DiKon

DigitalKonvergens

VERSION 1.2 · 10 SEP 2016

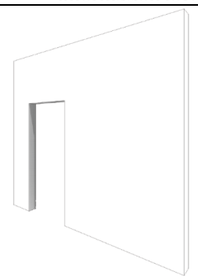
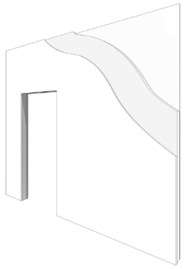
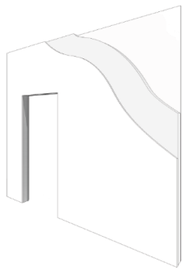
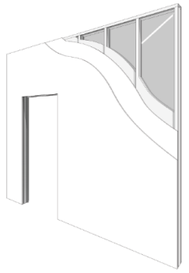
Specification of Building Parts

— for selected building parts in building models

ARKITEMA ARCHITECTS COWI NCC RAMBØLL SWECO ÅRSTIDERNE ARKITEKTER

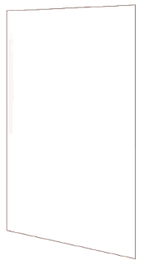
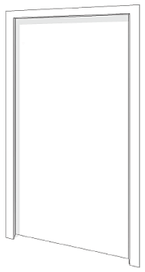
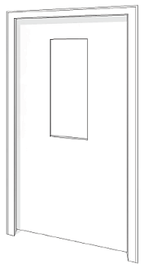
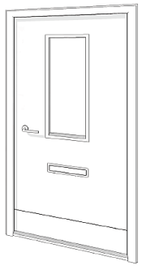
Content

Building element **Wall**
Description **Applies to all outside and inside walls**
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Walls are modelled as generic objects in max. outer contour broken down into overall types. Expected dimension and location. Openings with expected dimension and location.	Walls are modelled as assemblies with details of materials. Specified main dimension and location. Openings with specified dimension and location. Layers with thickness of more than 25mm is modelled	Walls are modelled as assemblies with details of materials. Final dimension and location. Openings with final dimension and location. Surfaces down to 5 mm. Layers with thickness of more than 25mm is modelled	Walls are modelled as assemblies with details of materials. Final structure, dimension and location. Openings with final dimension and location. Surfaces down to 5 mm. Components, joints, holes etc. Layers with thickness of more than 25mm is modelled	
Mandatory attributes			Classification Type Type name		Floor Classification Type Type name Fire rating Acoustic rating	Floor Classification Type Type name Fire rating Acoustic rating	
Other attributes			Floor Width Length Height	Floor Width Length Height U-value Material Surface	Width Length Height U-value Material Surface Contract	Width Length Height U-value Material Surface Contract	
Attributes used for meassuring - when quantities are required in models* Comment			Area: M_AD_11_A1 / R0	Area: M_AD_11_A1 / R0	Area: M_AD_11_A1 / R0	Area: M_AD_11_A1 / R0	

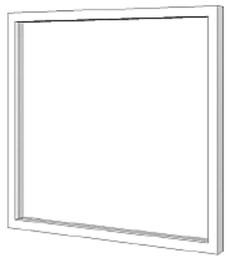
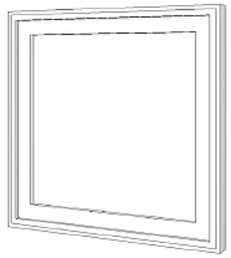
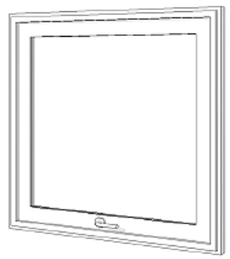
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Door**
Description **Applies to all outside and inside doors and gates**
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Doors are modelled as generic objects in max. outer contour broken down into overall types. Expected dimension and location. Doors are modelled in simple geometry.	Doors are modelled with hinges, frame, architrave, door sill / threshold. Specified dimension and location. Material on door panel modelled as glass or solid.	Doors are modelled with hinges, frame, architrave, door sill / threshold. Final dimension and location. Material on door panel modelled as glass or solid. Conspicuous fittings are modelled.	Doors are modelled with hinges, frame, architrave, door sill / threshold. Final structure, dimension and location. Material of door panel is modelled. Conspicuous fittings are modelled.	
Mandatory attributes			Width Height Classification Type name	Width Height Classification Type Type name Fire rating Acoustic rating	Width Height Floor Classification Type Type name Fire rating Acoustic rating Equipment Fittings	Width Height Floor Classification Type Type name Fire rating Acoustic rating Equipment Fittings	
Other attributes			Type Area Floor Orientation	Area Floor Orientation Contract Wall width U-value Material Surface Equipment	Area Orientation Contract Wall width U-value Material Surface	Area Orientation Contract Wall width U-value Material Surface	
Attributes used for meassuring - when quantities are required in models* Comment			Count M_QQC_11_N1 / R0	Count M_QQC_11_N1 / R0	Count M_QQC_11_N1 / R0	Count M_QQC_11_N1 / R0	

