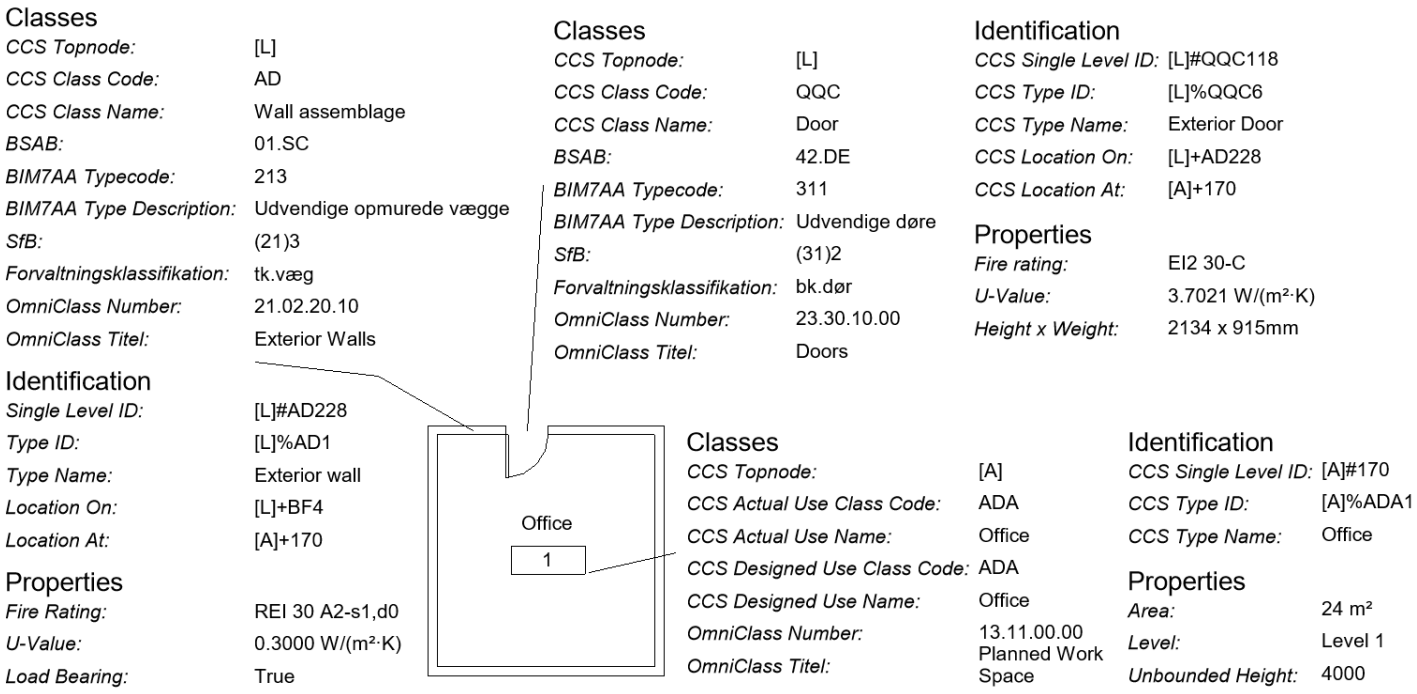
Glossary and concepts

Classification: *Method of structuring a defined type of item (objects or documents) into classes and subclasses in accordance with their characteristics.*
Identification: *Determine what something is. Able to recognize something or someone and be able to express who or what they are.*
Properties: *Characteristical distinction.*

Classes, identification and properties



1. CCS Concepts

CCS Domains

"CCS Identification is used for identifying occurrences and types of objects. (...) In order to distinguish between the domains for the individual classes of objects, a top node in the form of a letter in square brackets "[]" is used." CCS Identification (R7) - EN-version.
All definitions are from the Concept catalog at ccs.molio.dk.

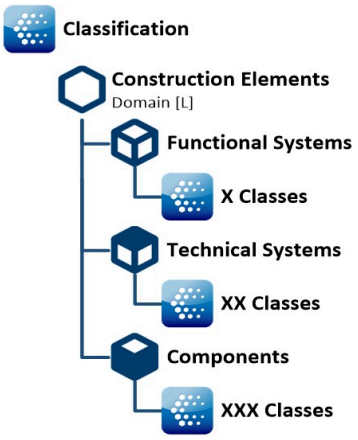
[A] Activity Space *Brugsrum* Activity space	Space defined by the spatial extension of an activity.
[B] Built Space *Fysisk rum* Built Space	Space defined by built or natural environment or both, intended for user activity or equipment.

