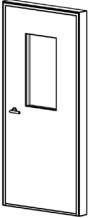
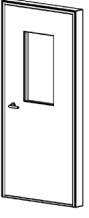
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018).
By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element.
Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPEKIFIKATION FOR DOOR

Applies to all external and internal doors

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Doors are specified on an assumed level for geometry, location and associated properties.	DEFINED Doors are specified on a defined level for geometry, location and associated properties.	FINAL Doors are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Doors are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Doors are modelled with opening measurements divided into expected types.	Doors are modelled with opening measurements with frame and door leaf and organized into types.	Doors are modelled with opening measurements with frame and door leaf and organized into types. Door leaves are divided in panels.	Doors are modelled with opening measurements with frame and door leaf and organized into types. Door leaves are divided in panels.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name Overall width Overall height	9.4 Digital design Type Name Overall width Overall height	9.4 Digital design Type Name Overall width Overall height Location: Storey Fire exit Hardware set Construction Firetechnical class Acoustic rating	9.4 Digital design Type Name Overall width Overall height Location: Storey Fire exit Hardware set Construction Firetechnical class Acoustic rating Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

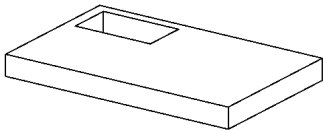
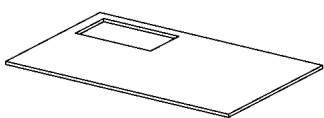
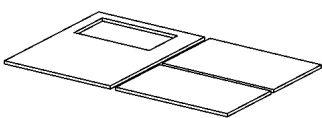
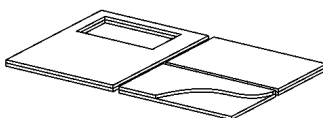
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR FLOOR ASSEMBLY

Revision 4

Applies to slab assemblies at generic level and floor constructions at all other levels

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Slab assemblies are specified on an assumed level for geometry, location and associated properties.	DEFINED Floor constructions are specified on a defined level for geometry, location and associated properties.	FINAL Floor constructions are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Floor constructions are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Slab assemblies including larger openings are modelled in maximum external extent divided into expected types.	Floor constructions including larger openings are modelled in maximum external extent organized into types.	Floor constructions including larger openings are modelled in maximum external extent organized into types. Floor constructions are divided by walls.	Floor constructions including larger openings are modelled with construction layers and divisions by walls organized into types. Secondary construction layers can be accumulated. Larger holes etc. are modelled.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name Width	9.4 Digital design Type Name Width	9.4 Digital design Type Name Width Location: Storey Construction	9.4 Digital design Type Name Width Location: Storey Construction

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

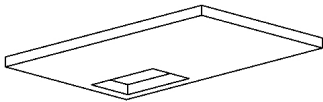
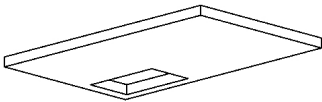
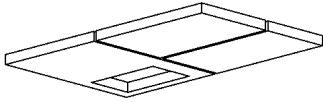
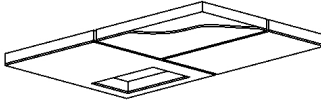
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR CEILING

Applies to ceilings

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED See the specification for generic slab assemblies under floor assemblies.	DEFINED Ceilings are specified on a defined level for geometry, location and associated properties.	FINAL Ceilings are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Ceilings are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
See the specification for generic slab assemblies under floor assemblies.	Ceilings including larger openings are modelled in maximum external extent organized into types.	Ceilings including larger openings are modelled in maximum external extent organized into types. Ceilings are divided by walls.	Ceilings including larger openings are modelled with construction layers and divisions by walls organized into types. Secondary construction layers can be accumulated. Larger holes etc. are modelled.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design See the specification for generic slab assemblies under floor assemblies.	9.4 Digital design Type Name Width	9.4 Digital design Type Name Width Location: Storey Construction	9.4 Digital design Type Name Width Location: Storey Construction

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

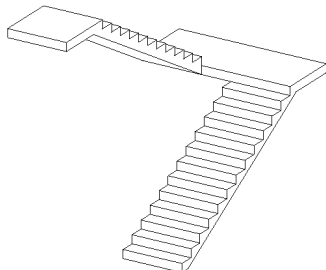
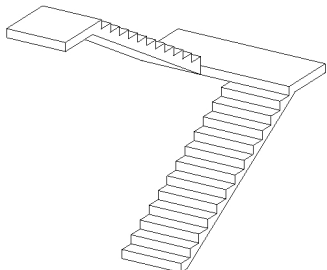
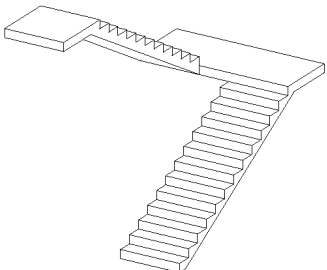
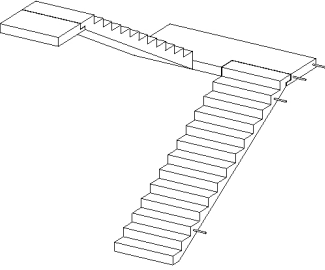
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PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR STAIR AND RAMP

Applies to in-situ and prefabricated stairs and ramps

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Stairs are specified on an assumed level for geometry, location and associated properties.	DEFINED Stairs are specified on a defined level for geometry, location and associated properties.	FINAL Stairs are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Stairs are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL 	TYPE-LEVEL 	DETAILED TYPE-LEVEL 	PRODUCTION-LEVEL 
Stair flights and ramps are modelled in maximum external extent divided into expected types.	Stair flights and ramps are modelled in maximum external extent organized into types.	Stair flights and ramps are modelled in maximum external extent organized into types.	Stair flights and ramps are modelled in maximum external extent organized into types. Consoles and larger holes are modelled.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES 9.4 Digital design Type Name	PROPERTIES FOR SERVICES 9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Required slope for ramps	PROPERTIES FOR SERVICES 9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Location: Storey Required slope for ramps	PROPERTIES FOR SERVICES 9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Location: Storey Required slope for ramps Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