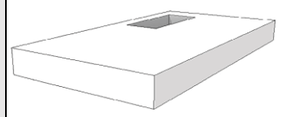
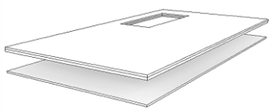
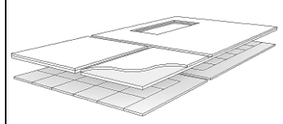
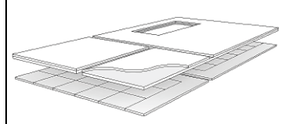
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Window**
Description **Applies to all windows, with panes and opaque areas**
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Windows are modelled as generic objects in max. outer contour broken down into overall types. Expected dimension and location.	Windows are modelled with frame and architrave. Specified dimension and location.	Windows are modelled with frame and architrave. Final dimension and location.	Windows are modelled with frame and architrave. Final structure, dimension and location.	
Mandatory attributes			Width Height Classification Type name	Width Height Classification Type Type name Fire rating Acoustic rating	Width Height Floor Classification Type Type name Fire rating Acoustic rating U-value	Width Height Floor Classification Type Type name Fire rating Acoustic rating Equipment U-value Fittings	
Other attributes			Type Area Floor Orientation	Area Floor Orientation Contract Wall width U-value Equipment Fittings Material			
Attributes used for meassuring - when quantities are required in models* Comment							

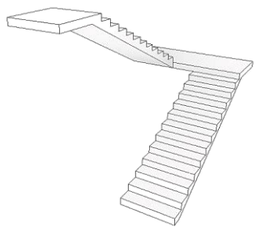
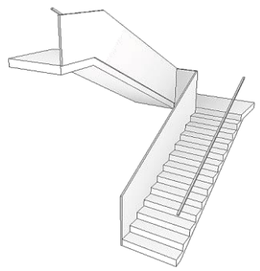
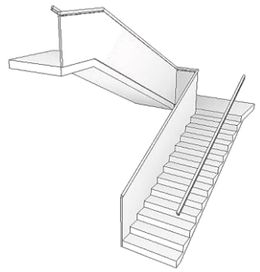
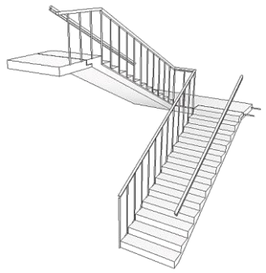
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Floor build up**
Description **Applies to all floor dividers that make a horizontal separation**
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Floor build ups are modelled as a combined generic object (floor, slab and ceiling) broken down into overall types. Floor dividers are a continuous surface over the whole of the relevant storey. Expected dimension and location.	Floor build ups are modelled as assemblies broken down into floors, slabs and ceilings. Floors and ceilings may be a continuous surface over the whole of the relevant storey Specified main dimension and location. Larger apertures are modelled.	Floor build ups are modelled as assemblies broken down into floors, slabs and ceilings. Ceilings and floors are divided by walls etc. Final dimension and location incl. any risers etc. Panel divisions marked with hatching. Larger apertures are modelled.	Floor build ups are modelled as assemblies broken down into floors, slabs and ceilings. Ceilings and floors are separated by walls etc. Final structure, dimension and location incl. any risers etc. Panel divisions marked with hatching. Larger apertures are modelled.	
Mandatory attributes			Height Classification Type name	Height Classification Type Type name	Height Floor Classification Type Type name Fire rating Acoustic rating	Height Floor Classification Type Type name Fire rating Acoustic rating	
Other attributes			Type Floor	Floo Contract Fire rating Acoustic rating U-value	Contract U-value Material Surface	Contract U-value Material Surface	
Attributes used for meassuring - when quantities are required in models* Comment			Areal M_AC_11_A1 / R0	Areal M_AC_11_A1 / R0	Areal M_AC_11_A1 / R0	Areal M_AC_11_A1 / R0	

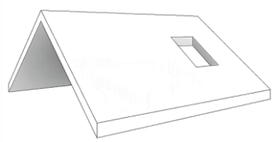
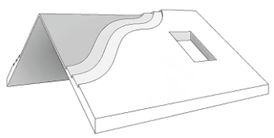
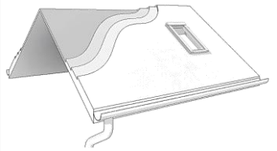
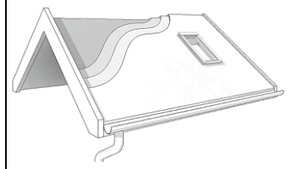
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Stairs, ramps and railings**
Description **Applies to all site-cast and prefabricated stairs and ramps and associated railings**
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Staircases are modelled. Expected dimension and location.	Specified dimension and location. Staircases and railings are modelled.	Staircases, railings, balustres and handrails are modelled. Final dimension and location.	Staircases, railings, handrails and balustres are modelled. Final dimension and location (element length/division), number, shape and location. Final in terms of brackets, holes, joints.	
Mandatory attributes			Classification Type name	Ramp slope Classification Type Type name	Ramp slope Floor Classification Type Type name Fire rating	Ramp slope Floor Classification Type Type name Fire rating	
Other attributes			Floor	Floor Contract Material Surface	Contract Material Surface	Contract Material Surface	
Attributes used for meassuring - when quantities are required in models* Comment			Count (stairs) M_AF_11_N1 / R0 Count (ramps) M_AG_11_N1 / R0	Count (stairs) M_AF_11_N1 / R0 Count (ramps) M_AG_11_N1 / R0	Count (stairs) M_AF_11_N1 / R0 Count (ramps) M_AG_11_N1 / R0	Count (stairs) M_AF_11_N1 / R0 Count (ramps) M_AG_11_N1 / R0	

