CONSTRUCTION ELEMENT SPECIFICATIONS

– for selected construction elements in building and landscaping models

REV6

DiKon Digital Konvergens

BIM7AA praksisorienteret tværfaglig digitalisering

MOLIO viden, du bygger på

CONTENTS

INSTRUCTIONS

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, BIM7AA and Molio have developed a common delivery specification for building models, which is used to describe the specific content of the building model for disciplines and phases. The delivery specification can be accessed free of charge at **anvisninger.molio.dk**. DiKon and BIM7AA's existing delivery specifications exist as alternatives as long as DiKon and BIM7AA find it relevant. Please refer to **dikon.info** and **bim7aa.dk** for further information.

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.

UPDATE

The Construction Element Specifications are updated at the beginning of February each year, therefore comments and suggestions for improvements are accepted before November 1st. Please send them to **info@molio.dk.**

The following companies have participated in the work groups for this publication:

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

BIM7AA:
Aart, Arkitema, C.F. Møller, Cubo, Friis & Moltke, Link Arkitektur and Schmidt Hammer Lassen Architects.

Molios user groups:
VITA Ingeniører, Søren Jensen, Sweco , Niras, Artelia

WHO ARE BIM7AA AND DIKON?

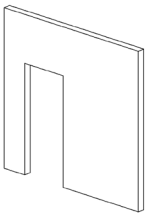
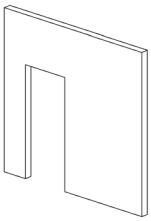
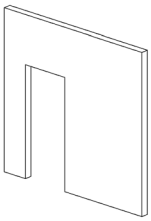
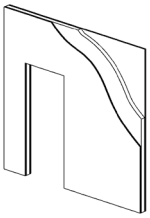
BIM7AA is a voluntary collaboration between 7 architectural firms in Denmark (AART architects, Arkitema Architects, C.F. Møller, CUBO Arkitekter A/S, Friis & Moltke, LINK arkitektur and schmidt hammer lassen architects). BIM7AA aims to develop and continuously optimize common BIM tools, methods and processes with a focus on interdisciplinary collaboration.

DiKon consists of DiKon Byggeri and DiKon Anlæg. DiKon Byggeri is a collaboration across the 7 member companies (Cowi, NCC, Rambøll, Sweco, Aarsleff, Arkitema Architects and MT Højgaard Danmark) with a common mission to develop and contribute to the digital basis for value-creating processes in the member companies and the Danish building and construction industry. By standardizing the basis for digital collaboration within the companies and across the industry using free tools, the collaboration and processes that drive construction projects in Denmark are facilitated.

AARSLEFF AART NCC Arkitema CF MØLLER ARCHITECTS COWI CUBO
FRIIS & MOLTKE ARCHITECTS RAMBØLL MTHøjgaard Danmark LINK ARKITEKTUR schmidt/hammer/lassen/architects/ SWECO Sweco Architects

SPECIFICATION FOR WALL

Applies to all external and internal non-loadbearing walls

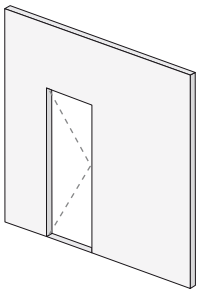
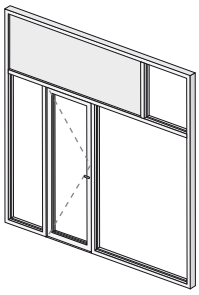
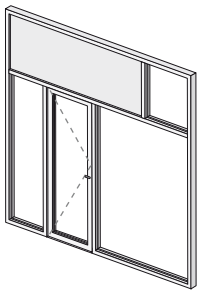
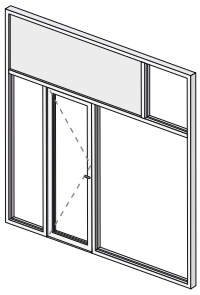
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Walls are specified on an assumed level for geometry, location and associated properties.	**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 **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Location: Storey Construction	**PROPERTIES FOR SERVICES** **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 GLASS/SYSTEM WALLS

Applies to all composite system walls, glazed and unglazed

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 Glass/ system walls are specified on an assumed level for geometry, location and associated properties.	**DEFINED** Glass/ system walls are specified on a defined level for geometry, location and associated properties.	**FINAL** Glass/ system walls are specified on a final level for geometry, location and associated properties.	**FINAL DETAILED** Glass/ system 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**
			
Glass/ system walls, including generic location and size of openings and panels, are modelled as maximum external extent divided into expected types.	Glass/ system walls, including grids with subdivision of panels, openings and profiles, are modelled as maximum external extent organised into types.	Glass/ system walls, including grids with subdivision of panels, openings and profiles, are modelled as maximum external extent organised into types.	Glass/ system walls, including grids with subdivision of panels, openings and profiles, are modelled as maximum external extent organised into types.
LOI 200	**LOI 300**	**LOI 325**	**LOI 400**
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name Dimensions	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimensions	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Location: Storey Dimensions Construction	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Location: Storey Dimensions Construction Contract

Finishing components comply with the LOD development in this specification unless otherwise stated, but are specified in their own sheets.

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.

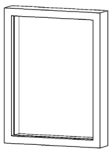
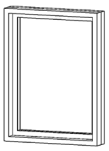
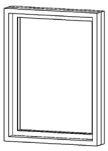
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

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.

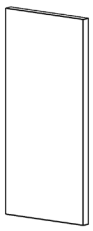
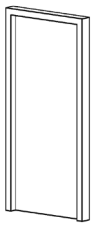
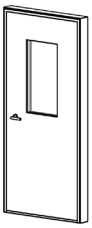
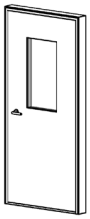
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID)	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID)	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID)
9.4 Digital design Type Name 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 Construction Firetechnical class Acoustic rating	**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.

SPECIFICATION FOR DOOR

Applies to all external and internal doors

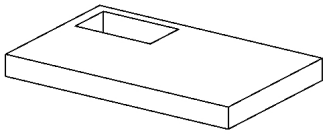
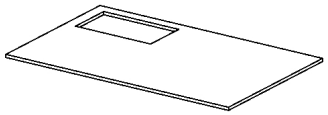
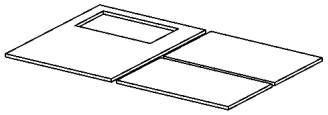
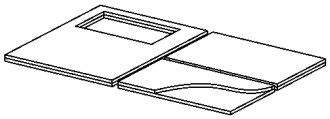
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Doors are specified on an assumed level for geometry, location and associated properties.	**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 leafs are divided in panels.	Doors are modelled with opening measurements with frame and door leaf and organized into types. Door leafs are divided in panels.
LOI 200	**LOI 300**	**LOI 325**	**LOI 400**
PROPERTIES FOR SERVICES	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Overall width Overall height	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Overall width Overall height Location: Storey Fire exit Hardware set Construction Firetechnical class Acoustic rating	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **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

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

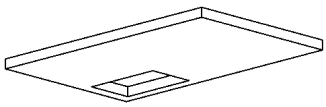
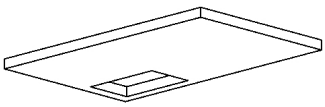
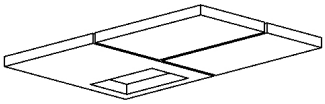
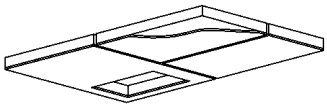
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Slab assemblies are specified on an assumed level for geometry, location and associated properties.	**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 **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Location: Storey Construction	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **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