[C] Construction Complex *Bebyggelse* Construction complex	Aggregate of one or more construction entities intended to serve at least one function or user activity.
[D] Construction Aid *Materiel* Construction Aid	Physical object used in processes on a construction site to produce results that are not intended to be included in the final result. *(Translated.)*
[E] Construction Entity *Bygværk* Construction Entity	An independent unit of the built environment with A characteristic spatial structure, intended to serve at least one function or user activity.
[G] Construction Agent *Aktør*	*Description missing.*
[L] Construction Element *Bygningsdel* Construction Element	Constituent of a construction entity with a characteristic technical function, form and/or position.
[P] Construction Product *Byggevare*	*Description missing.*
[R] Construction Process *Proces* Proces	Course of action that creates a result. *(Translated.)*
[S] Storey *Etage*	*Description missing.*
[U] Document *Dokument* Document	Information and the accompanying medium.
[Z] Zone *Afsnit*	*Description missing.*

CCS Classes and codes

Classes and codes are divided into three main tables.
All definitions are from the Concept catalog at ccs.molio.dk.

Functional System *Funktionelt system* Functional System	Construction element with characteristics which represents a general inherent function.
Technical System *Teknisk system* Technical System	Construction element with characteristics which represents a coherent technical solution with an inherent function.
Component *Komponent* Component	Construction element with characteristics which represents a basic technical solution with an inherent function.



CCS Space definitions and classes

All Space definitions are from the Concept catalog at ccs.molio.dk.
Space Classes are from Use of space (R1) [EN]. Only classes from the Functional System table are displayed.
See also Rumanvendelse (R1) [DK] and Håndtering af rum (R0) [DK].

Space Definition

Space *Rum* Space	A limited three-dimensional extent defined physically or notionally.
Activity space *Brugsrum* Activity space	Space defined by the spatial extension of an activity.
Built space *Fysisk rum* Built space	Space defined by built or natural environment or both, intended for user activity or equipment.

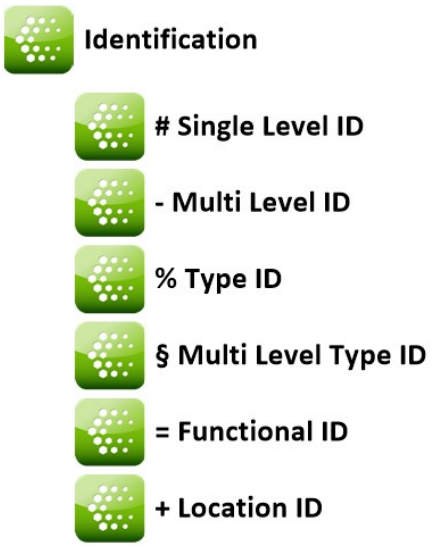
Space Classes

A?? - Space for human needs and human activity *Rum til menneskeligt behov og virke* Use of spaces (R1)	Space designed for human dwelling and activity.
C?? - Storage space *Rum til opbevaring* Use of spaces (R1)	Space designed for storage of materials, equipment and organisms.
D?? - Rooms for technical systems *Rum til tekniske systemer* Use of spaces (R1)	Space designed for active technical equipment.
E?? - Space for infrastructure *Rum til infrastruktur* Use of spaces (R1)	Space designed to create links between activity spaces.
Z?? - Undefined *Ikke defineret* Use of spaces (R1)	Space with no defined use.

CCS Identification

All definitions are from the Concept catalog at ccs.molio.dk.

# Single Level ID *Produkt-ID* Product-ID	Identifies an object regarded as an individual object.
- Multi Level ID *Sammensat produkt-ID* Multi-level product-ID	Identifies an object as a part of an assembly whole.
%Type ID *Type-ID* Type-ID	Identifies a project specific group of objects within the same class.
§ Multi Level Type ID *Sammensat type-ID* Multilevel_Type-ID	Identifies a project specific group of objects within the same class as a part of a project specific group of objects within the same class.
= Functional ID *Funktions-ID* Function-ID	Identifies an object as a part of a functional whole.
+ Location ID *Placerings-ID* Location-ID	Identifies a place.