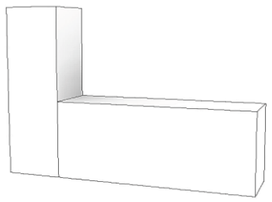
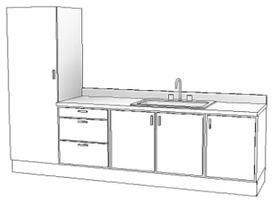
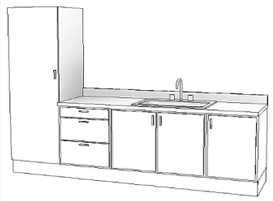
** Quantities in models must be activated in* Description of Services *for the project*

Building element Roof
Description **Applies to all roof structures that close the building from above**
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Roofs are modelled as a collective generic object without sub-structures and divided into overall types. Expected dimension and location.	Roofs are modelled as assemblies broken down into roof slab, roof structure, insulation and membrane. Specified dimension and location.	Roofs are modelled as assemblies broken down into roof slab, roof structure, insulation and membrane. Final dimension and location. Finish, roof gradient and materials are included. Roof gutters and downpipes are modelled.	Roofs are modelled as assemblies broken down into roof slab, roof structure, insulation and membrane. Final dimension and location. Finish, roof gradient, holes, elements, joists, components and materials are modelled.	
Mandatory attributes			Classification Type name	Classification Type Type name	Floor Classification Type Type name Fire rating	Floo Classification Type Type name Fire rating	
Other attributes			Type Height Floor	Height Floor Contract Fire rating U-value Material Surface	Height Contract U-value Material Surface	Height Contract U-value Material Surface	
Attributes used for meassuring - when quantities are required in models* Comment			Area (Roof) M_NCE_11_A1 / R0	Area (Roof) M_NCE_11_A1 / R0	Area (Roof) M_NCE_11_A1 / R0	Area (Roof) M_NCE_11_A1 / R0	

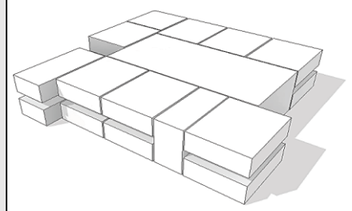
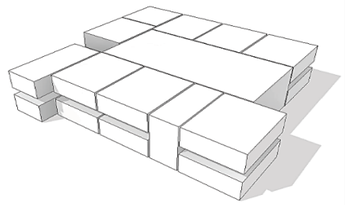
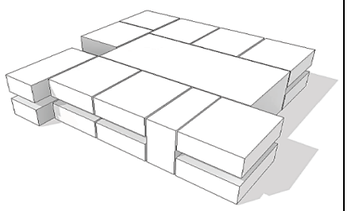
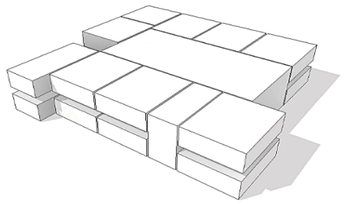
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Furniture and equipment**
Description Applies to loose and permanent fittings
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Modelled as generic objects in max. outer contour.	Modelled with specified geometry and category.	Modelled with final geometry and category.	Modelled with final geometry and category.	
Mandatory attributes			Classification Type name	Width Height Length Classification Type Type name	Width Height Length Floor Classification Type Type name	Width Height Length Floor Classification Type Type name	
Other attributes			Type Floor	Floor Contract	Contract	Contract	
Attributes used for meassuring - when quantities are required in models* Comment			Count M_RB_11_N1	Count M_RB_11_N1	Count M_RB_11_N1	Count M_RB_11_N1	

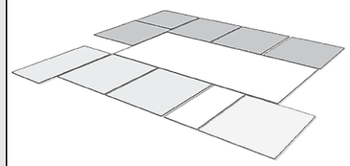
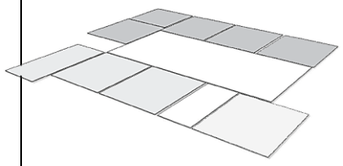
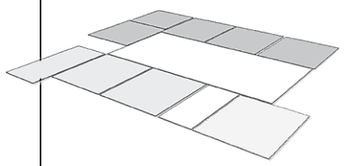
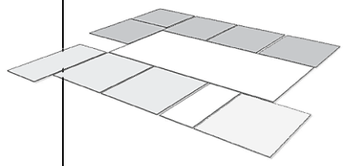
** Quantities in models must be activated in* Description of Services *for the project*

Object **Room**
Description Applies to all room objects bounded by 3D structures
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Room objects are inserted and bounded by 3D structures. Modelled to soffit of ceiling.	Room objects are inserted and bounded by 3D structures. Modelled to soffit of ceiling.	Room objects are inserted and bounded by 3D structures. Modelled to soffit of ceiling.	Room objects are inserted and bounded by 3D structures. Modelled to soffit of ceiling.	
Mandatory attributes			Volume Room name	Volume Room name Room number	Volume Location Room name Room number	Volume Location Room name Room number	
Other attributes			Location Floor surface Ceiling surface Planned area	Location Floor surface Ceiling surface Wall surface Planned area	Floor surface Ceiling surface Wall surface Planned area	Floor surface Ceiling surface Wall surface Planned area	
Attributes used for meassuring - when quantities are required in models* Comment			Area (floor) M_FR?_11_A2 / R0	Area (floor) M_FR?_11_A2 / R0	Area (floor) M_FR?_11_A2 / R0	Area (floor) M_FR?_11_A2 / R0	