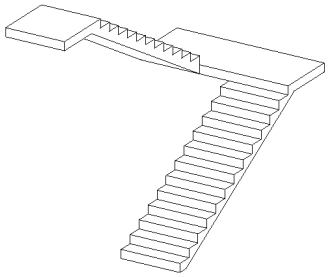
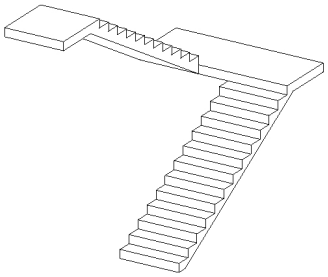
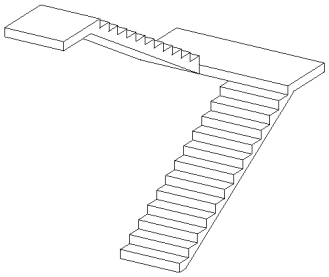
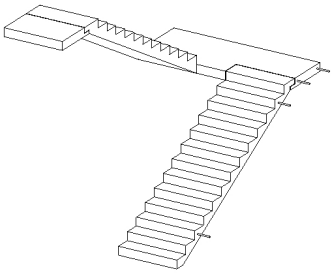
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED See the specification for generic slab assemblies under floor assemblies.	**DEFINED** Ceilings 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 **9.4 Digital design** See the specification for generic slab assemblies under floor assemblies.	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Location: Storey Construction	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **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 STAIR AND RAMP

Applies to in-situ and prefabricated stairs and ramps

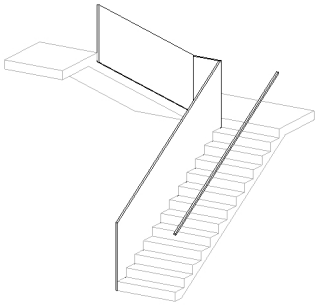
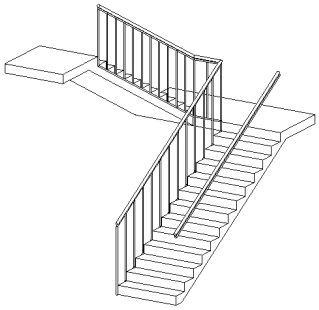
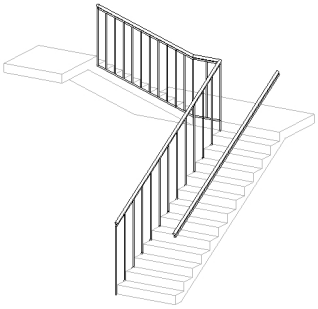
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Stairs are specified on an assumed level for geometry, location and associated properties.	**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 Slope of ramp	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Location: Storey Slope of ramp	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Location: Storey Slope of ramp 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

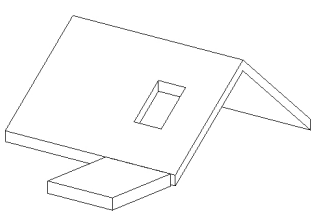
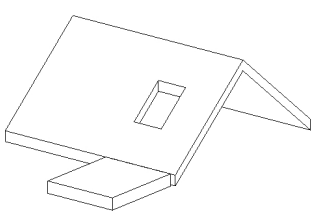
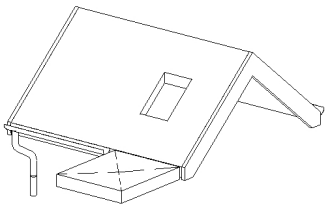
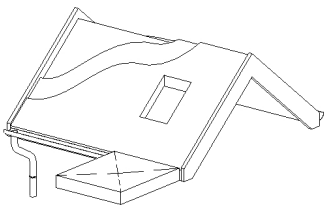
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Not relevant for LOR 200	**DEFINED** Railings are specified on a defined level for geometry, 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 **9.4 Digital design** Not relevant for LOG 200	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Height	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Height Location: Storey Construction	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **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 **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Location: Storey Construction	**PROPERTIES FOR SERVICES** **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.

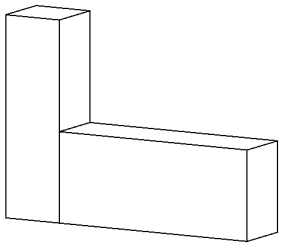
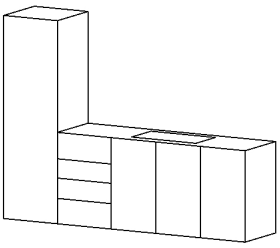
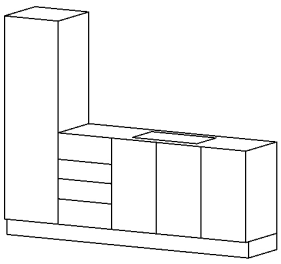
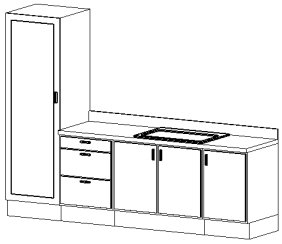
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR FURNITURE AND FITTINGS

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.

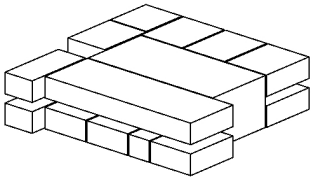
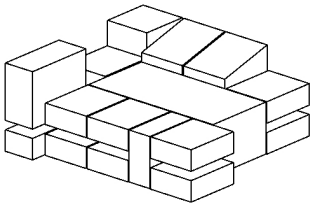
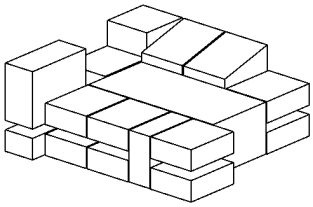
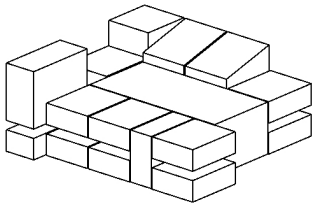
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Depth	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Depth Location: Storey Construction	**PROPERTIES FOR SERVICES** **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 ROOMS

Applies to all room objects delimited by 3D structures

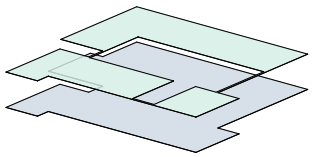
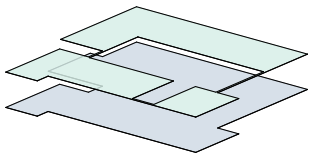
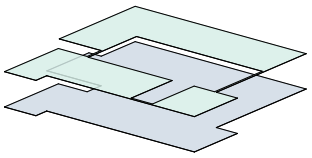
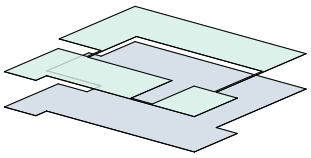
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Rooms are specified on an assumed level for geometry, location and associated properties.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

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 GROSS AREA

Applies to gross areas of construction entities

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 Gross areas are defined at an assumed level of geometry, location and associated properties.	**DEFINED** Gross areas are defined at a defined level for geometry, location and associated properties.	**FINAL** Gross areas are defined at a final level for geometry, location and associated properties.	**FINAL DETAILED** Gross areas are defined at a final detailed level for geometry, location and associated properties.
LOG 200	**LOG 300**	**LOG 325**	**LOG 400**
GENERIC LEVEL	**TYPE-LEVEL**	**DETAILED TYPE-LEVEL**	**PRODUCTION-LEVEL**
			
Gross area is modelled as an object of the projected plan area.	Gross area is modelled as an object of the projected plan area.	Gross area is modelled as an object of the projected plan area.	Gross area is modelled as an object of the projected plan area.
LOI 200	**LOI 300**	**LOI 325**	**LOI 400**
PROPERTIES FOR SERVICES	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Name Area: Gross area	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Name Area: Gross area Location: Storey	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Name Area: Gross area Location: Storey

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.