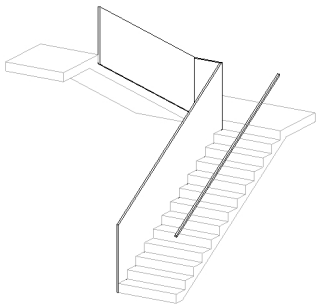
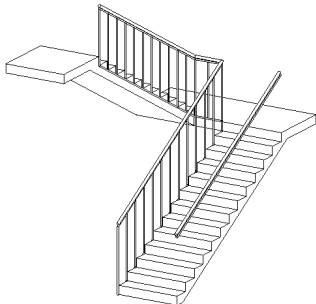
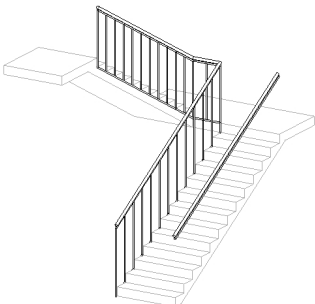
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR RAILING

Applies to railings

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Not relevant for LOR 200	DEFINED Railings are specified on a defined level for geometry, location and associated properties.	FINAL Railings are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Railings are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Not relevant for LOG 200	Railings are modelled in maximum external extent organized into types.	Railings are modelled in maximum external extent with an indication of railing type and handrail organized into types.	Railings are modelled in maximum external extent with railing type and handrail organized into types.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Not relevant for LOG 200	9.4 Digital design Type Name Height	9.4 Digital design Type Name Height Location: Storey Construction	9.4 Digital design Type Name Height Location: Storey Construction

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

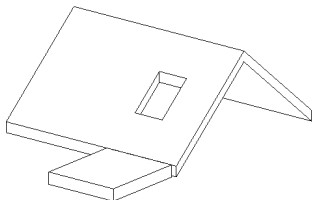
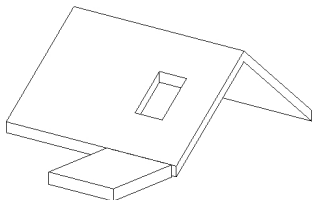
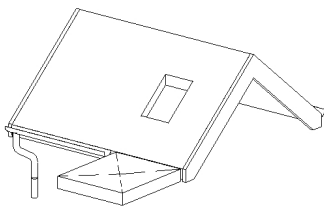
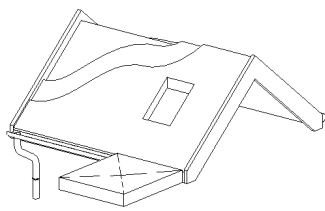
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR ROOF

Applies to roof constructions which terminates the building upwards

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Roofs are specified on an assumed level for geometry, location and associated properties.	DEFINED Roofs are specified on a defined level for geometry, location and associated properties.	FINAL Roofs are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Roofs are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Roofs including larger openings are modelled in maximum external extent divided into expected types.	Roofs including larger openings are modelled in maximum external extent organized into types.	Roofs including larger openings are modelled in maximum external extent with slope and organized into types.	Roofs including larger openings are modelled in maximum external extent with construction layers and slope and organized into types. Secondary construction layers can be accumulated. Larger holes, gutters and roof drains etc. are modelled.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name Width	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Width	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Width Location: Storey Construction	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Width Location: Storey Construction Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

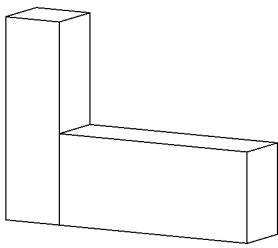
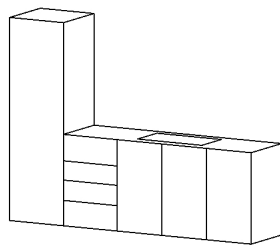
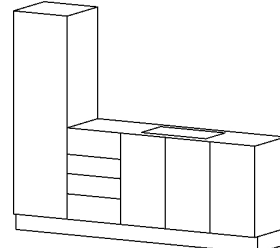
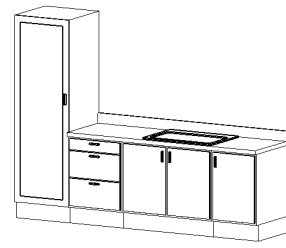
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR FURNITURE AND FITTINGS

Revision 4

Applies to furniture, fittings, casework

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Furniture and fittings are specified on an assumed level for geometry, location and associated properties.	DEFINED Furniture and fittings are specified on a defined level for geometry, location and associated properties.	FINAL Furniture and fittings are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Furniture and fittings are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Furniture and fittings are modelled in maximum external extent divided into expected types.	Furniture and fittings are modelled in maximum external extent organized into types.	Furniture and fittings are modelled in maximum external extent with slope and organized into types.	Furniture and fittings are modelled and organized into types.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name Depth	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Depth	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Depth Location: Storey Construction	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Depth Location: Storey Construction Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

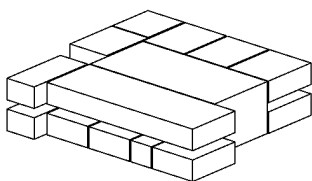
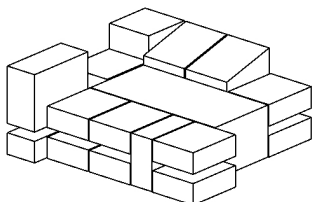
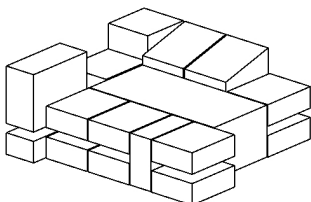
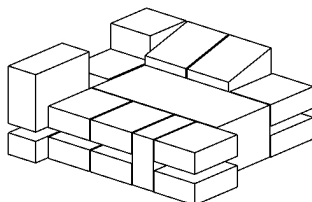
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR SPACES