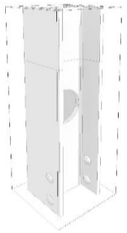
** Quantities in models must be activated in* Description of Services *for the project*

Object **Area**
Description Applies to all areas bounded by 3D structures
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Areas are used to define e.g. the total area and/or sub-areas of the building. Areas may be divided into sub-areas (building, floor, section, room)	Areas are used to define e.g. the total area and/or sub-areas of the building. Areas may be divided into sub-areas (building, floor, section, room)	Areas are used to define e.g. the total area and/or sub-areas of the building. Areas may be divided into sub-areas (building, floor, section, room)	Areas are used to define e.g. the total area and/or sub-areas of the building. Areas may be divided into sub-areas (building, floor, section, room)	
Mandatory attributes			Gross area Sub-areas Area name	Gross area Sub-areas Area name	Gross area Sub-areas Area name	Gross area Sub-areas Area name	
Other attributes							
Attributes used for meassuring - when quantities are required in models* Comment							

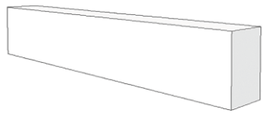
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Steel column**
Description Applies to steel columns
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Columns are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and location.	Columns are modelled in specified main dimension, orientation and location. Larger holes for main lead-throughs with specified size and location.	Columns are modelled in final dimension, profile length, orientation and location and in producable lengths. Final brackets and holes for lead-throughs. Fire insulation is modelled where it is crucial to inter-disciplinary coordination.	Columns are modelled in final dimension, orientation, location and profile length for production. Final brackets, holes for lead-throughs, bolts, connection plates, welds and fire insulation.	
Mandatory attributes			Profile Classification Type name	Profile Classification Type name Type Construction type	Profile Location (e.g. building number or floor) Classification Type name Type Construction type	Profile Location (e.g. building number or floor) Classification Type name Type Construction type Steel quality Serial number Steel quality Surface treatment Fire rating Insulation type Insulation thickness Contract	
Other attributes				Contract Location	Fire rating Insulation type Insulation thickness Corrosion class Serial number Contract Steel quality Surface treatment		
Attributes used for meassuring - when quantities are required in models* Comment			Length M_ULD_23_L1 / VA	Length M_ULD_23_L1 / VA	Length M_ULD_23_L1 / VA	Length M_ULD_23_L1 / VA	

** Quantities in models must be activated in* Description of Services *for the project*

Building element **Steel beam**
Description Applies to steel beams
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Beams are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and location.	Beams are modelled in specified main dimension, orientation and location. Larger holes for main lead-throughs with specified size and location.	Beams are modelled in final dimension, profile length, orientation and location and in producable lengths. Final brackets and holes for lead-throughs. Fire insulation is modelled on the underside of beams where it is crucial to inter-disciplinary coordination.	Beams are modelled in final dimension, orientation, location and profile length for production. Final brackets, holes for lead-throughs, bolts, connection plates, welds and fire insulation.	
Mandatory attributes			Profile Classification Type name	Profile Classification Type name Type Construction type	Profile Location (e.g. building number or floor) Classification Type name Type Construction type	Profile Location (e.g. building number or floor) Classification Type name Type Serial number Construction type Steel quality Surface treatment Corrosion class Fire rating Insulation type Insulation thickness Environmental class Contract	
Other attributes				Contract Location	Fire rating Insulation type Insulation thickness Corrosion class Serial number Contract Steel quality Surface treatment		
Attributes used for meassuring - when quantities are required in models* Comment			Length M_ULE_23_L1 / VA	Length M_ULE_23_L1 / VA	Length M_ULE_23_L1 / VA	Length M_ULE_23_L1 / VA	

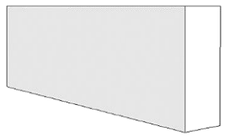
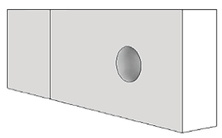
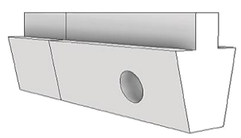
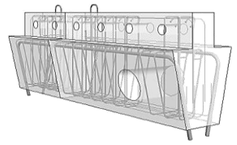
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Concrete column**
Description Applies to site-cast and prefabricated concrete columns
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Columns are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and Location.	Columns are modelled in specified main dimension, orientation and Location. Larger holes for main lead-throughs with specified size and Location.	Columns are modelled in final dimension, element length, orientation and location and in producable lengths. Final brackets, corrugated pipes and holes for lead-throughs.	Columns are modelled in final dimension, production length, orientation and Location. Final brackets, holes for lead-throughs, joints, reinforcement incl. supports, mounting points, bevels and insert plates.	
Mandatory attributes			Cross section Classification Type name	Cross section Classification Type name Type Construction type	Cross section Location (e.g. building number or floor) Classification Type name Type Construction type	Cross section Location (e.g. building number or floor) Classification Type name Type Serial number Construction type Concrete strength Environmental class Max. stone size Surface requirements Surface treatment Reinforcement quantity Contract	
Other attributes				Reinforcement quantity Concrete strength Environmental class Max. stone size Contract Location	Serial number Reinforcement quantity Surface treatment Contract Concrete strength Environmental class Max. stone size		
Attributes used for meassuring - when quantities are required in models* Comment			Length (Prefab) M_ULD_13_N1 / R0 Volume (Insitu) M_ULD_15_V1 / R0	Length (Prefab) M_ULD_13_N1 / R0 Volume (Insitu) M_ULD_15_V1 / R0	Length (Prefab) M_ULD_13_N1 / R0 Volume (Insitu) M_ULD_15_V1 / R0	Length (Prefab) M_ULD_13_N1 / R0 Volume (Insitu) M_ULD_15_V1 / R0	