CCS Classes of properties

All definitions are from Klasser af egenskaber (R0) [DK] and are translated.
"CCS Classes of properties are used to sort properties in classes."

A - Administrative *A - Administrativt*	Properties related to structure and organization.
B - Agreement *B - Aftale*	Properties related to services, supplies and conditions between the parties.
C - Functionality *C - Funktion*	Properties related to the purpose, use and function.
D - Performance *D - Ydeevne*	Properties related to capacity.
E - Material and product *E - Materiale og produkt*	Properties related to constituents material.
F - Form *F - Form*	Properties related to shape.
G - Placement *G - Placering*	Properties related to localization.
H - Economy *H - Økonomi*	Properties related to valuation and management and use of money.
J - Time *J - Tid*	Properties related to the temporal relationship.
K - Experience *K - oplevelse*	Properties related to subjective and emotional conditions.

L - Health and safety *L - Sundhed og sikkerhed*	Properties related to risk for people and nature.
M - Relation *M - Relation*	Properties related to an objects relation to its surroundings.
P - Production *P - Produktion*	Properties related to activity and action.
Q - Quality *Q - Kvalitet*	Properties related to actions and results of whether the acceptance are met.
R - Maintenance *R - Vedligeholdelse*	Properties related to maintenance.

CCS Properties

All definitions are from the Property database. The properties belong to property group A - Administrative.

CCS Actual Use Class Code *CCS Aktuel anvendelse* CCSActualUseClassCode	Code indicating the actual use according to CCS Classification.
CCS Class Code *CCS Klassifikationskode* CCSClassCode	Code for the class the object belongs to according to CCS classification.
CCS Classification *CCS Klassifikation* CCSClassification	Topnode and code for the class the object belongs to according to CCS classification.
CCS Combined Type-ID *CCS Sammensat type-ID* CCSMultiLevelTypeID	Identifies a projectspecific group of objects within the same class as a part of a projetcspecific group of objects within the same class.
CCS Designed Use Class Code *CCS Planlagt anvendelse* CCSDesignedUseClassCode	Code indicating planned use according to CCS Classification.
CCS Functional-ID *CCS Funktions-ID* CCSFunctionalID	Identifies an object as a part of a whole in a functional context.
CCS Location-ID *CCS Placerings-ID* CCSMulitiLevelLocationID	Identifies a location.
CCS Multilevel-ID *CCS Sammensat produkt-ID* CCSMultiLevelID	Identifies an object percieved as a part of a physical whole.
CCS Single Level-ID *CCS Produkt-ID* CCSSingleLevelID	Identifies an object percieved as an independent object.
CCS Topnode *CCS Topnode* CCSTopnode	Identifies the general class of objects the objects belongs to.

CCS Type-ID *CCS Type-ID* CCSTypeID	Identifies a projectspecific group of objects within the same class.
Location in relation to construction element *Placering i forhold til bygningsdel* CCSSingleLevelLocationOnID	Identifies a location in the form of a reference to another construction element.
Location in relation to spaces *Placering i forhold til sted* CCSSingleLevelLocationAtID	Identifies a location in the form of a reference to a space, zone, storey or construction entity.
Name of actual use *Navn for aktuel anvendelse* CCSActualUseName	Name corresponding to the code for the actual use of the object.
Name of Class *Navn for klasse* CCSClassName	Name of the class the object belongs to in CCS classification.
Name of designed use *Navn for planlagt anvendelse* CCSDesignedUseName	Name for the designed use of the object.
Object Name *Objekt navn* CCSObjectName	Name of the instance specified in the Single level ID of the object.
Type Name *Typenavn* CCSTypeName	Name of the type specified in the Type_ID of the object.