Applies to all space objects delimited by 3D structures

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Spaces are specified on an assumed level for geometry, location and associated properties.	DEFINED Spaces are specified on a defined level for geometry, location and associated properties.	FINAL Spaces are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Spaces are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Spaces modelled as objects.	Spaces modelled as objects to upper boundary.	Spaces modelled as objects to upper boundary.	Spaces modelled as objects to upper boundary.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Room Name Floor Area	9.4 Digital design Room Name Room Number Floor Area	9.4 Digital design Room Name Room Number Floor Area Location: Storey Fire Exit	9.4 Digital design Room Name Room Number Floor Area Location: Storey Fire Exit

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

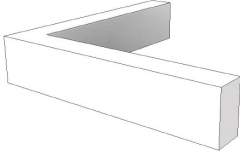
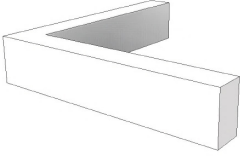
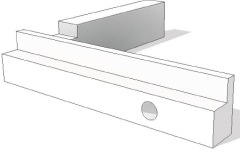
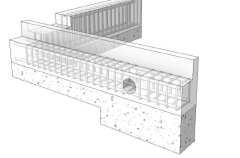
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018).
By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element.
Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR FOUNDATION

Applies to strip foundations and footings

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Foundations are specified on an assumed level for geometry, location and associated properties.	DEFINED Foundations are specified on a defined level for geometry, location and associated properties.	FINAL Foundations are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Foundations are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Foundations are modelled as generic objects in maximum external extent divided into expected types.	Foundations are modelled with major openings and holes for building services.	Foundations are modelled with stepping, plinths, openings for building services with a diameter or edge length over 150 mm.	Foundations are modelled with stepping, plinths, corbels, openings for building services, reinforcement incl. lap lengths, mounting bars, bevels, inserts and plates.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name: Cross section Length	9.4 Digital design Type Name: Cross section Length Load Bearing	9.4 Digital design Type Name: Cross section Length Load Bearing Location: Storey	9.4 Digital design Type Name: Cross section Length Load Bearing Location: Storey Surface treatment Surface requirements Compressive strength Environmental class Maximum aggregate size Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

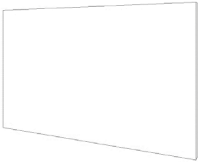
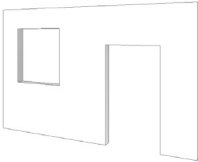
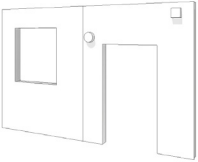
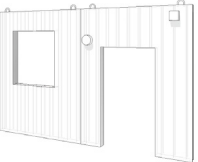
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR CONCRETE WALL

Revision 4

Applies to in-situ and prefabricated concrete walls

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Walls are specified on an assumed level for geometry, location and associated properties.	DEFINED Walls are specified on a defined level for geometry, location and associated properties.	FINAL Walls are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Walls are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL 	TYPE-LEVEL 	DETAILED TYPE-LEVEL 	PRODUCTION-LEVEL 
Walls are modelled as generic objects in maximum external extent divided into expected types.	Walls are modelled with openings and holes for building services.	Walls are modelled with openings and holes building services with a diameter or edge length over 150 mm as well as consoles and corrugated pipes. Scope of element sectioning, skirts and folds is agreed on project level.	Wall are modelled sectioned in elements with openings and holes for building services as well as consoles, corrugated pipes, joints, joint sealing, reinforcement incl. lap lengths, mounting bars, bevels, inserts and plates.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name Width Height Length	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Width Height Length Load bearing	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Width Height Length Load bearing Location: Storey	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Width Height Length Load bearing Location: Storey Surface treatment Surface requirements Compressive strength Environmental class Maximum aggregate size Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI





The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR CONCRETE COLUMN

Applies to in-situ and prefabricated concrete columns

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Columns are specified on an assumed level for geometry, location and associated properties.	DEFINED Columns are specified on a defined level for geometry, location and associated properties.	FINAL Columns are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Columns are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Columns are modelled as generic objects in maximum external extent divided into expected types.	Columns are modelled with major holes for building services.	Columns are modelled in fabrication-ready lengths with consoles, anchoring and holes for building services.	Columns are modelled in fabrication-ready lengths with consoles, anchoring and holes for building services, joints, reinforcement incl. lap lengths, mounting bars, bevels, inserts and plates.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES 9.1 Classification Classification code Type (-code/-ID)	PROPERTIES FOR SERVICES 9.1 Classification Classification code Type (-code/-ID)	PROPERTIES FOR SERVICES 9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name: Cross section Length	9.4 Digital design Type Name: Cross section Length Load bearing	9.4 Digital design Type Name: Cross section Length Load bearing Location: Storey	9.4 Digital design Type Name: Profile Length Load bearing Location: Storey Surface treatment Surface requirements Compressive strength Environmental class Maximum aggregate size Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

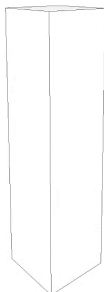

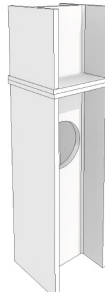
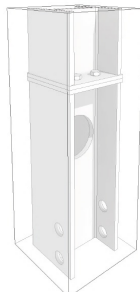
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the 9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR STEEL COLUMN

