

Allplan 2014

Step by Step

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Fit for CAD Basics

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Unit 1

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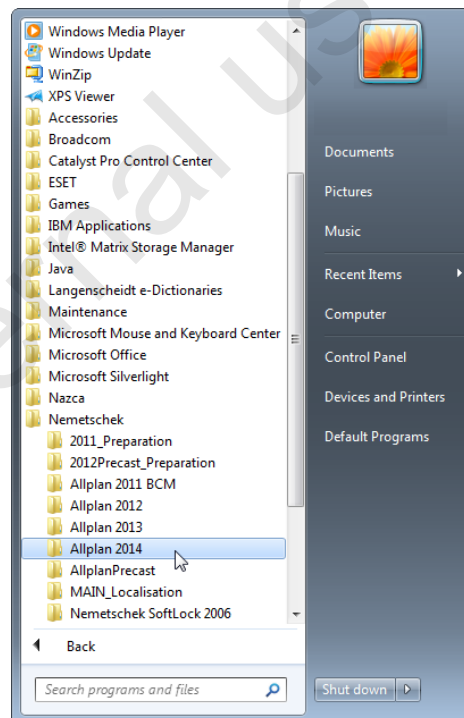
Let's get started!

Starting Allplan

Start Allplan as usual.

To start Allplan

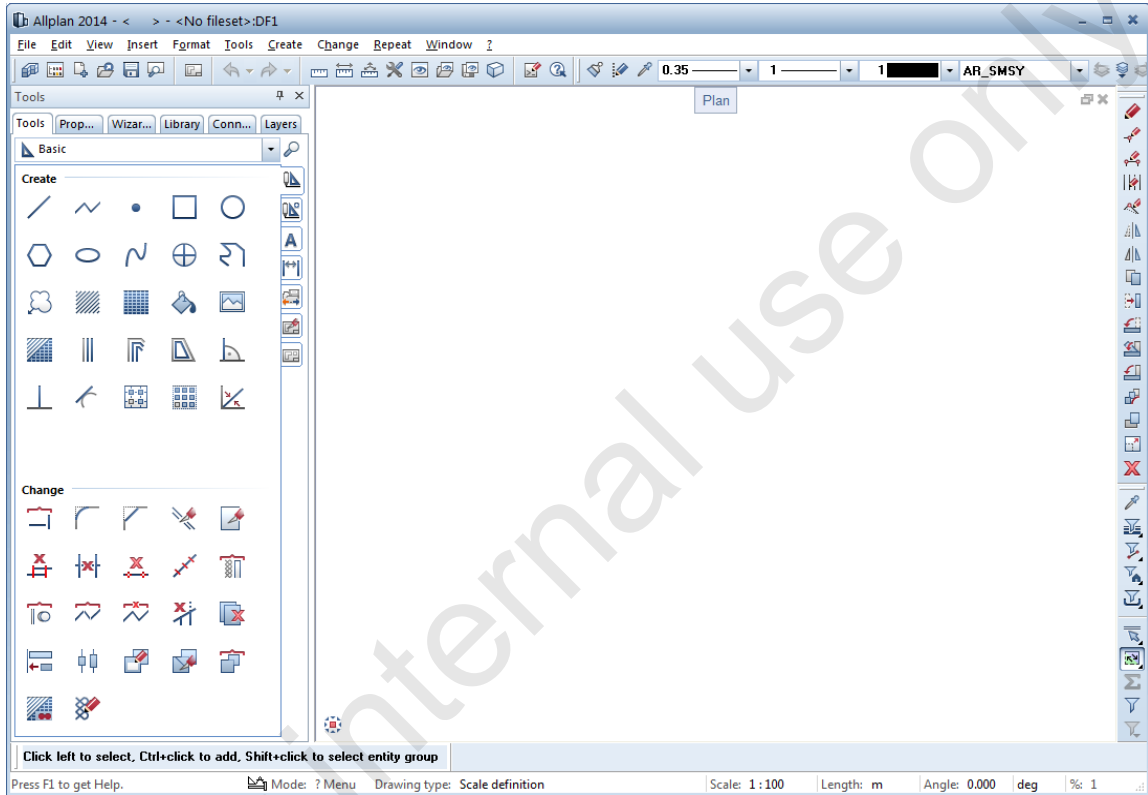
- Open the Windows start menu and point to **All programs, Nemetschek, Allplan 2014** and click  **Allplan 2014**.



Allplan opens and the palette configuration is active.