2. Classification systems, supported by spine

Cuneco Classification System - CCS

Publisher: Cuneco - center for produktivitet I byggeriet

Description: *"CCS gives the construction industry a common language and methods for establishing unambiguous exchange of information through the entire construction process from idea to operation."* CCS Identification (R7) - EN-version

Klassificering byggdelar byggdelstyper total - BSAB

Publisher: Svensk byggtjänst

Description: *"BSAB-systemet är till för att alla inom byggsektorn ska kunna tala samma språk. På så sätt undviker du misstag och det blir färre fel. Misstag och fel kostar årligen en avsevärd summa pengar som skulle kunna användas på bättre sätt."* BSAB

BIM7AA

Publisher: BIM7AA

Description: *"BIM7AA TYPE CODNING is a simpel and operational code structur for building*

components based on consultant requirements and experience in design and planning, danish building norms and "best practice" from complex to manageable BIM projects." BIM7AA

Samarbetskomitén för Byggnadsfrgor - SfB

Publisher: Bygg-AMA

Description:

Forvaltnings klassifikation

Publisher: Landsbyggefonden

Description: *"Forvaltnings Klassifikation forholder sig specifikt til forvaltning og tager udgangspunkt i de arbejdsmetoder, der anvendes i forvaltning af ejendomme."* Forvaltnings klassifikation

3. Glossary

Application spine	Is a CAD tool connected with a spine project.
Classification CCS Concept catalog: Classification	*"Method of structuring a defined type of item (objects or documents) into classes and subclasses in accordance with their characteristics."*
Component CCS Concept catalog: Component	*"Construction element with characteristics which represents a basic technical solution with an inherent function."*
Construction element CCS Concept catalog: Construction element	*"Constituent of a construction entity with a characteristic technical function, form and/or position."*
Construction model CCS Concept catalog: Construction model	*"The model of a construction entity."*
Content Autodesk knowledge: Select Content for a Revit Installation spine	*"Revit content (...) may include the following: Project templates, Family templates, Libraries of Revit families, IES files and Lookup tables."* spine content is Types, Instances and spine Properties in a spine project.
Document spine	Is a file assigned a spine Project. See documents in a project.
Family Autodesk knowledge: About Families	*"A family is a group of elements with a common set of properties, called parameters, and a related graphical representation."* *"Different elements belonging to a family may have different values for some or all of their parameters, but the set of parameters (their names and meanings) is the same. These variations within the family are called family types or types."* There is three types of families: system families, loadable families, and in-

	place families.
System Families Autodesk Knowledge: About the Different Kinds of Families	*"System families create basic elements that you would assemble on a construction site.* *Examples: Walls, roofs, floors, ducts and pipes.* *System settings, which affect the project environment and include types for levels, grids, drawing sheets, and viewports, are also system families.* *System families are predefined in Revit. You do not load them into your projects from external files, nor do you save them in locations external to the project."*
Loadable Families Autodesk Knowledge: About the Different Kinds of Families	*"Loadable families are families used to create the following:* *Building components that would usually be purchased, delivered, and installed in and around a building, such as windows, doors, casework, fixtures, furniture, and planting* *System components that would usually be purchased, delivered, and installed in and around a building, such as boilers, water heaters, air handlers, and plumbing fixtures* *Some annotation elements that are routinely customized, such as symbols and title blocks.* *Because of their highly customizable nature, loadable families are the families that you most commonly create and modify in Revit. Unlike system families, loadable families are created in external RFA files and imported, or loaded, in your projects."*
In-Place Families Autodesk Knowledge: About the Different Kinds of Families	*"In-place elements are unique elements that you create when you need to create a unique component that is specific to the current project. You can create in-place geometry so that it references other project geometry, resizing or adjusting accordingly if the referenced geometry changes. When you create an in-place element, Revit creates a family for the in-place element, which contains a single family type."*
Family Category Autodesk Knowledge: About Family Categories	*"Select the family category based on how the family is classified in the industry, that is, how the part is ordered from a manufacturer."*
GUID spine	A Globally unique identifier.
IFC BuildingSMART: IFC Overview summary	*"Industry Foundation Classes* (IFC) *are the open and neutral data format for openBIM."* *"The IFC specification is developed and maintained by buildingSMART International as its 'Data standard'. Since* IFC4 *it is accepted as ISO 16739 standard."*
Instance Autodesk knowledge: About Families	*"When you create an element in a project with a specific family and family type, you create an* instance *of the element. Each element instance has a set of properties, in which you can change some element parameters independent of the family type parameters."* An instance is also used for a Single Level ID that identifies an object