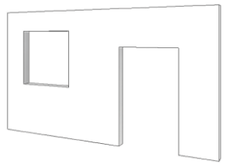
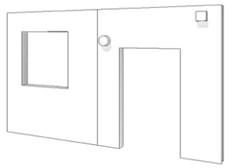
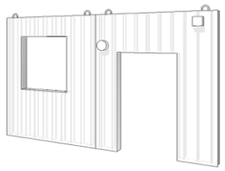
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Concrete beam**
Description Applies to site-cast and prefabricated concrete beams
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Beams are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and location.	Beams are modelled in specified main dimension, orientation and location. Larger holes for main lead-throughs with specified size and location.	Beams are modelled in final dimension, element length, orientation and location and in producable lengths. Final brackets and holes for lead-throughs.	Beams are modelled in final dimension, production length, orientation and location. Final brackets, holes for lead-throughs, joints, reinforcement incl. supports, mounting points, bevels and insert plates.	
Mandatory attributes			Cros section Classification Type name	Cros section Classification Type name Type Construction type	Cros section Location (e.g. building number or floor) Classification Type name Type Construction type	Cros section Location (e.g. building number or floor) Classification Type name Type Serial number Construction type Concrete strength Environmental class Max. stone size Surface requirements Surface treatment Reinforcement quantity Contract	
Other attributes				Concrete strength Environmental class Max. stone size Reinforcement quantity Contract Location	Serial number Reinforcement quantity Surface treatment Contract Concrete strength Environmental class Max. stone size		
Attributes used for meassuring - when quantities are required in models* Comment			Length (Prefab) M_ULE_13_N1 / R0 Volume (Insitu) M_ULE_12_V1 / R0	Length (Prefab) M_ULE_13_N1 / R0 Volume (Insitu) M_ULE_12_V1 / R0	Length (Prefab) M_ULE_13_N1 / R0 Volume (Insitu) M_ULE_12_V1 / R0	Length (Prefab) M_ULE_13_N1 / R0 Volume (Insitu) M_ULE_12_V1 / R0	

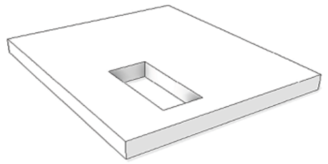
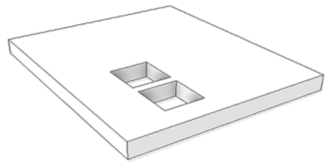
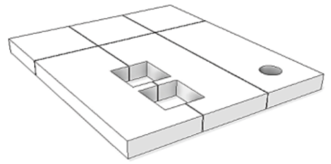
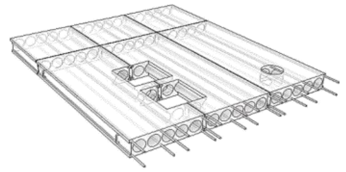
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Concrete wall**
Description Applies to site-cast and prefabricated concrete walls
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Walls are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and location.	Walls are modelled in specified main dimension, orientation and location. Large openings and holes for main lead-throughs with specified size and location.	Walls are modelled in final dimension, orientation and location. Final openings, holes for main lead-throughs with diameter or edge length over 150 mm. Final brackets, skirts, bends and corrugated pipes. Modeling of element division etc. is agreed on the project.	Walls are modelled in final dimension, orientation, location and element division for production. Final openings and holes for lead-throughs. Final brackets, joints, joint locks, reinforcement incl. supports, mounting points, bevels, inserts and plates.	
Mandatory attributes			Thickness Height Length Classification Type name	Thickness Height Length Profile type Classification Type name Type Construction type	Thickness Height Length Profile type Location (e.g. building number or floor) Classification Type name Type Construction type	Thickness Height Length Profile type Location (e.g. building number or floor) Classification Type name Type Serial number Construction type Concrete strength Environmental class Max. stone size Surface requirements Surface treatment Reinforcement quantity Contract	
Other attributes				Concrete strength Environmental class Max. stone size Contract Reinforcement quantity Location	Serial number Reinforcement quantity Surface treatment Contract Concrete strength Environmental class Max. stone size		
Attributes used for meassuring - when quantities are required in models* Comment			Area (Prefab) M_ULM_11_A1 /R0 Volume (Insitu) M_ULM_13_V1 / R0 Fig 2a	Area (Prefab) M_ULM_11_A1 /R0 Volume (Insitu) M_ULM_13_V1 / R0 Fig 2a	Area (Prefab) M_ULM_11_A1 /R0 Volume (Insitu) M_ULM_13_V1 / R0 Fig 2a	Area (Prefab) M_ULM_11_A1 /R0 Volume (Insitu) M_ULM_13_V1 / R0 Fig 2a	