Applies to steel columns

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Columns are specified on an assumed level for geometry, location and associated properties.	DEFINED Columns are specified on a defined level for geometry, location and associated properties.	FINAL Columns are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Columns are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Columns are modelled as generic objects in maximum external extent divided into expected types.	Columns are modelled with major holes for building services.	Columns are modelled in fabrication-ready lengths with consoles and holes for building services. Fire insulation is modelled when it is crucial for interdisciplinary coordination.	Columns are modelled in fabrication-ready lengths with consoles, anchoring and holes for building services, bolts, connection plates, welding seams and fire insulation.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name: Profile Length	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name: Profile Length Load bearing	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name: Profile Length Load bearing Location: Storey	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name: Profile Length Load bearing Location: Storey Steel grade Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

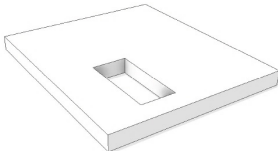
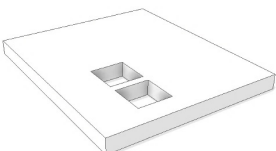
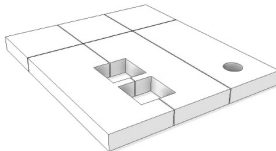
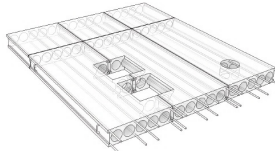
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR CONCRETE SLAB

Revision 4

Applies to in-situ and prefabricated concrete slabs

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Slabs are specified on an assumed level for geometry, location and associated properties.	DEFINED Slabs are specified on a defined level for geometry, location and associated properties.	FINAL Slabs are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Slabs are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Slabs are modelled as generic objects in maximum external extent divided into expected types.	Slabs are modelled with openings and holes for building services.	Slabs are modelled with specification of span directions, larger in-situ cast sections, openings and holes for building services with a diameter or edge length over 150 mm. Scope of element sectioning is agreed on project level.	Slabs are modelled sectioned in elements for production with openings and holes for building services as well as consoles, corrugated pipes, joints, joint sealing, reinforcement incl. lap lengths, mounting bars, bevels, inserts, plates, structural joints and screed.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name Width	9.4 Digital design Type Name Width Load bearing	9.4 Digital design Type Name Width Load bearing Location: Storey	9.4 Digital design Type Name Width Load bearing Location: Storey Surface treatment Surface requirements Compressive strength Environmental class Maximum aggregate size Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

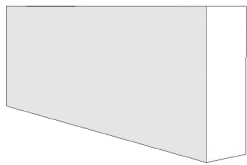
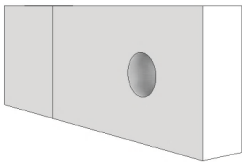
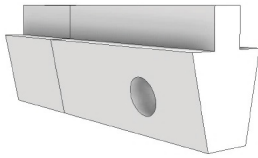
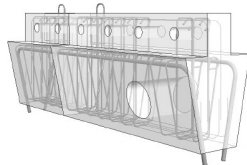
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR CONCRETE BEAM

Applies to in-situ and prefabricated concrete beams

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Beams are specified on an assumed level for geometry, location and associated properties.	DEFINED Beams are specified on a defined level for geometry, location and associated properties.	FINAL Beams are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Beams are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Beams are modelled as generic objects in maximum external extent divided into expected types.	Beams are modelled with major holes for building services.	Beams are modelled in fabrication-ready lengths with consoles and holes for building services.	Beams are modelled in fabrication-ready lengths with consoles, anchoring and holes for building services, joints, reinforcement incl. lap lengths, mounting bars, bevels, inserts and plates.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name: Cross section Length	9.4 Digital design Type Name: Cross section Length Load bearing	9.4 Digital design Type Name: Cross section Length Load bearing Location: Storey	9.4 Digital design Type Name: Cross section Length Load bearing Location: Storey Surface treatment Surface requirements Compressive strength Environmental class Maximum aggregate size Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

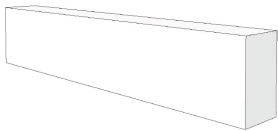
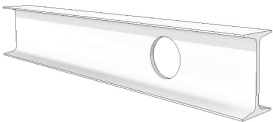

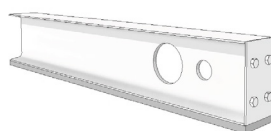
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PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR STEEL BEAM

Applies to steel beams

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Beams are specified on an assumed level for geometry, location and associated properties.	DEFINED Beams are specified on a defined level for geometry, location and associated properties.	FINAL Beams are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Beams are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Beams are modelled as generic objects in maximum external extent divided into expected types.	Beams are modelled with major holes for building services.	Beams are modelled in fabrication-ready lengths with consoles and holes for building services. Fire insulation is modelled when it is crucial for interdisciplinary coordination.	Beams are modelled in profile lengths for fabrication with consoles, anchoring and holes for building services, bolts, connection plates, welding seams and fire insulation.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name: Profile Length	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name: Profile Length Load bearing	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name: Profile Length Load bearing Location: Storey	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name: Profile Length Load bearing Location: Storey Steel grade Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

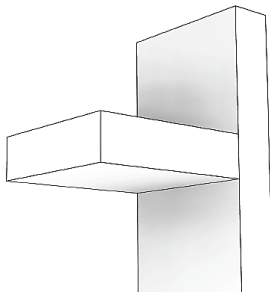
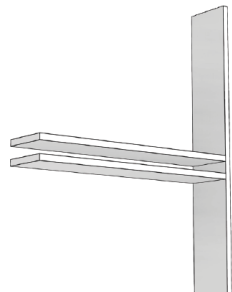
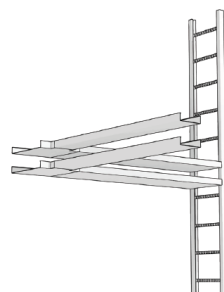
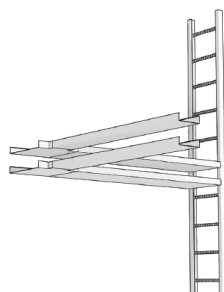
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR ELECTRICAL ROUTING