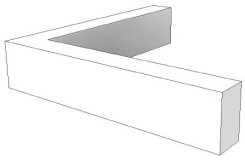
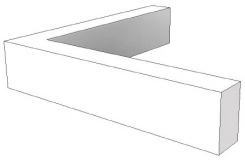
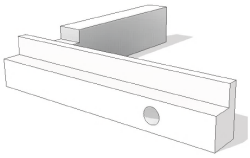
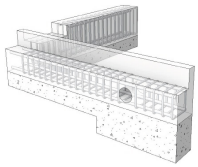
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

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 for building services taken into account.	Foundations are modelled with plinths and cast plinths including possible steps. Openings for building services with a diameter or edge length over 150 mm are modelled.	Foundations are modelled with plinths and cast plinths including possible steps. Reinforcement including lap lenghts, mounting bars, bevels, inserts and plates are modelled. Openings for building services are modelled.

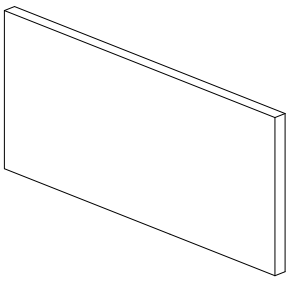
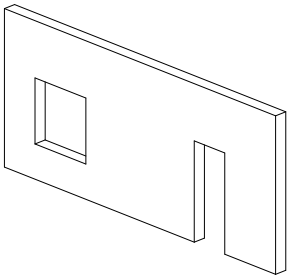
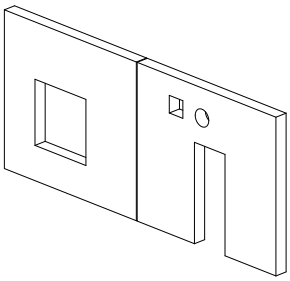
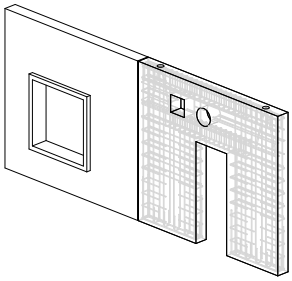
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name: Cross section Length	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load Bearing	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load Bearing Location: Storey	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load Bearing Location: Storey Surface treatment Surface requirements Compressive strength Exposure 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

Applies to in-situ and prefabricated concrete walls

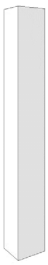
LOD 200 DK	LOD 300 DK	LOD 325 DK	LOD 400 DK
Molio Level of information 3	Molio Level of information 4	Molio Level of information 5	Molio Level of information 6
LOR 200	**LOR 300**	**LOR 325**	**LOR 400**
ASSUMED Walls are specified on an assumed level for geometry, location and associated properties.	**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 consoles, tension connections and openings and holes for building services with a diameter or edge length over 150 mm. Scope of element sectioning, skirts and concrete folds is agreed on project level.	Walls are modelled sectioned in elements for fabrication with consoles, concrete folds, tension connections, joints, joint seals, reinforcement incl. lap lengths, mounting bars, bevels, inserts, plates and openings and holes for building services.
LOI 200	**LOI 300**	**LOI 325**	**LOI 400**
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name Width Height Length	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Height Length Load bearing	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Height Length Load bearing Location: Storey	**PROPERTIES FOR SERVICES** **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 Exposure 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 with consoles, tension connections and holes for building services.	Columns are modelled in final fabrication-lengths with consoles, tension connections, 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 **9.4 Digital design** Type Name: Cross section Length	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load bearing	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load bearing Location: Storey	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Profile Length Load bearing Location: Storey Surface treatment Surface requirements Compressive strength Exposure 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.

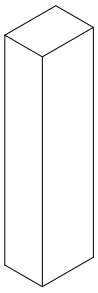
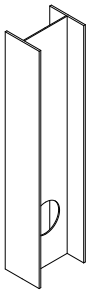
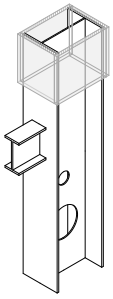
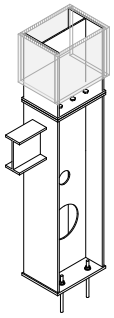
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

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 with consoles and holes for building services. Fireproof insulation is modelled with a focus on space reservation and coordination. Additional detailing in fireproof insulation can be modelled in 2D details. Fire resistant paint is not modelled.	Columns are modelled in final production lengths with consoles, holes for building services, bolts, joint plates, weld seams and fireproof insulation.

LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name: Profile Length	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Profile Length Load bearing	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Profile Length Load bearing Location: Storey	**PROPERTIES FOR SERVICES** **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.

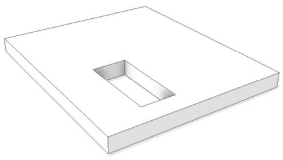
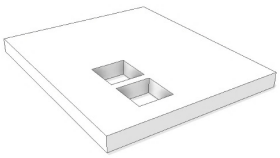
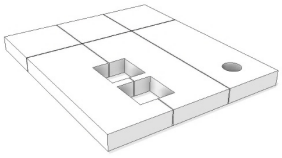
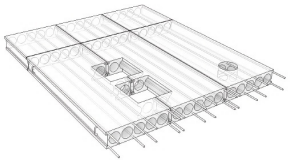
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR CONCRETE SLAB

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** **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 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 Exposure 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

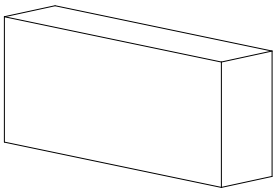
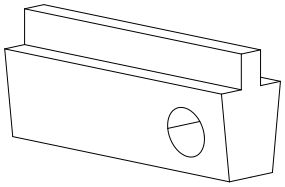
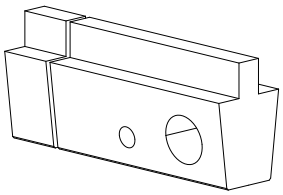
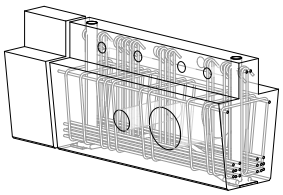
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

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 with consoles and holes for building services.	Beams are modelled in final fabrication-lengths, with consoles, 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 **9.4 Digital design** Type Name: Cross section Length	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load bearing	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load bearing Location: Storey	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Cross section Length Load bearing Location: Storey Surface treatment Surface requirements Compressive strength Exposure 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.

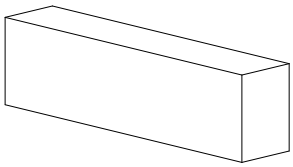
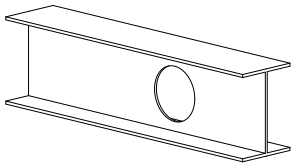
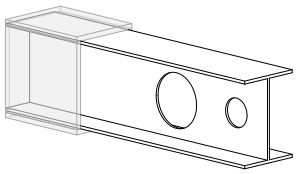
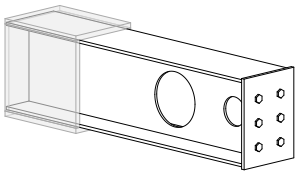
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR STEEL 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 with consoles and holes for building services. Fireproof insulation is modelled at an overall level with a focus on space reservation and coordination. Overlaps may occur. Additional detailing in fireproof insulation can be modelled in 2D details. Fire resistant paint is not modelled.	Beams are modelled in final fabrication lengths with consoles, holes for building services, bolts, connection plates, weld seams and fireproof insulation.