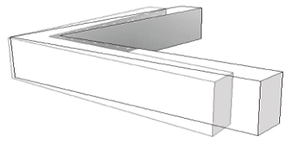
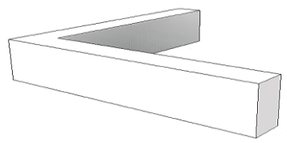
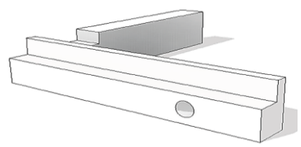
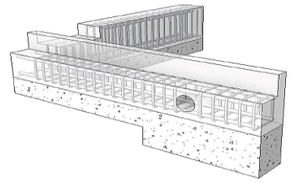
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Concrete slab**
Description Applies to site-cast and prefabricated concrete slabs
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			slabs are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and location.	slabs are modelled in specified main dimension, orientation and location. Large openings and holes for main lead-throughs with specified size and location.	slabs are modelled in final dimension, orientation and location, with stress direction and large site-cast areas. Final openings, holes for main lead-throughs with diameter or edge length over 150 mm. Modeling of element division etc. is agreed on the project.	slabs are modelled in final dimension, orientation, location and element division for production. Final openings and holes for lead-throughs. Final brackets, joints, joint locks, reinforcement incl. supports, mounting points, bevels, inserts and plates, structural joints and coverings.	
Mandatory attributes			Thickness Classification Type name	Thickness Classification Type name Type Construction type	Thickness Location (e.g. building number or floor) Classification Type name Type Construction type	Thickness Location (e.g. building number or floor) Classification Type name Type Serial number Construction type Concrete strength Environmental class Max. stone size Surface requirements Surface treatment Reinforcement quantity Contract	
Other attributes				Concrete strength Environmental class Max. stone size Reinforcement quantity Contract Location	Serial number Reinforcement quantity Surface treatment Contract Concrete strength Environmental class Max. stone size		
Attributes used for meassuring - when quantities are required in models* Comment			Area (ground slab) M_BC_14_A1 / VB Area (Prefab) M_BC_11_A1 / VA Area (Insitu) M_ULK_11_A1 / VA	Area (ground slab) M_BC_14_A1 / VB Area (Prefab) M_BC_11_A1 / VA Area (Insitu) M_ULK_11_A1 / VA	Area (ground slab) M_BC_14_A1 / VB Area (Prefab) M_BC_11_A1 / VA Area (Insitu) M_ULK_11_A1 / VA	Area (ground slab) M_BC_14_A1 / VB Area (Prefab) M_BC_11_A1 / VA Area (Insitu) M_ULK_11_A1 / VA	

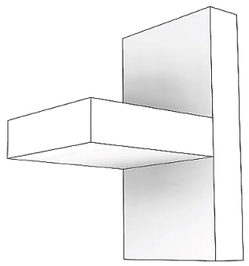
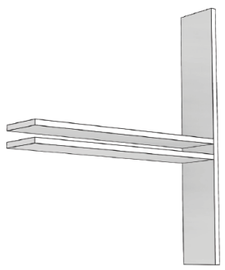
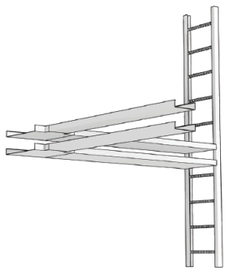
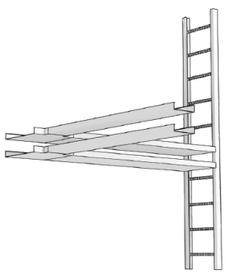
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Foundations**
Description Applies to linear and point foundations
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Foundations are modelled as generic objects in max. outer contour broken down into overall types. Expected main geometry, orientation and location.	Foundations are modelled in specified main dimension, orientation and location. Larger holes for main lead-throughs with specified size and location.	Foundations are modelled in final dimension, orientation and location. Final steps, plinths and holes for lead-throughs.	Foundations are modelled in final dimension, element division, orientation and location. Final steps, plinths, brackets and holes for lead-throughs. Final reinforcement incl. supports, mounting points, fixings, inserts and plates.	
Mandatory attributes			Cross section Length (linear foundations) Classification Type name	Cross section Length (linear foundations) Profile type Classification Type name Type Construction type	Cross section Length (linear foundations) Profile type Location (e.g. building number or level) Classification Type name Type Construction type	Cros section Length (linear foundations) Profile type Location (e.g. building number or level) Classification Type name Type Serial number Construction type Concrete strength Environmental class Max. stone size Surface requirements Surface treatment Reinforcement quantity Contract	
Other attributes				Concrete strength Environmental class Max. stone size Reinforcement quantity Contract Location	Serial number Reinforcement quantity Surface treatment Contract Concrete strength Environmental class Max. stone size		
Attributes used for meassuring - when quantities are required in models* Comment			Volume (Line) M_ULE_11_V1 / R0 Volume (Point) M_ULJ_11_V1 /R0	Volume (Line) M_ULE_11_V1 / R0 Volume (Point) M_ULJ_11_V1 /R0	Volume (Line) M_ULE_11_V1 / R0 Volume (Point) M_ULJ_11_V1 /R0	Volume (Line) M_ULE_11_V1 / R0 Volume (Point) M_ULJ_11_V1 /R0	