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

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Routings are specified on an assumed level for geometry, location and associated properties.	DEFINED Routings are specified on a defined level for geometry, location and associated properties.	FINAL Routings are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Routings are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Routings are modelled as common generic volume objects for all building services in maximum external extent including clearance to other objects.	Routings are modelled in maximum external extent.	Routings are modelled in external extent.	Routings are modelled in dimensions based on actual selected products and production lengths.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name	9.4 Digital design Type Name System	9.4 Digital design Type Name Center elevation Location: Storey System	9.4 Digital design Type Name Center elevation Location: Storey System Air volume Dimensions Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

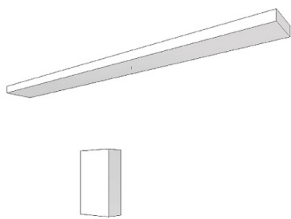
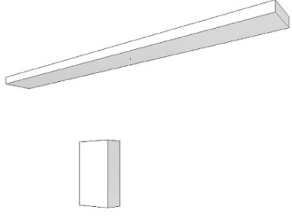
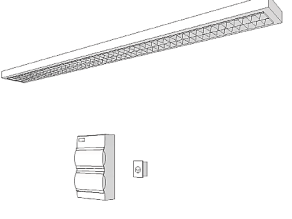
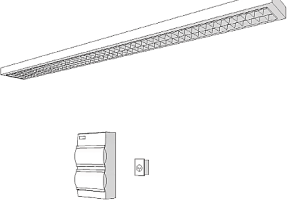
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By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element.
Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR ELECTRICAL COMPONENTS

Applies to all types of components for electrical installations
(distribution boards, rack cabinets, lighting fixtures, power outlets, workstations etc.)

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Components are specified on an assumed level for geometry, location and associated properties.	DEFINED Components are specified on a defined level for geometry, location and associated properties.	FINAL Components are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Components are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Components are modelled as generic volume objects for all building services in maximum external extent.	Components are modelled in maximum external extent.	Components are modelled in external extent.	Components are modelled in dimensions of actual selected products.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name	9.4 Digital design Type Name	9.4 Digital design Type Name Center elevation Location: Storey	9.4 Digital design Type Name Center elevation Location: Storey Distribution board number Dimensions Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

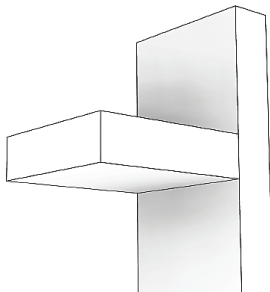
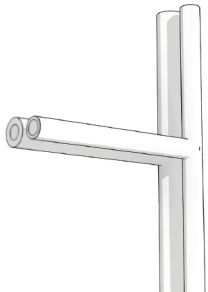
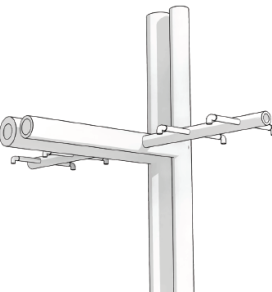
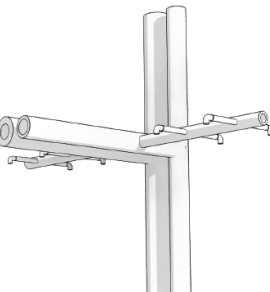
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018).
By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element.
Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR VENTILATION ROUTING

Applies to ducts and duct fittings

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Routings are specified on an assumed level for geometry, location and associated properties.	DEFINED Routings are specified on a defined level for geometry, location and associated properties.	FINAL Routings are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Routings are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Routings are modelled as common generic volume objects for all building services in maximum external extent including clearance to other objects.	Routings are modelled in maximum external duct dimensions including fittings and necessary insulation.	Routings are modelled in external duct dimensions including fittings and necessary insulation.	Routings are modelled in external duct dimensions including fittings and necessary insulation based on actual production lengths.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name Dimension	9.4 Digital design Type Name Dimensions Center elevation Insulation thickness System	9.4 Digital design Type Name Dimensions Center elevation Insulation thickness Insulation type Location: Storey System Air direction	9.4 Digital design Type Name Dimensions Center elevation Insulation thickness Insulation type Location: Storey System Air direction Air volume Material Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

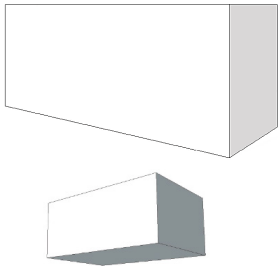
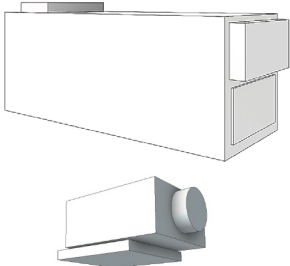
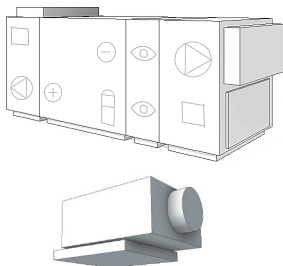
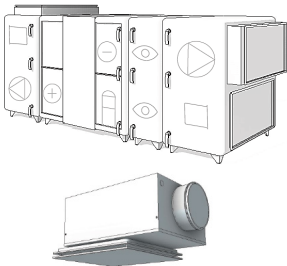
The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR VENTILATION COMPONENTS

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

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Components are specified on an assumed level for geometry, location and associated properties.	DEFINED Components are specified on a defined level for geometry, location and associated properties.	FINAL Components are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Components are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Components are modelled as generic volume objects for all building services in maximum external extent.	Components are modelled in maximum external extent.	Components are modelled in external extent.	Components are modelled in dimensions of actual selected products.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name System	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Center elevation Location: Storey System	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Center elevation Location: Storey System Air volume Dimensions Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