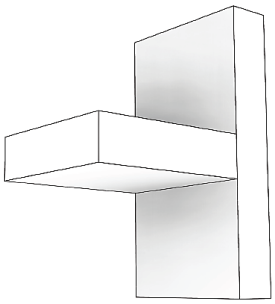
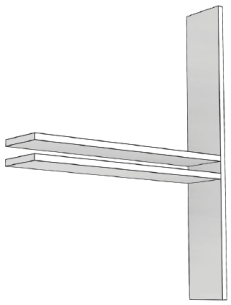
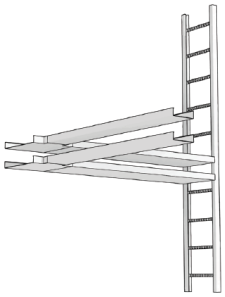
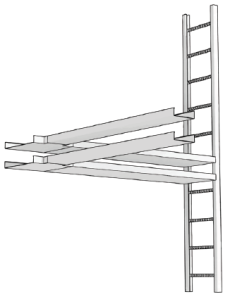
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name: Profile Length	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Profile Length Load bearing	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name: Profile Length Load bearing Location: Storey	**PROPERTIES FOR SERVICES** **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 **9.4 Digital design** Type Name Dimension	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimension Center elevation	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimension Center elevation Location: Storey	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimension Center elevation Location: Storey Material Number of compartments 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.

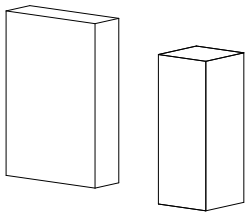
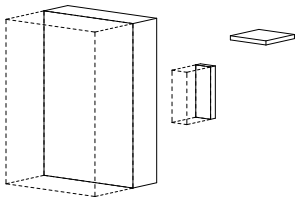
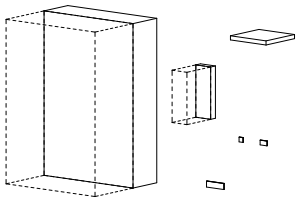
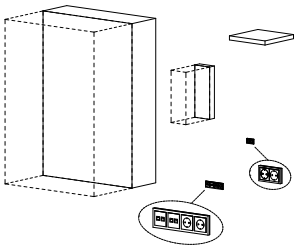
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR ELECTRICAL 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. Space-consuming service areas are modelled.	Components are modelled in maximum external extent. Space-consuming service areas are modelled.	Components are modelled in dimensions of actual selected products. Space-consuming service areas are modelled.

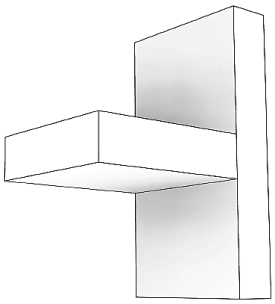
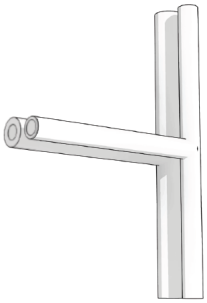
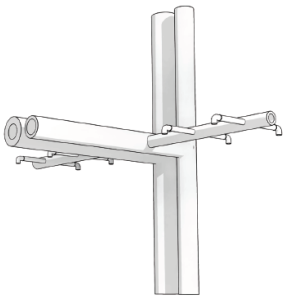
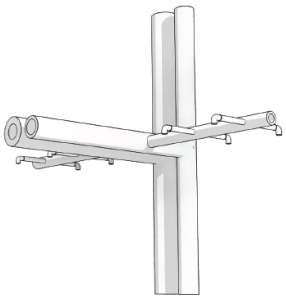
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID)	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID)	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID)
9.4 Digital design Type Name	**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 **9.4 Digital design** Type Name Dimension	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimensions Center elevation Insulation thickness System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimensions Center elevation Insulation thickness Insulation type Location: Storey System Air direction	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Dimensions Center elevation Insulation thickness Insulation type Location: Storey System Air direction Air flow 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.

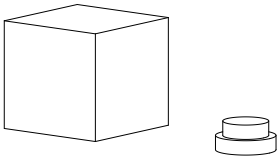
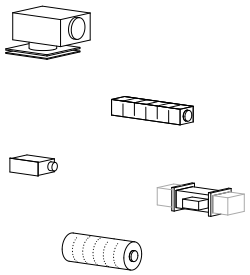
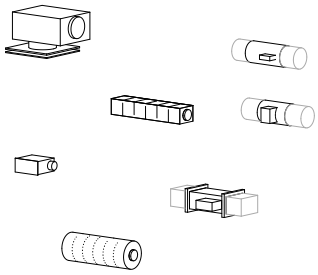
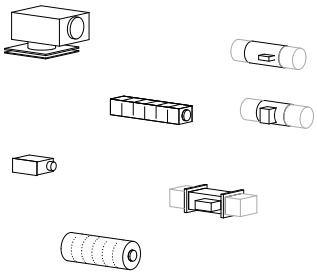
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR VENTILATION COMPONENTS

Applies to all types of ventilation components (diffusor, damper, silencer, 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.

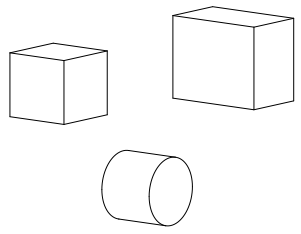
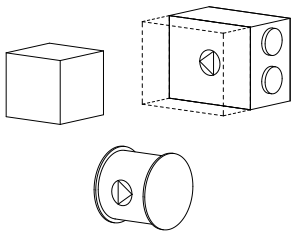
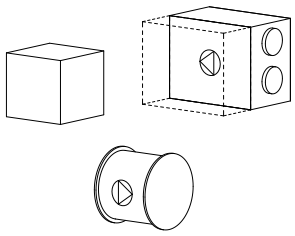
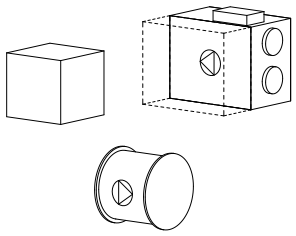
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center elevation Location: Storey System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center elevation Location: Storey System Air flow 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 UNITS AND FANS

Applies to all types of ventilation units and fans (ventilation unit, heating and cooling fancoil, fan, 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 Ventilation units and fans are specified on an assumed level for geometry, location and associated properties.	**DEFINED** Ventilation units and fans are specified on a defined level for geometry, location and associated properties.	**FINAL** Ventilation units and fans are specified on a final level for geometry, location and associated properties.	**FINAL DETAILED** Ventilation units and fans 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**
			
Ventilation units and fans are modelled as generic volume objects in maximum external extent.	Ventilation units and fans are modelled in maximum external extent. Space-consuming service areas are modelled.	Ventilation units and fans are modelled in maximum external extend. Space-consuming service areas are modelled.	Ventilation units and fans are modelled in dimensions of actual selected products. Space-consuming service areas 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 System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center elevation Location: Storey System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center elevation Location: Storey System Air flow 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.