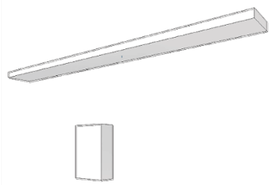
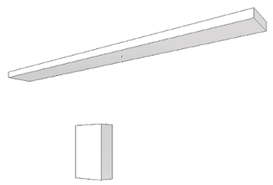
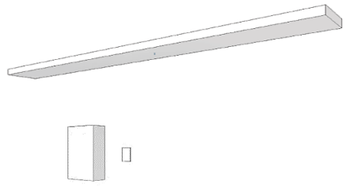
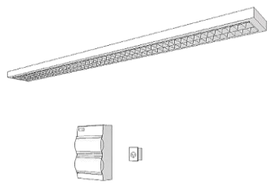
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Electrical routings**
Description Applies to cable trays, cable ladders, installation channels, cable ducts etc.
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Routings are modelled as common generic volume objects for all installations in expected max. outer contour. Expected location and orientation.	Routings are modelled in specified max. outer dimensions. Specified location and orientation of cable Routings and fittings.	Routings are modelled in final outer dimensions. Final location and orientation of cable Routings and fittings.	Routings are modelled in final dimensions based on actual choice of product. Final location and orientation of cable Routings and fittings.	
Mandatory attributes			Type	Dimension Elevation Floor Classification Type	Dimension Elevation (absolute) Floor Classification Type	Dimension Elevation Floor Classification Type Product-specific type Producer	
Other attributes				Contract	Number of lines Line division Contract Material	Number of lines Line division Contract Material	
Attributes used for meassuring - when quantities are required in models* Comment			Length M_BH_11_L1 / R0	Length M_BH_11_L1 / R0	Length (routing) M_UBA_11_L1 / R0 Count (fittings) M_UBA_12_N1 / R0	Length (routing) M_UBA_11_L1 / R0 Count (fittings) M_UBA_12_N1 / R0	

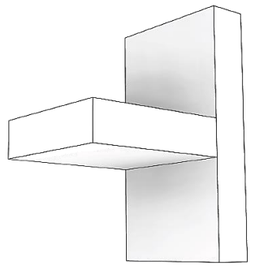
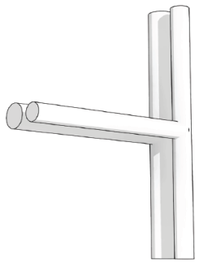
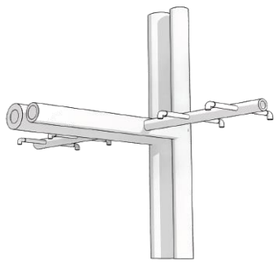
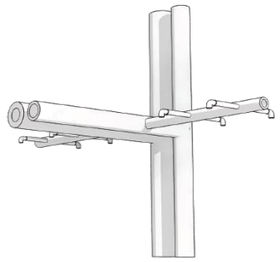
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Electrical components**
Description Applies to all types of components for electrical installations (boards, control units, rack cabinets, luminaires, plugs, workstations etc.)
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Components are modelled as generic volume objects in expected max. outer contour. Expected location and orientation of components.	Components are modelled in specified max. outer dimensions. Specified location and orientation of components.	Components are modelled in final outer dimensions. Final location and orientation of components.	Components are modelled in final dimensions based on actual choice of product. Final location and orientation of components.	
Mandatory attributes			Type	Width Height Length Diameter Depth Elevation Floor Classification Type	Width Height Length Diameter Depth Elevation Floor Classification Type	Width Height Length Diameter Depth Elevation Floor Classification Type Prductspecific type Manufacturer	
Other attributes				Contract	Room number Contract Data for embedded electrical ducts and boxes ID numbers (group numbers, component-IDs etc.)	Contract Data for embedded electrical ducts and boxes ID numbers (group numbers, component-IDs etc.)	
Attributes used for meassuring - when quantities are required in models* Comment							

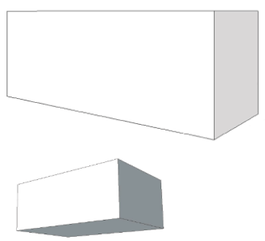
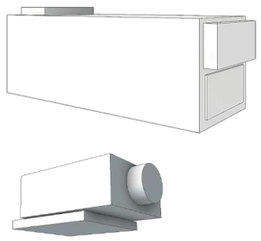
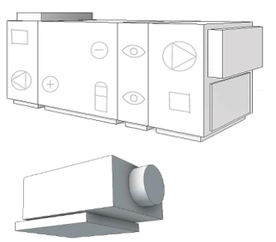
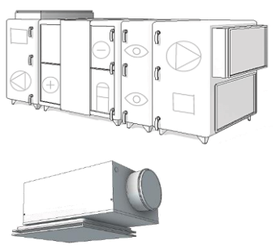
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Ventilation routings**
Description Applies to channels and channel fittings
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Conduits are modelled as common generic volume objects for all installations in expected max. outer contour. Expected location and orientation.	Conduits are modelled in specified max. outer channel dimensions plus any insulation. Specified location and orientation of channels, fittings and poss. insulation.	Conduits are modelled in specified outer channel dimensions plus any insulation. Final location and orientation of channels, fittings and poss. insulation.	Conduits are modelled in final channel dimensions based on actual choice of product, and with any insulation. Final location and orientation of channels, fittings and poss. insulation.	
Mandatory attributes			Type	Dimension Elevation Floor Classification Type Insulation thickness	Dimension Elevation Floor Classification Type Material Insulation type System	Dimension Elevation Floor Classification Type Material Insulation type System Product-specific type Producer	
Other attributes				Contract	Contract Air volume Room number	Contract Air volume Room number	
Attributes used for meassuring - when quantities are required in models* Comment			Length M_JJ_11_L1 / R0	Length M_JJ_11_L1 / R0	Length (Conduits) M_WPB_11_L2 /R0 Count (Fitting) M_XMC_12_N1 / R0	Length (Conduits) M_WPB_11_L2 /R0 Count (Fitting) M_XMC_12_N1 / R0	