Allplan's User Interface

The following illustration shows Allplan's user interface; the **palette configuration** is active by default:



The main elements of Allplan's user interface are described in the section that follows.

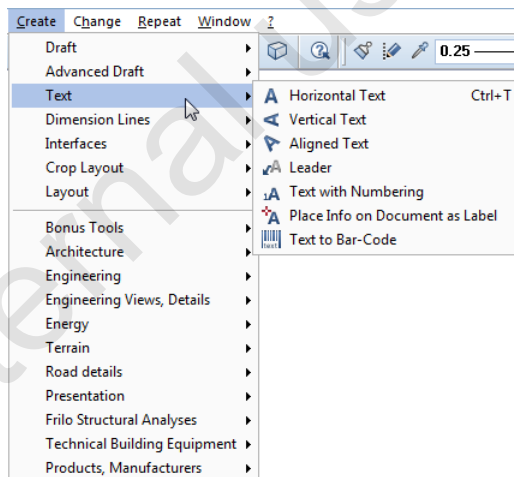
Note: You will use the **Palette Configuration** to accomplish all the tasks in the following units. To load it, select the **View menu - Default Configurations - Palette Configuration**.

Title bar

The title bar of Allplan's application window shows the current project, the current fileset or building structure and the current document.

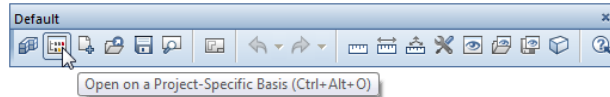
Menu bar

The menus are located in the top border of Allplan's application window. All the tools found in the toolbars can also be activated via the menus. This varies according to the module you are working in.



Toolbars

Toolbars contain icons that you can use to carry out functions. Positioning the cursor over an icon displays a ToolTip with a short description of the function.



Toolbars can be arranged around the edge of the workspace (this is the default) or made to float anywhere on your screen. To float a toolbar, click the top border of the toolbar or its edge, press and hold down the left mouse button, and drag the toolbar into the workspace.

Select the View menu, point to **Toolbars** and then click **Fix Toolbars** to make sure that the toolbars are not moved inadvertently.

The palette configuration shows the **Default** and **Format** toolbars at the top and the **Edit** and **Filter Assistant** toolbars on the right.

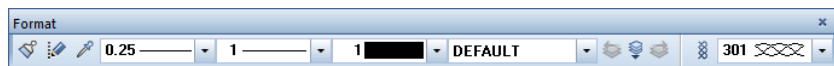
The **Default** toolbar includes important basic tools like open on a project-specific basis, print preview, undo and redo, measure and save. In addition, you can activate Allplan's context-sensitive help straight from this toolbar.



Tip: To dock a toolbar that is floating, all you need to do is double-click with the left mouse button in the title bar of the toolbar.

Before you draw an element, you can define its line thickness (pen thickness) and the line type on the **Format** toolbar. When **Color stands for pen** is active (this is the default), the color is set automatically with the pen.

If you are working with layers and layer attribute matching is active, the format settings are set automatically in accordance with the current layer.



Tip: If you inadvertently closed a floating toolbar, all you need to do is load the palette configuration again (View menu - Default Configurations - Palette Configuration).

The Edit toolbar contains all the important edit tools.



The Filter Assistant toolbar includes tools to assist you in the process of selecting elements. The tools on the toolbar become active when the program expects you to select elements - after selecting a modification tool, for example. Using the Filter Assistant toolbar, you can restrict selection to specific types of elements or to just elements with specific properties. In addition, you can match the filter criteria from an existing element, as well as specify which elements are affected by selection rectangles.



Note: When you set another configuration (View menu - Default Configurations), the toolbars displayed change accordingly.

Dialog line

The dialog line below the workspace is where the program prompts you to enter values. Alternatives are separated by slashes.

Note: You can perform calculations in the dialog line and you can transfer the results of measurement operations carried out with  Measure as well as results directly from the  Calculator. You can also use CTRL+C and CTRL+V to copy/paste text to/in the dialog line.



Status bar

The status bar is the bottom line in Allplan's application window. Various types of information on the current drawing file are displayed here – e.g., the reference scale and unit of length. You can also modify some of these values by clicking them.