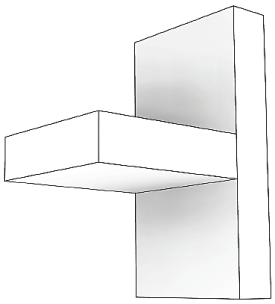
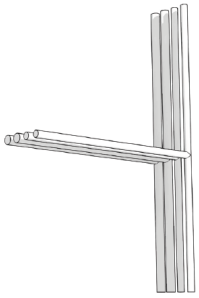
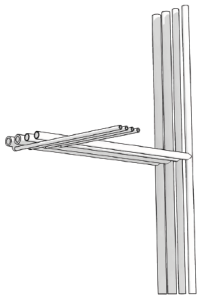
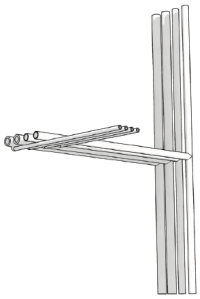
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR HEATING AND SANITATION ROUTING

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** **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 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	**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

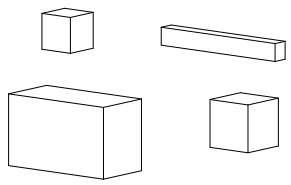
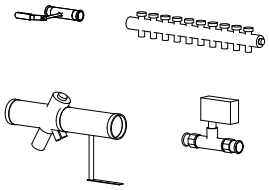
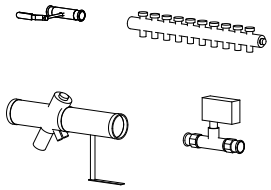
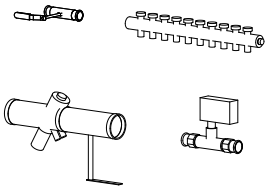
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR HEATING AND SANITATION COMPONENTS

Applies to all types of components for plumbing systems (valves, pumps, filters, bearings, junction boxes, thermometers, 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.

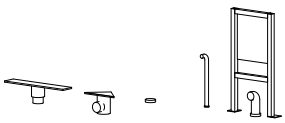
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center elevation Location: Storey System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **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.

SPECIFICATION FOR SANITATION AND RAINWATER CONNECTIONS

Applies to all types of connections for sanitary and rainwater components.
(Connections for machines, equipment, closets, sinks, roof drains, 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 Connections are defined at the assumed level of geometry, location and associated properties.	**DEFINED** Connections are defined at the defined level of geometry, location and associated properties.	**FINAL** Connections are defined at the final level of geometry, location and associated properties.	**FINAL DETAILED** Connections are defined at the 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**
			
Connections are modelled as generic volume objects in maximum external extent.	Connections are modelled in maximum external extent.	Connections are modelled in maximum external extent.	Connections are modelled in dimensions based on actual selected product.
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	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center elevation Location: Storey	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Center Elevation Location: Storey Waterflow rate 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.

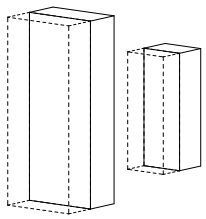
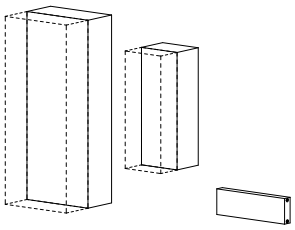
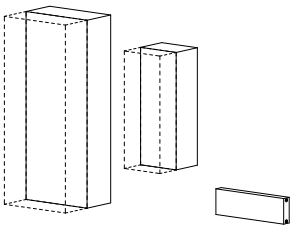
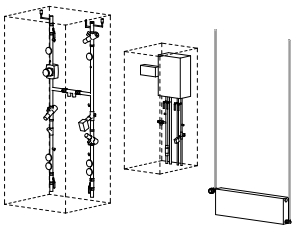
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR MECHANICAL EQUIPMENT AND PLUMBING SYSTEMS

Applies to all types of mechanical equipment and plumbing installations
(mixing loops, metering arrangements, filtration systems, 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 Equipment and systems are defined at the assumed level of geometry, location and associated properties. The geometry is based on experience and estimates for the type of project.	**DEFINED** Equipment and systems are defined at the defined level of geometry, location and associated properties. The geometry is based on experience and estimates for the type of project.	**FINAL** Equipment and systems are defined at the final level of geometry, location and associated properties. The geometry is based on the required capacity.	**FINAL DETAILED** Equipment and systems are defined at the final detailed level for geometry, location and associated properties according to actual product selection.

LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	**TYPE-LEVEL**	**DETAILED TYPE-LEVEL**	**PRODUCTION-LEVEL**
			
Equipment and systems and their components are modelled as generic volume objects with a maximum outer contour. Space-consuming operating areas are modelled. Volumes can represent multiple plumbing mechanical equipment and systems that are part of the same LOD level.	Equipment and systems and their components are modelled as volume objects with maximum external dimensions. Space-consuming operating areas are modelled.	Equipment and systems and their components are modelled as volume objects with maximum external dimensions. Space-consuming operating areas are modelled.	Equipment and systems and their components are modelled in dimensions based on actual product choices. Space-consuming operating areas are modelled. Essential sub-components are modelled according to LOD400 for heating and sanitation components.

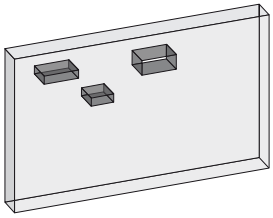
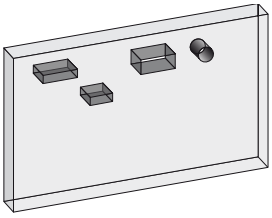
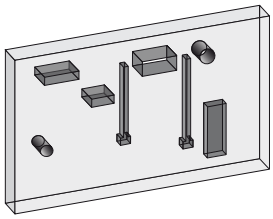
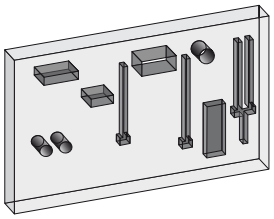
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Location: Storey System	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Elevation Location: Storey System Dimensions Contractor

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.

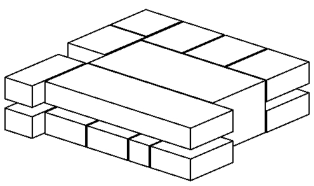
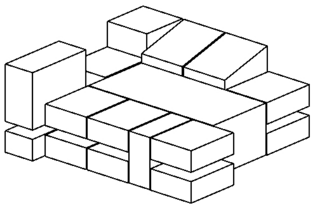
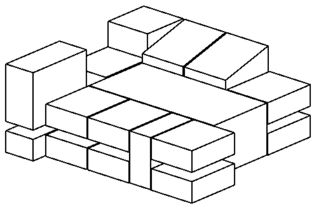
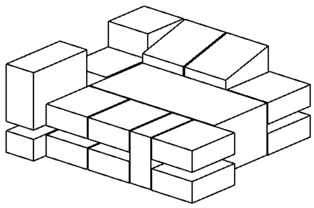
SPECIFICATION FOR RECESSES AND OPENINGS

Applies to all to all recesses and openings for installations

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 openings are modelled on an assumed level for geometry, location and associated properties.	**DEFINED** Objects for openings and drilling zones are modelled on a defined level for geometry, location and associated properties.	**FINAL** Objects for openings, drilling zones and recesses are modelled on a final level for geometry, location and associated properties.	**FINAL DETAILED** Objects for openings, drilling zones and recesses are modelled on a final detailed level for geometry, location and associated properties.
LOG 200	**LOG 300**	**LOG 325**	**LOG 400**
GENERIC LEVEL	**TYPE-LEVEL**	**DETAILED TYPE-LEVEL**	**PRODUCTION-LEVEL**
			