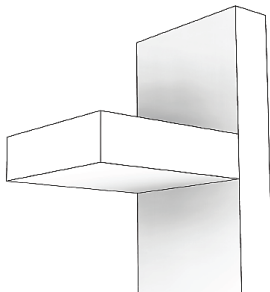
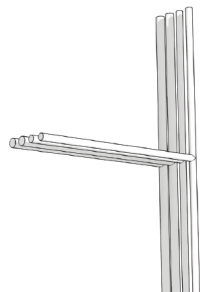
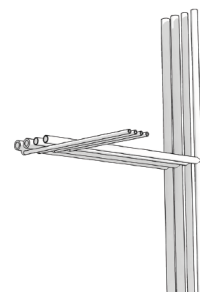
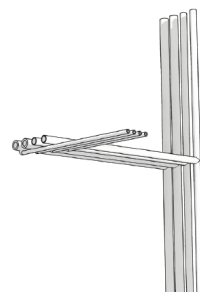
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR HEATING AND SANITATION ROUTING

Revision 4

Applies to pipes, pipe fittings and pipe insulation

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Routings are specified on an assumed level for geometry, location and associated properties.	DEFINED Routings are specified on a defined level for geometry, location and associated properties.	FINAL Routings are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Routings are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Routings are modelled as common generic volume objects for all building services in maximum external extent including clearance to other objects.	Routings are modelled in maximum external pipe dimensions including fittings and necessary insulation.	Routings are modelled in external pipe dimensions including fittings and necessary insulation.	Routings are modelled in external pipe dimensions including fittings and necessary insulation based on actual production lengths.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name Dimension	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Dimensions Center elevation Insulation thickness System	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Dimensions Center elevation Insulation thickness Insulation type Location: Storey System	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Dimensions Center elevation Insulation thickness Insulation type Location: Storey System Material Contract

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

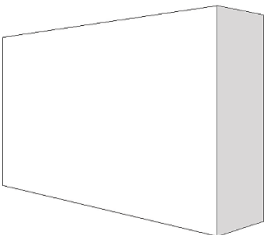
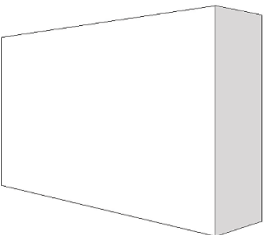
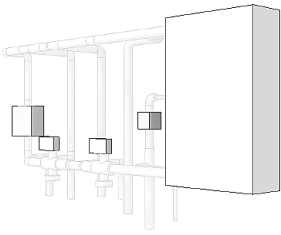
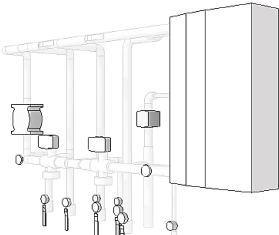



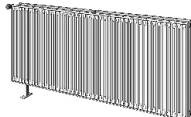
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR HEATING AND SANITATION COMPONENTS

Applies to all types of components for heating and sanitation

(Exchangers, tanks, filters, pumps, valves, heating panels, sprinklers etc.)

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Components are specified on an assumed level for geometry, location and associated properties.	DEFINED Components are specified on a defined level for geometry, location and associated properties.	FINAL Components are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Components are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
			
Components are modelled as generic volume objects for all building services in maximum external extent.	Components are modelled in maximum external extent.	Components are modelled in external extent.	Components are modelled in dimensions of actual selected products.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Type Name	9.4 Digital design Type Name	9.4 Digital design Type Name Center elevation Location: Storey System	9.4 Digital design Type Name Center elevation Location: Storey System

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018).

By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element.

Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

INTRODUCTION

The publication of the Construction elements specifications for landscape/site models is the visible result of a collaboration between 6 landscape architecture companies: Arkitema Architects, C. F. Møller, Link Arkitektur, Schønherr, Årstiderne Arkitekter and 1:1 Landskab. The collaboration grew out of the professional network BIM i Landskabet.

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

Landscape Architects has experienced a digital journey in the recent years 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 the 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 Construction elements specifications for landscape is identical to those for the architecture and engineering disciplines. To keep pace with the increasing importance of Construction elements (model objects) and their associated properties there is a need to clearly describe the contents of a landscape model as related to the Construction elements reliability, geometrical representation and associated properties. Precisely by clarifying the progression of the contents of a landscape model through the project phases we can ensure we create the greatest possible value based on the landscape architecture disciplines practice and the contents of YBL18.

The Construction element specifications consist of four elements:

- External Surfaces in the Landscape
- Landscape Vegetation
- Stairs and Retaining Walls in the Landscape
- External Furniture in the Landscape

The specifications are based on what the landscape model contains rather than what it does not contain. To maintain consistency between disciplines the term "Construction elements" has been maintained.

See also the introduction to this publication.

WORK GROUP

The following companies has participated in the work groups behind this publication.

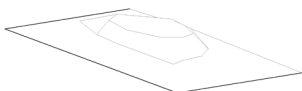
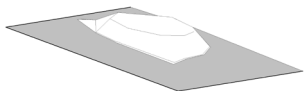


From BIM i Landskabet:

Arkitema, C.F. Møller, Link arkitektur, Schønherr, Aarstiderne Arkitekter and 1:1 Landskab