Overview of elements in the status bar:

	The current document type is displayed here.
Mode	The current mode is displayed here. This shows the type of entry the program expects.
Drawing type	The current drawing type is displayed here. You can change the drawing type by clicking.
Scale	The current reference scale is displayed here. You can change the scale by clicking.
Length	The unit of length is displayed here. You can change the unit by clicking.
Angle	The current system angle and the current unit of angle are displayed here. You can set the system angle to predefined default values by clicking the angle displayed. You can change the unit by clicking.
%	This shows how much of the memory reserved for documents has already been allocated (as a percentage).

Palettes

You can find the **Tools, Properties, Wizards, Library, Connect** and **Layers** palettes on the left in the workspace. The palettes facilitate quick access to all Allplan modules and tools you need to create and modify elements.

Crosshairs

An on-screen cursor consisting of two crossing lines. Moving the mouse moves the crosshairs on the screen. The size and color appearance of the crosshairs can be set on the **Mouse and crosshairs** page in the **Options**.

Tools on the viewport toolbar

In Allplan you can zoom in on any section of the design as exactly as you need. You can use the tools on the viewport toolbar to navigate freely on screen. These tools are known as 'transparent' tools; in other words, you can use them while another tool (e.g. Line) is active.

If you are working with multiple viewports, these tools are available in each viewport.

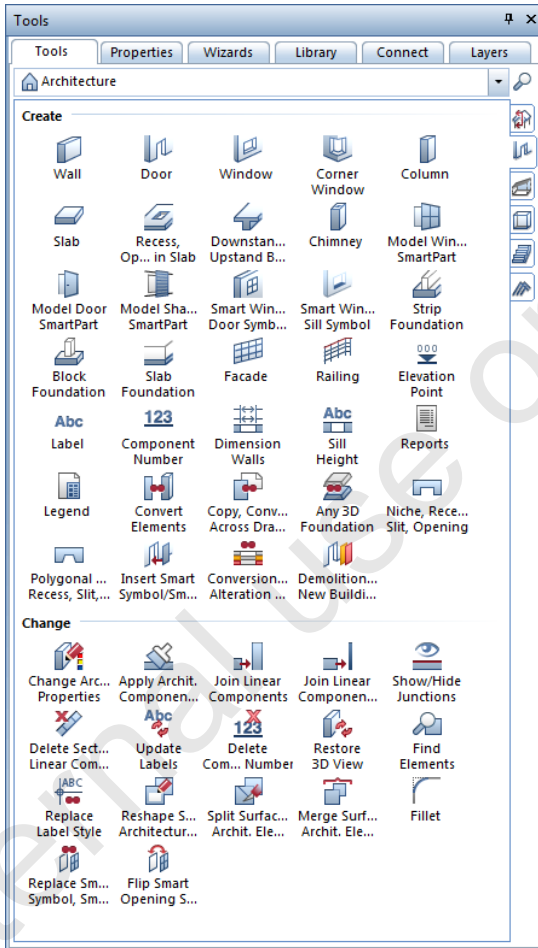
Icon	Function	Use
	View	You can choose between plan view and any of the standard views.
	Zoom All	Sets the display scale so that all the elements in the visible documents (active, edit or reference) are all visible. But if you have loaded a view using  Save, Load View, only this view is displayed. Press ESC to cancel the process. Tip: You can also double-click the middle mouse button.
	Zoom Section	Zooms a section of the workspace. Press and hold down the left mouse button and enclose the elements you want to zoom in a selection rectangle. Note: If several viewports are open, the zoomed section is displayed in the viewport in which you clicked the button. The section itself, however, can be defined in any of the viewports. Requirements: you have not selected a perspective view and the same view is displayed in both viewports. Tip: You can also use the right mouse button to define the section without activating the tool.
	Navigation Mode	In a <i>viewport</i> : sets a perspective view. When dragging, the cursor behaves in the same way as in animation windows (sphere mode, camera mode). In an <i>animation window</i> : when switched off, you can draw in animation windows as you would in isometric windows.
	Previous View	Displays the previous view.
	Next View	Displays the next view.
	Save, Load View	Saves the current view or loads a view you have saved. Thus, you can set views you use frequently. Note: As long as the  icon is active (pressed in), clicking  Zoom All does not display the entire drawing but just the saved view. To deactivate the icon, click it again.

	3D View	Opens the 3D View dialog box, where you can set views. For more information, see "3D View".
	Section Display	Displays an architectural section that you have defined with  Clipping Path . You can identify the section's clipping path by clicking, or by entering the section identifier.
	Display Scale	Sets the display scale. You can select from a list of default values or enter any value in the data entry box. Then press ENTER to confirm.
	View Type	Displays the current contents of the viewport as a hidden line image (on/off).