Significant objects for openings are modelled as generic volume objects where modelled installations penetrate structural/ stabilising walls, slabs, beams and columns.	Objects for openings and drilling zones with a perimeter or diameter >200 mm are modelled at the defined level as generic volume objects where modelled installations penetrate structural/ stabilising walls, slabs, beams, columns and foundations. Length and diameter rounded off to nearest 5mm.	Objects for openings, recesses and drilling zones with perimeter or diameter >150 mm are modelled at the final level as generic volume objects where modelled installations penetrate structural /stabilising walls, slabs, beams, columns, foundations and the building envelope. Length and diameter rounded off to nearest 5mm.	Objects for openings, recesses and drilling zones with perimeter or diameter >100 mm are modelled at the final detailed level as generic volume objects where modelled installations penetrate structural /stabilising walls, slabs, beams, columns, foundations and the building envelope. Length and diameter rounded off to nearest 5mm.
LOI 200	**LOI 300**	**LOI 325**	**LOI 400**
PROPERTIES FOR SERVICES **9.4 Digital design** Type Name Dimension	**PROPERTIES FOR SERVICES** **9.1 Classification** **9.4 Digital design** Type Name Width Height Depth Diameter	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type Name Width Height Depth Diameter Discipline	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) Unique ID (-code/-ID) **9.4 Digital design** Type Name Width Height Depth Diameter Discipline
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 for installations 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 defined on an assumed level for geometry, location and associated properties.	**DEFINED** Spaces are defined on a defined level for geometry, location and associated properties.	**FINAL** Spaces are defined on a final level for geometry, location and associated properties.	**FINAL DETAILED** Spaces are defined on a final detailed level for geometry, location and associated properties.
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 **9.4 Digital design** Room name* Area Service area Space control type	**PROPERTIES FOR SERVICES** **9.1 Classification** **9.4 Digital design** Room Name* Room Number** Area Service area Space control type **VENTILATION***:** Volume Air flow **PLUMBING***:** (Heating, cooling) Type of heating Heating load Cooling load **ELECTRICAL***:** Illuminance level	**PROPERTIES FOR SERVICES** **9.1 Classification** **9.4 Digital design** Room Name* Room Number** Area Service area Space control type **VENTILATION***:** Volume Air flow **PLUMBING***:** (Heating, cooling) Type of heating Heating load Cooling load **ELECTRICAL***:** Illuminance level	**PROPERTIES FOR SERVICES** **9.1 Classification** **9.4 Digital design** Room Name* Room Number** Area Service area Space control type **VENTILATION***:** Volume Air flow **PLUMBING***:** (Heating, cooling) Type of heating Heating load Cooling load **ELECTRICAL***:** Illuminance level

* *The architect's room name is used as a reference*
** *The architect's room number is used as a reference*
*** *LOI-level properties are included to the extent that the requirement for the discipline-specific space model is specified in the Delivery Specification.*

DESCRIPTION OF SERVICES FROM DANSKE ARK AND FRI	PRODUCTION
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.	The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

INTRODUCTION

The publication of Construction element specifications for landscapes is the result of work carried out in the joint professional network BIM in the Landscape, between the companies Arkitema, arkitri, Arkplan, AART, Henning Larsen, Schønherr, SLA, and Sweco.
The ambition behind this work is to ensure that landscape architecture firms, on par with other companies, have our own relevant Construction element specifications, prepared by landscape architects for landscape architects. The Construction element specifications primarily focus on the landscaping related to buildings.
With increasing digital demands on landscape architects to develop landscape models on par with building models, there is a need to develop a common tool that ensures a shared digital reference framework for modeling in the construction process. This will help us understand what can be expected from the landscape models and how they integrate with the rest of the construction industry.
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. By aligning 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 building part specification for landscapes consists of five parts:

- Ground coverings
- Planting typology
- Solitary planting
- Structural elements in terrain
- Furniture in terrain

The Construction element specifications for landscapes describe what is included in the landscape model, not what is excluded. To maintain consistency across disciplines, the term ”building parts” is retained. The Introduction on pages 3-4 of this publication is crucial and should be consulted for further understanding.

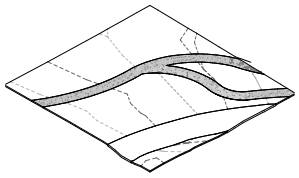
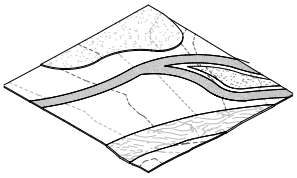
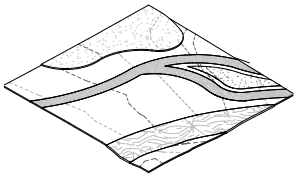
WORKING GROUP
The following companies participated in the working groups for this publication:
Arkitema, arkitri, Arkplan, AART, Henning Larsen, Schønherr, SLA, and Sweco.

SPECIFICATION FOR GROUND COVERINGS

Applies to unpaved and paved ground coverings

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 Ground coverings are defined at the assumed level of 2D geometry and associated properties.	**DEFINED** Ground coverings are defined at a defined level for geometry, location and associated properties.	**FINAL** Ground coverings are defined at a final level for geometry, location and associated properties.	**FINAL DETAILED** Ground coverings are defined at 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**
			
Existing and assumed layout of selected new ground coverings.	Defined layout and overall elevation of ground coverings, modelled in maximum outer volume, divided into types.	Final positioning and elevation of ground coverings, specified by type and substructure.	Final location and elevation of ground coverings, specified by types, substructures and actual choise of product.

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-/layer name	**9.4 Digital design** Type name Area	**9.4 Digital design** Type name Area Location Construction	**9.4 Digital design** Type name Area 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.

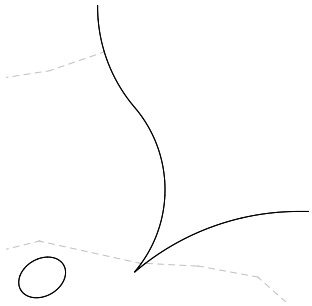
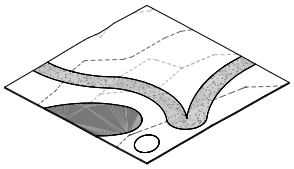
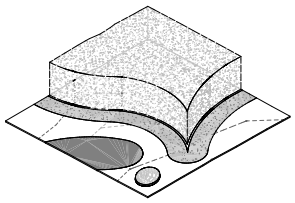
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR FOR PLANTING TYPOLOGY

Applies to to planting typologies in terrain

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 Planting typologies are defined at the assumed level of 2D geometry, location and associated properties.	**DEFINED** Planting typologies are defined at a defined level for geometry, location and associated properties.	**FINAL** Planting typologies are defined at a final level for geometry, location and associated properties.	**FINAL DETAILED** Planting typologies are defined at a final detailed level for geometry, location and associated properties based on the actual choice of species.

LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	**TYPE-LEVEL**	**DETAILED TYPE-LEVEL**	**PRODUCTION-LEVEL**
			
Existing and assumed layout of selected new planting typologies.	Defined layout and principle placement of planting typologies.	Final placement of planting typologies in raised volumes, divided by planting typologies.	*<see specification for solitary planting>*

LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type-/layer name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Area Area distribution	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Area Area distribution Location Quantity Quality	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Area Area distribution Location Quantity Quality

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.