	regarded as an individual object.
License spine	Licenses allow spine users to use the spine plugin for Revit, and are managed within spine companies.
License pool spine	Is a pool of licenses with a specific license type and time limit. Spine companies can have multiple pools.
License type spine	Types of licenses. See license types at https://projectspine.com
Parameter Autodesk knowledge: Parameters	*"Parameters store and communicate information about all elements in a model. Parameters are used to define and modify elements, as well as to communicate model information in tags and schedules."*
Shared Parameter Autodesk knowledge: Shared Parameters	*"Shared parameters are parameter definitions that can be used in multiple families or projects.*
Built-In Parameter Autodesk knowledge: Built-In Parameters	*"The Revit Platform API has a large number of built-in parameters. Built-in parameters are defined in the Autodesk.Revit.Parameters.BuiltInParameter enumeration. The parameter ID is used to retrieve the specific parameter from an element, if it exists, using the Element.Parameter property."*
Autodesk knowledge: Shared Vs. Project Parameter Usage in Revit Autodesk knowledge: Common Family Parameters	The Difference *"Shared and Project Parameters are an important concept in Revit which can cause confusion to new users. Technically, Revit contains Built-in, Family, Shared and Project Parameters.* • ***Built-In Parameters*** *are those which can be scheduled out of the box.* • ***Family Parameters*** *are not scheduled, but may help drive parametric changes within a family and are also visible in the instance and type properties of a family.* • ***Shared and Project Parameters*** *are used when you want to schedule or tag something that is not included out of the box (i.e., a custom parameter)."*
Pre-classification spine	Add classification and properties to Loadable Families and Templates, so it already contains the information when used in projects. See how to add pre-classification with the pine plugin for Revit.
Property CCS Concept catalog: Property	*"Characteristical distinction."* A number of default spine properties are available in spine plugin for Revit and in spine projects.
Property Data Element CCS Concept catalog: Property Data Element	*"Constituted by a property name and the associated property value."*
Property Name CCS Concept catalog: Property Name	*"Indicates the subject of the property."*
Property Set	*"A selected set of properties. A Property Set groups a range of properties which*

CCS Concept catalog: Property Set	*in combination are used for a specific purpose."*
Property Value CCS Concept catalog: Property Value	*"The value corresponding to a property name."*
Property Value List spine	Is a list with values users can pick from. An example can be a FireRating list with all Fire classes. The list will ensure consistency in values, since users pick, and not type in values. A list will eliminate that two identical values are written differently, such as: REI 60 and REI60. This also makes it easier to filter, search and arrange the data later.
Purpose Grouping Cuneco	*"Purpose grouping contains the information related to a particular subject generally expressed as functional requirements, performance and product, which in turn can be expressed by the location, shape, energy, time, quantity, etc., in relation to the construction element and activity space."*
Revit File Autodesk knowledge: Revit file types	*"RTE (template) files and RVT (project) files are actual Revit projects. The difference between the two is that the template is used to start a new project. When you click on Save, you will not be allowed to overwrite the template file, but you will be prompted for a new file."*
Revit project or model spine	Is a Revit project file, containing building elements. Revit project files can be assigned to a spine project.
Ribbon spine	Is the menu in Revit, for selecting functions.
Rooms Autodesk knowledge: Rooms	*"Create rooms in a plan view with the Room tool, or add them to a schedule to be placed in the model later."*
Room Calculation Point Autodesk knowledge: Modify the Room Calculation Point	*"Modify the Room Calculation Point, to make a family room-aware and adjust its room orientation, enable and move the Room Calculation Point."*
Spaces Autodesk knowledge: Spaces	*"Place spaces in all areas of the building model to store values used for performing heating and cooling load analysis on the building model."*
spine Company spine	Is a company in the spine Portal, containing all company spine projects and company users. See spine Company details.
spine Desktop & Viewer spine	Is a locally installed browser identical to the spine Portal. It enable the connection between the spine plugin for Revit and the spine Portal cloud. Users must be logged in to the spine Desktop & Viewer, for the Revit plugin to work. See spine Desktop & Viewer.
spine plugin for Revit	Is the plugin for Autodesk Revit. It provide the user with a Ribbon in Revit,

spine

with spine functions.
Functions are available depending on whether the current Revit file is assigned a spine Project, and what role the spine User has in the spine Project.
See spine plugin for Revit.

spine Portal
spine

Is a cloud Portal identical to the spine Desktop & Viewer, where users access their spine projects and project content.
See spine Portal.

spine Project
spine

Is a project in the spine Portal. All project content is stored in the cloud and can be synchronized across Revit files assigned to the project.