Palette configuration

Allplan 2014 provides a special arrangement of module-specific and element-specific tools - the palette configuration, which is set by default. You can find the **Tools**, **Properties**, **Wizards**, **Library**, **Connect** and **Layers** palettes on the left and the **Filter Assistant** and **Edit** toolbars on the right.

Using the palettes, you can quickly and easily access the families, the modules and their tools, the properties of design entities and the wizards. You can select and store symbols, smart symbols and SmartParts in the library. The **Layers** palette is especially useful when you need to quickly change the visibility of layers. The **Connect** palette takes you straight from Allplan to content provided by Allplan Connect.



Note: You can customize the arrangement of the palettes for your needs by selecting **Customize...** on the **Tools** menu and opening the **Palettes** tab.

Tools tab

The  Tools tab provides the following options:

Drop-down menu at the top

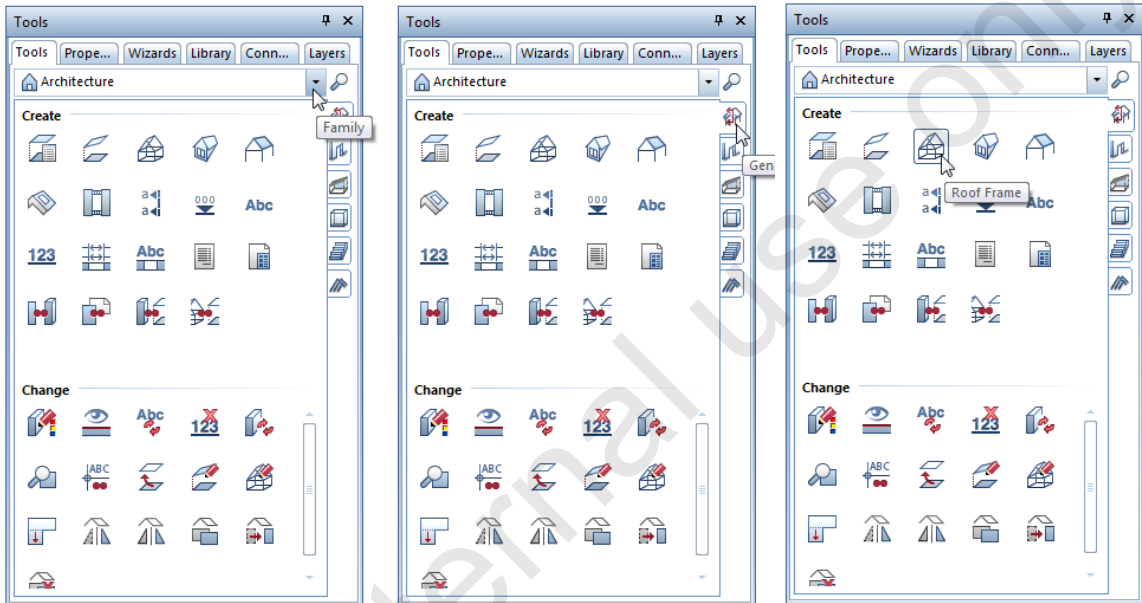
Tabs on the right

Available tools

Select a family:

Select a module:

Select a tool in the Create and Change areas:



Note: Detailed information on the  Tools tab is provided in the Allplan help; see the section entitled "Tools palette".

Properties tab

The  Properties tab provides the following options:

Drop-down menu at the top

Select active elements

Tools at the bottom

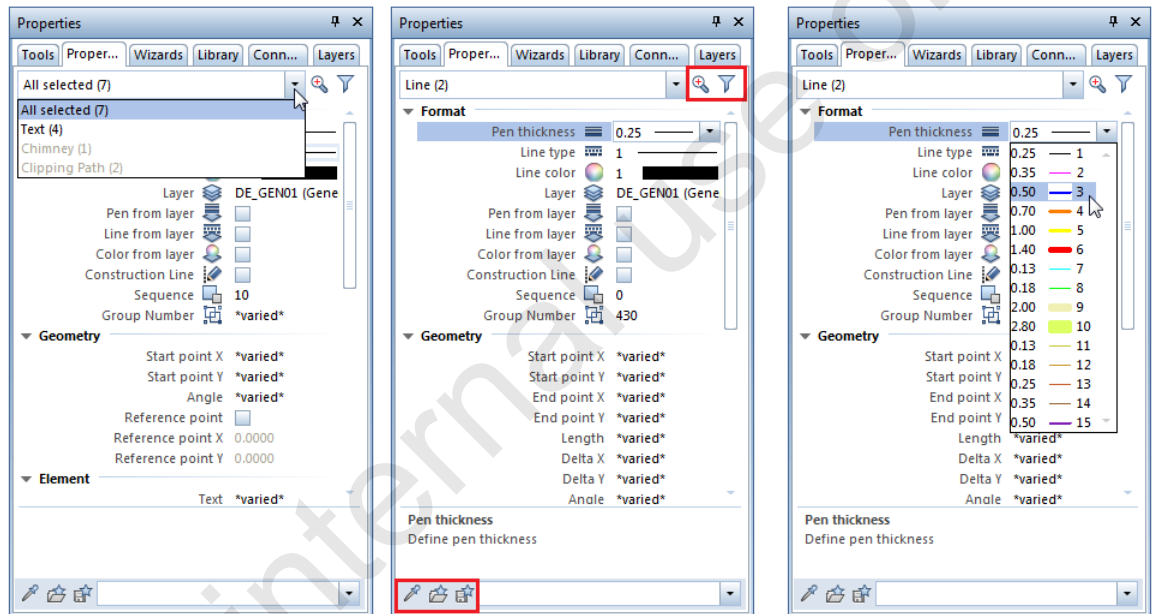
 Match parameters

 Load favorite

 Save as a favorite

Element properties

Modify properties



Note: Detailed information on the  Properties tab is provided in the Allplan help; see the section entitled "Properties palette".

Wizards tab

The  Wizards tab provides the following options:

Drop-down menu at the top

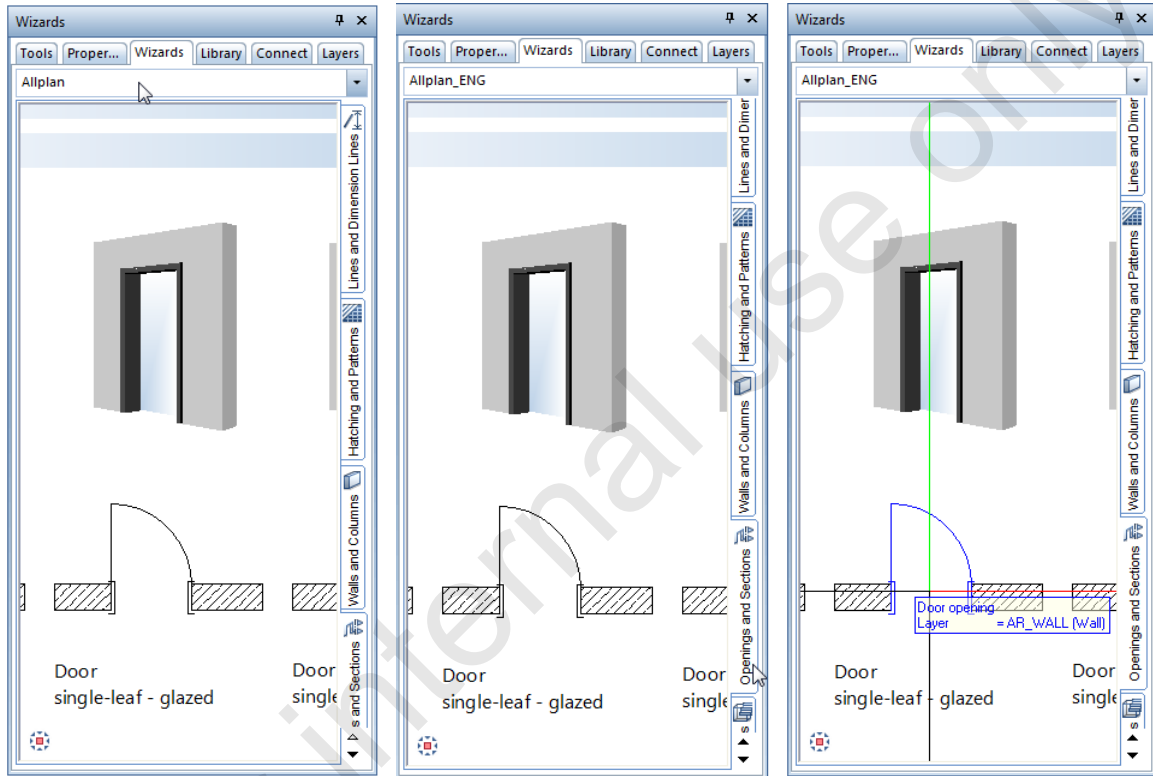
Tabs on the right

Available tools

Select a wizard group

Select a wizard

Select a tool



Note: Detailed information on the  Wizards tab is provided in the Allplan help; see the section entitled "Wizards palette".