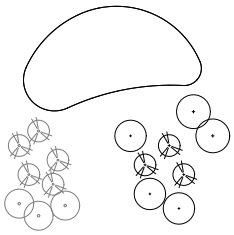
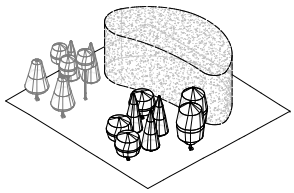
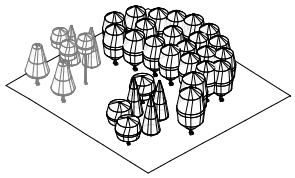
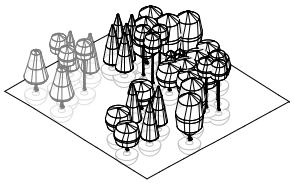
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR SOLITARY PLANTING

Applies to solitary plantings in terrain

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 Solitary plantings are defined at the assumed level of 2D geometry, location and associated properties.	**DEFINED** Solitary plantings are defined at a defined level for geometry, location and associated properties.	**FINAL** Solitary plantings are defined at a final level for geometry, location and associated properties.	**FINAL DETAILED** Solitary plantings are defined at a final detailed level for geometry, location and associated properties based on the actual choice of species.

LOG 200	LOG 300	LOG 325	LOG 400
GENERIC LEVEL	**TYPE-LEVEL**	**DETAILED TYPE-LEVEL**	**PRODUCTION-LEVEL**
			
Existing and assumed layout of new solitary plantings.	Defined layout and principle location of solitary plants and/or raised volumes, specified by type.	Final layout of solitary plantings, specified by type of species and size.	Final placement of solitary plantings, specified by type of species and size.

LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type-/layer name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimension Quality Location	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimension Quality Location	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimension Quality Location

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.

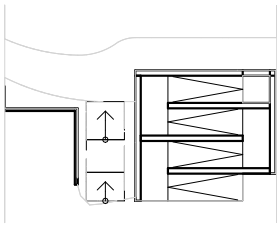
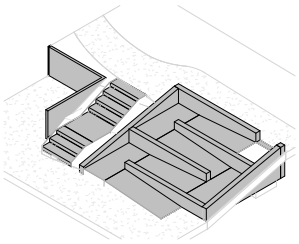
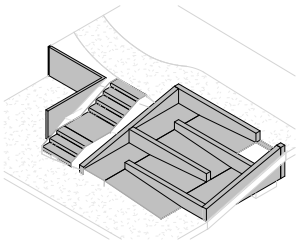
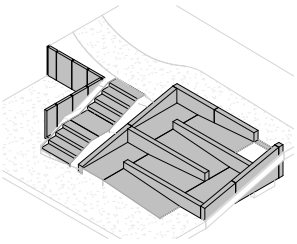
PRODUCTION
The delivery requirements above must be seen in conjunction with services related to contractor / supplier design.

SPECIFICATION FOR STRUCTUAL ELEMENTS IN TERRAIN

Applies to retaining walls, stairs, ramps 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 Structural elements in terrain are defined at the assumed level of 2D geometry, location and associated properties.	**DEFINED** Structural elements in terrain are defined at a defined level for geometry, location and associated properties.	**FINAL** Structural elements in terrain are defined at a final level for geometry, location and associated properties.	**FINAL DETAILED** Structural elements in terrain are defined at 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**
			
Geometry for structural elements in terrain is dispositioned in 2D.	Geometry of structural elements in terrain is modelled in maximum outer volume, divided into types.	Geometry of structural elements in terrain is modelled in external dimensions, divided into types.	Geometry of structural elements in terrain is modelled in external dimensions, divided into types.

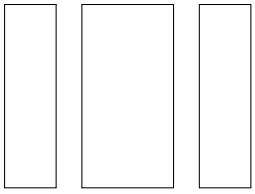
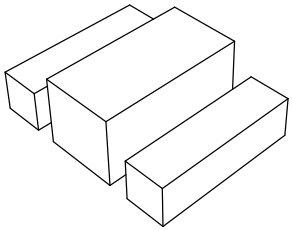
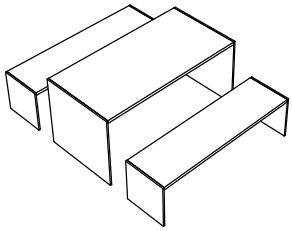
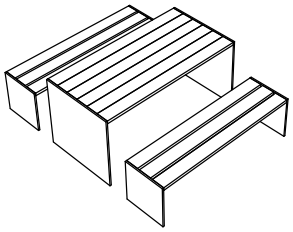
LOI 200	LOI 300	LOI 325	LOI 400
PROPERTIES FOR SERVICES **9.4 Digital design** Type-/layer name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimensions	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimensions Location Construction	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name 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.

SPECIFICATION FOR FURNITURE IN TERRAIN

Applies to fixed furniture in terrain

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 defined at the assumed level of 2D geometry, location and associated properties.	**DEFINED** Furniture is defined at a defined level for geometry, location and associated properties.	**FINAL** Inventory is defined at a final level for geometry, location and associated properties.	**FINAL DETAILED** Furniture is defined at a final detailed level for geometry, placement 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**
			
Geometry for furniture is dispositioned in 2D.	Geometry for furniture is modelled in maximum outer volume, divided by type.	Geometry for furniture is modelled in outer dimensions, divided into types.	Geometry for furniture is modelled in dimensions based on actual choise of product.
LOI 200	**LOI 300**	**LOI 325**	**LOI 400**
PROPERTIES FOR SERVICES **9.4 Digital design** Type-/layer name	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimensions	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name Dimensions Location	**PROPERTIES FOR SERVICES** **9.1 Classification** Classification code Type (-code/-ID) **9.4 Digital design** Type name 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

(NOT REVISED WITH REGARD TO REVISION 5)

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
9.1 Classification				
Classification code, BIM7AA	224	IfcClassification	BIM7AA	Number
Classification code, CCS	[L]AD	IfcClassification	CCSClassification	Text
Classification code, CCI	[L]AD	IfcClassification	CCSClassification	Text
Type (-code), BIM7AA	224	BIM7AA	BIM7AATypeCode	Number
Type (-ID), BIM7AA	224004	BIM7AA	BIM7AATypeID	Number
TypeID, CCS	[L]%AD1	CCS_Administrative	CCSTypeID	Text
TypeID, CCI	[L]%AD1	CCS_Administrative	CCSTypeID	Text
Classification code, CCS	[L]ULE	CCS_Administrative	CCSClassification	Text
Classification code, CCI	[L]ULE	CCS_Administrative	CCIClassification	Text
Unique ID, CCS	L]#XTA01	CCS_Administrative	CCSSingleLevelID	Text
Unique ID, CCI	L]#XTA01	CCS_Administrative	CCISingleLevelID	Text
Unique ID	[L]%AD1	IfcElement	Tag	Text
9.4 Digital design				
Metadata				
Type Name	Type 1	IfcEntity	ObjectType	Text
Type Name: Cross section	150x150 mm	IfcEntity	ObjectType	Text
Type Name: Profile	HE200B	IfcEntity	ObjectType	Text
Room number	2.101	IfcRoot	Name	Text
Room name	Office	IfcSpatialElement	LongName	Text
System (IFC)	VA01	IfcRoot	Name	Text
System component (CCS, System)	[L]=J1.HF1	CCS_Administrative	CCS_FunctionalID	Text
System (CCS, Component)	[L]=J1.HF1.WPB1	CCS_Administrative	CCS_FunctionalID	Text
System (CCI, System)	[L]=J1.HF1	CCS_Administrative	CCS_FunctionalID	Text
System (CCI, Component)	[L]=J1.HF1.WPB1	CCS_Administrative	CCS_FunctionalID	Text
Distribution board number	01	IfcRoot	Name	Text
Insulation type (Object)		IfcEntity	ObjectType	Text
Insulation type (Reference)		Add[1]_PipeSegmentTypeCommon	InsulationType	Text
Insulation type (Reference)		Add[1]_PipeSegmentTypeCommon	InsulationType	Text
Placering				
Location: Storey	1st floor	IfcBuildingStorey	Name	Text
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