SPECIFICATION FOR EXTERNAL SURFACES IN THE LANDSCAPE

Revision 4

Applies to paved and unpaved surfaces outside in the landscape

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Surfaces of external areas are specified on an assumed level for geometry, location and associated properties.	DEFINED Surfaces of external areas are specified on a defined level for geometry, location and associated properties.	FINAL Surfaces of external areas are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Surfaces of external areas are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Surfaces of external areas are modelled with the expected general elevations. Existing surfaces can be used.	Surfaces of external areas are modelled to contract boundary. Defined general elevation and intended drainage elevation including elevations at entrances, building corners and adjacent surfaces. There is a distinction between paved and unpaved surfaces.	Surfaces of external areas are modelled to contract boundary. Final general elevation of surfaces as basis for ground works. There is a distinction between different types of paved and unpaved surfaces.	Project specific elevations of construction elements. Basic perimeter of construction elements according to surface types.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Type Name Area	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Area Top and bottom elevation Elevation at entrance and building corners	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Area Top and bottom elevation Elevation at entrance and building corners Dimensions of substrate layers	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Area Top and bottom elevation Elevation at entrance and building corners Dimensions of substrate layers

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

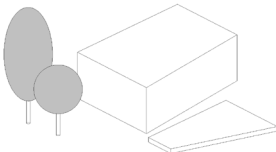
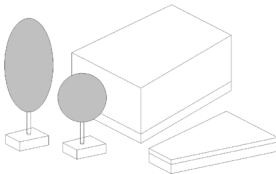
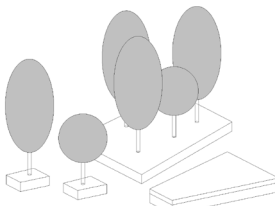
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR LANDSCAPE VEGETATION

Revision 4

Applies to individual and groups of plants in the landscape

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Objects for vegetation are not modelled in LOD 200. See External Surfaces instead.	DEFINED Vegetation specified on a defined level for geometry, location and associated properties.	FINAL Vegetation specified on a final level for geometry, location and associated properties.	FINAL DETAILED Vegetation specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Objects for vegetation are not modelled in LOD 200. See External Surfaces instead.	Defined disposition and indication of location of vegetation individually or in groups.	Final location of vegetation individually or in groups.	Final detailed location of vegetation individually or in groups.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
9.4 Digital design Objects for vegetation are not modelled in LOD 200. See External Surfaces instead.	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Area Count Size	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Area Count Size Location	9.1 Classification Classification code Type (-code/-ID) 9.4 Digital design Type Name Area Count Size Location Construction

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

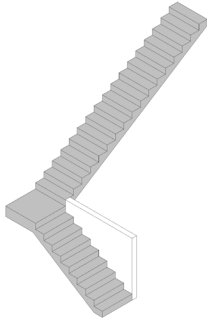
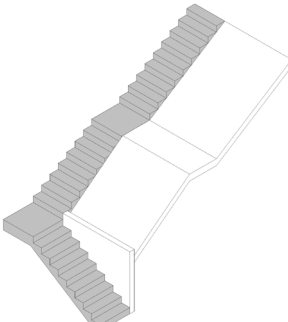
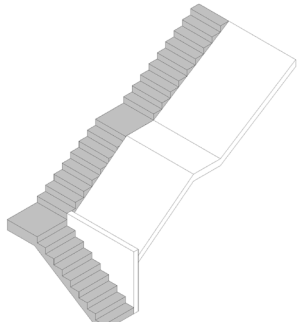
PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR STAIR AND RETAINING WALL IN THE LANDSCAPE

Revision 4

Applies to stairs and retaining walls in the landscape

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Objects for stairs and retaining walls are not modelled in LOD 200. See External Surfaces instead.	DEFINED Stairs and retaining walls are specified on a defined level for geometry, location and associated properties.	FINAL Stairs and retaining walls are specified on a final level for geometry, location and associated properties.	FINAL DETAILED Stairs and retaining walls are specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Objects for stairs and retaining walls are not modelled in LOD 200. See External Surfaces instead.	Objects for stairs and retaining walls are modelled in maximum external extent organized into types.	Objects for stairs and retaining walls are modelled in maximum external extent organized into types.	Objects for stairs and retaining walls are modelled in maximum external extent organized into types including major openings and major holes for building services.
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Objects for stairs and retaining walls are not modelled in LOD 200. See External Surfaces instead.	9.4 Digital design Type Name Width Height Top and bottom elevation of stairs Top elevation retaining wall	9.4 Digital design Type Name Width Height Top and bottom elevation of stairs Top elevation retaining wall Construction	9.4 Digital design Type Name Width Height Top and bottom elevation of stairs Top elevation retaining wall Construction

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.


PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR FURNITURE IN THE LANDSCAPE

Revision 4

Applies to fixed furniture in the landscape

LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	LOR 300	LOR 325	LOR 400
ASSUMED Furniture is not modelled in LOD 200.	DEFINED Furniture specified on a defined level for geometry, location and associated properties.	FINAL Furniture specified on a final level for geometry, location and associated properties.	FINAL DETAILED Furniture specified on a final detailed level for geometry, location and associated properties based on the actual choice of products.
LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	TYPE-LEVEL	DETAILED TYPE-LEVEL	PRODUCTION-LEVEL
			
Furniture is not modelled in LOD 200.	Standard furniture objects are modelled in maximum external extent organized into types.	Standard furniture objects are modelled in maximum external extent organized into types. Optionally objects from manufacturers.	Standard furniture objects are modelled according to the final choice of products organized into types..
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES	PROPERTIES FOR SERVICES
	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)	9.1 Classification Classification code Type (-code/-ID)
9.4 Digital design Furniture is not modelled in LOD 200.	9.4 Digital design Type Name External dimensions	9.4 Digital design Type Name External dimensions Location	9.4 Digital design Type Name External dimensions Location Construction

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI

The delivery requirements above shall be seen in relation to selected services in the Description of services for Building and Landscape 2018 (EN) (YBL2018). By selecting the §9.4 Digital Design Service in YBL2018 as well as the LOD DK levels above, the LOR, LOG and LOI for the LOD DK are mandatory for each construction element. Please refer to the instruction for this publication.