There are five types of spine Projects, a TRIAL project, EDUCATION projects and three commercial projects: SMALL, MEDIUL and LARGE.
The commercial projects vary in amount of data - Types and Instances - and number of users associated with the project.
NOTE: *Projects can always be upgraded to bigger projects.*

TRIAL

€ free.
Is a 30-days trial project with no data amount limit.
NOTE: *TRIAL project cannot be used commercial.*

EDUCATION

€ free.
Education projects can be individual or group projects. The projects are associated with study e-mails and can be used throughout the study period.
Education projects has no data amount limit.
NOTE: *EDUCATION projects cannot be used commercial.*

COMMERCIAL

€ see website for accurate prices www.projectspine.com.

Data amount	**SMALL**	**MEDIUM**	**LARGE**
• Types:	150	300	1.000
• Instances:	-	5.000	10.000
• Number of users:	1	5	10

spine Properties
spine

spine has a number of default properties, several of which are based on standards, CSS and IFC. While others are spine's own. Aditional, users can create project specific properties in spine projects.

spine roles
spine

User Positions can have multiple roles.

Project Owner or Family type

This Role enables the User to edit Project information, Manage User Positions and read all data in the Project.

Project Administrator

This Role enables the User the highest level of Rights in the project.

Project Manager

This Role enables the User to Edit Project information, Properties,

	Parameters, Property Value Lists, Objects and Property Values and Manage User Positions in the Project.
Type and SubType Manager	This Role enables the User Rights to view project data and to create, edit and delete Types, SubType and Instance objects and their Property Values.
SubType Manager	This Role enables the User Rights to view project data and to create, edit and delete SubType and Instance objects and their Property Values.
BIM Manager	This Role enables the User additional Rights to Manage Documents/Models in the Project and enables the Spine Management tools in Autodesk Revit.
Project Member	This Role enables the User basic Rights to create, view, edit and delete project data like Objects and Property Values.
External User	This Role enables the User to read Project information, Properties, Parameters and Property Value Lists. This does NOT give the rights to Read Objects in the Project.
spine User spine	Is a personal user profile. Users are always attached to a spine Company.
Synchronization spine	Synchronize property values between a spine project and a Revit file. Define synchronization settings in the spine project. Set values to be uploaded, downloaded or both. Properties can also be set to be required in Revit. The property will appear as red in Manage Properties and the property will be assigned when using Assign Properties in Revit.
System Tray spine	Is the system and program information, showed in the lower right corner of a computer(PC).
Template Autodesk knowledge: Project Templates	*"A project template provides a starting point for a new project, including view templates, loaded families, defined settings (such as units, fill patterns, line styles, line weights, view scales, and more), and geometry, if desired."* Templates can be pre-classified.
Types	This help site refers to five defferent types: Revit Types, CCS Types, CCS MainTypes, CCS SubTypes and spine Types.
Revit Type or Family type Autodesk knowledge: About Families	*"Different elements belonging to a family may have different values for some or all of their parameters, but the set of parameters (their names and meanings) is the same. These variations within the family are called family types or types."*
CCS Type	This type is a Type-ID. CCS types can be created in the spine Portal and in the spine plugin for Revit, and can be linked with multiple Revit Types.
CCS MainType	This type is the same as a CCS Type.
CCS SubType	A CCS SubType is also a CCS Type, but a SubType of the CCS MainType.
Spine type	A spine type link a CCS Type to a specific Revit type. A CCS Type can be

	associated with several spine types and thereby link the CCS Type with several Revit Types.
User Position	User Positions are associated with spine Projects and represent the participants that may be in the project. User Positions are assigned Roles, that defines the Positions rights in the project. Spine Users are added to the Positions. See the 6 types of Roles.