PROPERTIES
(NOT REVISED WITH REGARD TO REVISION 5)

PROPERTY NAME	EXAMPLE	PROPERTYSET	STANDARDIZED PROPERTY	DATA TYPE
Dimensions				
Floor Area	5 m^2	IfcElementQuantity	NetFloorArea	Number
Area	200 m2	IfcElementQuantity	NetArea	Number
Dimension	25 mm	Pset_PipeFittingTypeCommon Pset_PipeSegmentTypeCommon	NominalDiameter	Number
Dimension	150 mm	Pset_DuctFittingTypeCommon Pset_DuctSegmentTypeCommon	NominalDiameterOrWidth	Number
Dimension	60 mm	Pset_CableCarrierSegmentTypeCableLadderSegment Pset_CableCarrierSegmentTypeCableTraySegment Pset_CableCarrierSegmentTypeCableTrunkingSegment Pset_CableCarrierSegmentTypeConduitSegment Pset_DuctFittingTypeCommon Pset_DuctSegmentTypeCommon	NominalHeight	Number
Dimension	400 mm	Pset_CableCarrierSegmentTypeCableLadderSegment Pset_CableCarrierSegmentTypeCableTraySegment Pset_CableCarrierSegmentTypeCableTrunkingSegment Pset_CableCarrierSegmentTypeConduitSegment	NominalWidth	Number
Dimension	25 mm	Pset_PipeFittingTypeCommon Pset_PipeSegmentTypeCommon	InnerDiameter	Number
Dimension	32 mm	Pset_PipeFittingTypeCommon vPset_PipeSegmentTypeCommon	OuterDiameter	Number
Dimensions	1500 x 1500 x 110 mm	IfcRoot	Description	Text
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
Width	1000 mm	IfcElementQuantity	NominalWidth	Number
Width (Openings)	150 mm	Profile	XDim	Number
Depth (Openings)	100 mm	IfcElementQuantity	NominalWidth	Number
Height (Openings)	150 mm	Profile	YDim	Number
Diameter (Openings)	200 mm	Profile	Diameter	Number
Length	1000 mm	IfcElementQuantity	NominalLength	Number
Length: Linear	1000 mm	IfcElementQuantity	NominalLength	Number
Thickness	200 mm	IfcElementQuantity	NominalWidth	Number
Insulation thickness (Object)	25 mm	Pset_CoveringTypeCommon	TotalThickness	Number
Insulation thickness (Reference)	25 mm	Add[1]_PipeSegmentTypeCommon	InsulationThickness	Number
Insulation thickness (Reference)	25 mm	Add[1]_DuctSegmentTypeCommon	InsulationThickness	Number
Fire and Acoustics				
Fire exit	True	Pset_DoorCommon Add[1]_SpaceCommon Add[1]_WindowCommon Pset_Common Pset_SpaceFireSafetyRequirements	FireExit	True/ False
Firetechnical class[3]	EI30 A2-s1,d0	Pset_DoorCommon Pset_WindowCommon	FireRating	Text
Acoustic rating[3]	35	Pset_DoorCommon Pset_WindowCommon	AcousticRating	Text
Structural design				
Load bearing	True	Pset_BeamCommon Pset_SlabCommon Pset_ColumnCommon Pset_WallCommon Pset_MemberCommon Pset_PlateCommon	LoadBearing	True/ False
Structural construction		Specificeres[2]	Specificeres	Text
Construction		Specificeres[2]	Specificeres	Text

PROPERTIES
(NOT REVISED WITH REGARD TO REVISION 5)

PROPERTY NAME	EXAMPLE	PROPERTYSET	STANDARDIZED PROPERTY	DATA TYPE
Surface treatment	Hot dip galvani-zing	Pset_ConcreteElementSurfaceFinishQuantityGeneral	ExternalSurfaceType	Text
Surface requirement	BO I-R	Pset_ConcreteElementSurfaceFinishQuantityGeneral	ExternalSurfaceClass	Text
Concrete compressive strength	30 MPA	Add[1]_MaterialConcrete	CompressiveStrength	Text
Steel grade	S355J0	IfcMaterial	Name	Text
Environmental class	XC4	Pset_ConcreteElementGeneral	EnvironmentalClass	Text
Maximum aggregate size	16 mm	Add[1]_MaterialConcrete	MaxAggregateSize	Number
Material	Steel	IfcMaterial	Name	Text
Installation				
Number of compartments	2	Pset_CableCarrierSegmentTypeCableTrunkingSegment	NumberOfCompartments	Number
Air direction		Pset_FlowTerminalAirTerminal	AirFlowType	Text
Air volume	15 m³/h	Add1_AirTerminalOccurrence	AirFlowRate	Number
Other				
Contract	Y60	Add[1]_ElementCommon	SubcontractResource	Text
Hardware set	B1	Add[1]_DoorCommon	HardwareSet	Text
Discipline	Ventilation	Pset_OpeningElementCommon	Purpose	Text

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 objected 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.

CHANGE LOG CONSTRUCTION ELEMENT SPECIFICATIONS

Dato	Ændringer	
2022.03.18	Page 6:	New construction element specification for glass / system walls
	Page 15:	New construction element specification for recess and openings
	Page 35-37:	Properties are updated and specified according to IFC2x3.
	Structural:	Property “Environmental class” is changed to “Exposure class” according to Danish standards.
	Electrical:	Properties on LOI200-400 are corrected according to the Danish version.
2022.03.18	Revision 6	
	Instructions:	Consequence adjustments in relation to new construction element specifications and new delivery specifications for building models.
	New construction element specifications:	Gross area, Ventilation units and fans, Sanitation and rainwater connections, Mechanical plumping equipment and systems, Spaces, Planting typology
	Existing construction element specifications:	
	Stair and ramp	”Required slope for ramps” changed to ”Slope of ramp”
	Room:	Specification has changed name from Space to Room. The property ”Fire exit” is removed at LOI325 and LOI400. The property ”Area: Floor” is changed to ”Area: Net area”.
	Foundation:	Revised text at LOG 300, 325, and 400.
	Concrete wall:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised text at LOG 325 and 400.
	Concrete column:	Revised text at LOG 325 and 400.
	Steel beam:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised text at LOG 325 and 400.
	Concrete beam:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised text at LOG 325 and 400.
	Steel beam:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised text at LOG 325 and 400.
	Electrical components:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised text at LOG 300, 325, and 400.
	Ventilation routing	Property “Air volume” changed to “Air flow”
	Ventilation components:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised subheading. Property “Air volume” changed to “Air flow”
	Heating and sanitation components:	New/Updated illustrations at LOG 200, 300, 325, and 400. Revised subheading.
	Ground coverings:	General update on heading, subheading, illustrations, LOR, LOG, and LOI.
	Solitary planting:	General update on heading, subheading, illustrations, LOR, LOG, and LOI.
	Structural elements in terrain:	General update on heading, subheading, illustrations, LOR, LOG, and LOI.
	Furniture in terrain:	General update on heading, subheading, illustrations, LOR, LOG, and LOI.
	Properties:	Will not be revised according to changes and new construction element specifications in revision 6. Expected to be revised in revision 6.1.