PRODUCTION

The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

PROPERTIES

Below is a complete list of the properties, that appears in the individual Construction element data sheets. The list contains the basic metadata for the properties. A more extensive specification can be found by following this [link](#). In the list below the properties are not shown by Construction element but only grouped by their association to §9.1 Classification or §9.4 Digital design in the Specification of services (YBL18).

IFC-properties are generally from IFC2x3 but for a few properties it is suggested to use the property names they will have in IFC4. This applies to e.g. Concrete Compressive Strength and Maximum Aggregate Size.

Revit [Shared Parameter](#) and [Revit Propertyset](#) files has been created in order to support IFC-exchange of Revit models.

PROPERTY NAME	EXAMPLE	PROPERTYSET	STANDARDIZED PROPERTY	DATA TYPE
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9.1 Classification

Classification code, BIM7AA	224	IfcClassification	BIM7AA	Integer
Classification code, CCS	[L]AD	IfcClassification	CCSClassification	Text
Type (-code), BIM7AA	224	BIM7AA	BIM7AATypeCode	Label
Type (-ID), BIM7AA	224004	BIM7AA	BIM7AATypeID	Label
Type (-ID), CCS	[L]%AD1	CCS_Administrative	CCSTypeID	Label

9.4 Digital design

Metadata				
Type Name	Type 1	IfcObjectType	IfcEntity	Label
Type Name: Cross	150 mm	IfcObjectType	IfcEntity	Label
Type Name: Profile	HE200B	IfcObjectType	IfcEntity	Label
Room number	2.101	IfcRoot	Name	Label
Room name	Office	IfcSpatialElement	LongName	Label
System name	VA01	IfcRoot	Name	Label
System name	[L]=J1.HF1	CCS_Administrative	CCS_FunctionalID	Label
Distribution board number	01	IfcRoot	Name	Label
Insulation type		IfcObjectType	IfcEntity	Label

Placing

Location: Storey	1 st floor	IfcLocalPlacement	IfcBuildingStorey	Label
Center elevation	2500 mm	IfcObjectPlacement	IfcAxis2Placement	Number
Top- and bottom elevation	10000 mm	IfcObjectPlacement	IfcAxis2Placement	Number
Elevation at entrance	10000 mm	IfcObjectPlacement	IfcAxis2Placement	Number
Top and bottom elevation for stair	7000 mm	IfcObjectPlacement	IfcAxis2Placement	Number
Top elevation retaining wall	11200 mm	IfcObjectPlacement	IfcAxis2Placement	Number

PROPERTY NAME	EXAMPLE	PROPERTYSET	STANDARDIZED PROPERTY	DATA TYPE
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Dimensions				
Area: Floor	5 m ²	IfcElementQuantity	NetFloorArea	Area
Dimension	1000 mm	Pset_1TypeCommon	NominalDiameter NominalDiameterOrWidth NominalHeight NominalWidth InnerDiameter OuterDiameter	Number

EGENSKABER

Revision 4

PROPERTY NAME	EXAMPLE	PROPERTYSET	STANDARDIZED PROPERTY	DATA TYPE
Dimension of substrate	200 mm	IfcElementQuantity	NominalWidth	Number
Height	1000 mm	IfcElementQuantity	NominalHeight	Number
Overall height	2100 mm	IfcDoor IfcWindow	OverallHeight	Number
Overall width	1010 mm	IfcDoor IfcWindow	OverallWidth	Number
Length	1000 mm	IfcElementQuantity	NominalLength	Number
Length: Linear	1000 mm	IfcElementQuantity	NominalLength	Number
Ramp slope	3°	Pset_RampCommon	RequiredSlope	Angle
Thickness	25 mm	IfcMaterialLayer	LayerThickness	Number
Insulation thickness	25 mm	IfcMaterialLayer	LayerThickness	Number

Fire and Acoustics

Fire exit	True	Pset ¹ _Common	FireExit	True/False
Pyrotechnical class ³	EI30 A2-s1,d0	Pset ¹ _Common	FireRating	Label
Acoustic rating ³	35	Pset ¹ _Common	AcousticRating	Label

Structural design

Load bearing	True	Pset ¹ _Common	LoadBearing	True/False
Structural construction		Specificeres ²	Specificeres ²	Text
Construction		Specificeres ²	Specificeres ²	Text
Surface treatment		Pset_ConcreteElementSurface	ExternalSurfaceType	Label
Surface requirement		Pset_ConcreteElementGeneral	ExternalSurfaceClass	Label
Concrete compressive strength		Add ¹ _Common	CompressiveStrength	
Steel grade		IfcMaterial	Name	
Environmental class		Pset_ConcreteElementGeneral	EnvironmentalClass	Label
Maximum aggregate size		Add ¹ _Common	MaxAggregateSize	Number
Material		Pset ¹ _Common	Material	Label

Installation

Compartmentation	2	Pset_CableCarrierSegment- TypeCableTrunkingSegment	NumberOfCompartments	
Air direction		Add ¹ _Common	AirFlowType	
Air volume	15 m ³ /h	Add ¹ _Common	AirFlowRate	

Andre

Contract	Y60	Add_ElementCommon	SubcontractResource.Name	
Hardware set	B1	Add_DoorCommon	HardwareSet	

Notes

¹ Insert IFC class corresponding to the buildingSMART propertyset for the selected IFC version. E.g.; Pset_BeamCommon or Pset_WallCommon. The EIR-BIM Specifications must specify which IFC-classes the property should be supplied for.

² Specify the structural composition of walls, floor assemblies, ceilings, roofs, furniture and fittings and/or specify the construction of walls, windows, doors and railings. An example of this could be that a specific wall consists of one object with several layers or individual objects representing each layer.

³ Pyrotechnical class and Acoustic rating are "reported" parameters. This means that data is provided by another consultant and that the is merely reported in the construction element. For the consultant who provide the services Fire and Acoustics according to the contract and division of services, delivery of data must conform with ABR18 §15 section 3.