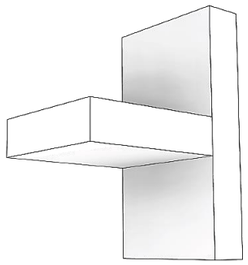
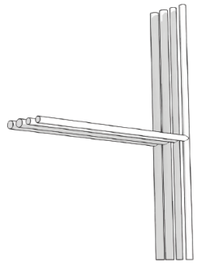
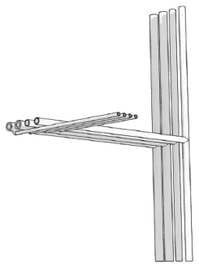
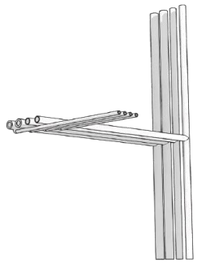
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Ventilation components**
Description Applies to all types of components for ventilation (ventilation units, fans, diffusers, dampers, silencers etc.)
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Components are modelled as generic volume objects in expected max. outer contour. Expected location and orientation of components.	Components are modelled in specified max. outer dimensions. Specified location and orientation of components.	Components are modelled in final outer dimensions. Final location and orientation of components.	Components are modelled in final dimensions based on actual choice of product. Final location and orientation of components.	
Mandatory attributes			Type	Width Height Length Diameter Elevation Floor Classification Type	Width Height Length Diameter Elevation Floor Classification Type System	Width Height Length Diameter Elevation Floor Classification Type System Product-specific type Producer	
Other attributes				Contract	Contract Unit type Room number	Contract Unit type Room number	
Attributes used for meassuring - when quantities are required in models* Comment							

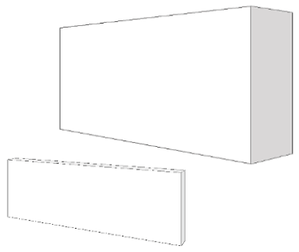
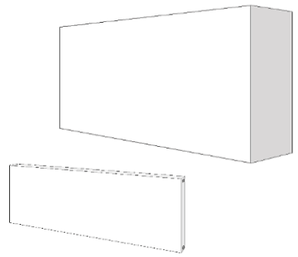
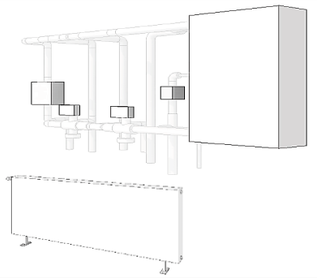
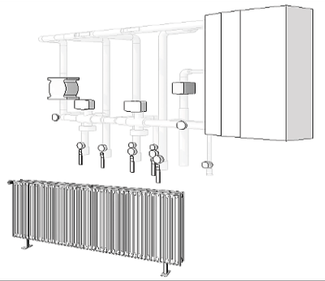
** Quantities in models must be activated in* Description of Services *for the project*

Building element **Heating and sanitation routings**
Description Applies to pipes and pipe fittings
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Conduits are modelled as common generic volume objects for all installations in expected max. outer contour. Expected location and orientation.	Conduits are modelled in specified max. outer pipe dimensions plus any insulation. Specified location and orientation of pipes, fittings and poss. insulation.	Conduits are modelled in final outer pipe dimensions plus any insulation. Final location and orientation of pipes, fittings and poss. insulation.	Conduits are modelled in final pipe dimensions based on actual choice of product, and with any insulation. Final location and orientation of pipes, fittings and poss. insulation.	
Mandatory attributes			Type	Cross section Length Elevation Floor Classification Type Insulation thickness	Cross section Length Elevation Floor Classification Type Material Insulation type System	Cross section Length Elevation Floor Classification Type Material Product-specific type Producer Insulation type System	
Other attributes				Contract	Contract Hole requirements Room number	Contract Hole requirements Room number	
Attributes used for meassuring - when quantities are required in models* Comment							

** Quantities in models must be activated in* Description of Services *for the project*

Building element **Heating and sanitation components**
Description Applies to all types of components for heating and sanitation (exchangers, vessels, filters, pumps, valves, radiators etc.)
Revision date 10-09-2016

	Inf. 1	Inf. 2	Information level 3	Information level 4	Information level 5	Information level 6	Inf. 7
Geometry							
			Components are modelled as generic volume objects in expected max. outer contour. Expected location and orientation of components.	Components are modelled in specified max. outer dimensions incl. Specified location and orientation of components.	Components are modelled in final outer dimensions. Final location and orientation of components.	Components are modelled in final dimensions based on actual choice of product. Final location and orientation of components.	
Mandatory attributes			Type	Width Height Length Depth Diameter Elevation Floor Classification Type	Width Height Length Depth Diameter Elevation Floor Classification Type Material System	Width Height Length Depth Diameter Elevation Floor Classification Type Material Product-specific type Producer System	
Other attributes				Contract	Contract Hole requirement Room number	Contract Hole requirement Room number	
Attributes used for meassuring - when quantities are required in models* Comment							

** Quantities in models must be activated in* Description of Services *for the project*