A note on docking palettes

Palettes can be arranged around the edge of the workspace. Click the title bar of a palette and drag it to one of the arrows displayed in the workspace.

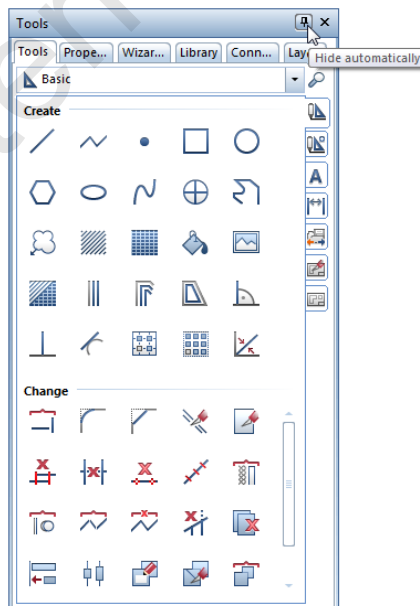


As long as you keep the mouse button pressed down, you can move the palette freely in the workspace. This is indicated by a transparent preview. Only when you release the mouse button is the palette docked at the position currently displayed.

A note on showing and hiding palettes

You can use **Hide automatically** to show (☰) and hide (☒) the palettes.

You can define settings for **Hide automatically** on the Palettes tab in the **Customize** dialog box (click **Customize...** on the Tools menu).



A note on showing and hiding individual palettes

You do not necessarily have to work with all the palettes or the **palette configuration** in order to use the palettes. You can also show and hide individual palettes in any other configuration.

To show and hide individual palettes

- On the View menu, point to Toolbars and click  **Modules**,  **Properties**,  **Tools**,  **Wizards**,  **Library**,  **Connect** or  **Layers**.

Or:

- Press CTRL+Q for the Modules palette.

Or (Modules palette only):

- Click  **Modules** on the Basic Tools toolbar.
-

A note on the Allplan help

The Allplan help includes detailed instructions and is available at all times.

- **Help on the current tool:** press the F1 key or click  **Allplan Help** on the ? menu.
- **Help on any inactive tool:** first click  **What's This** (Default toolbar) or press SHIFT+F1 and then click a tool.

Basic Settings

Settings in the status bar

Check the following settings in the status bar:

- Scale: 1:100
- Unit of length: m
- Angle: 0.000
- Unit of angle: deg

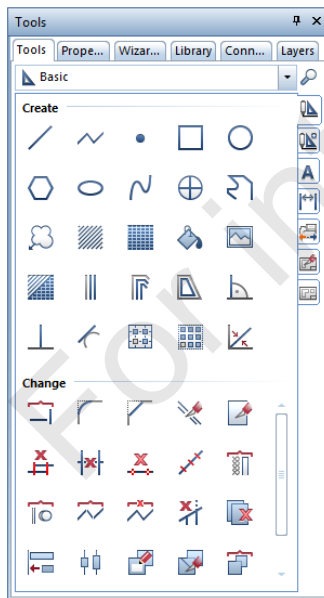
Settings in the Tools palette

You will use the tools in the **Draft** module for the first exercises. Select this module in the Tools palette.

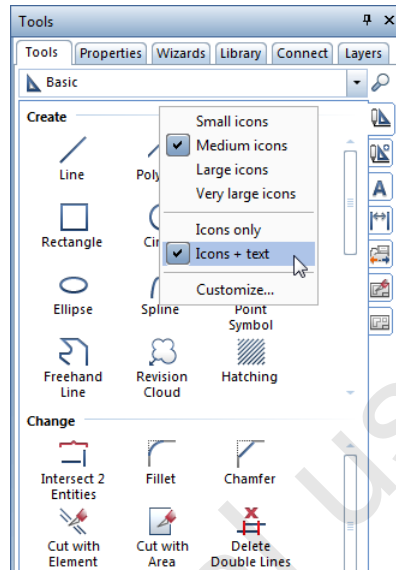
Settings in the Tools palette for the exercises that follow:

- 1 Select the  Tools tab in the palette.
- 2 Select the **Basic** family on the drop-down menu.
- 3 Select the tab for the  **Draft** module on the right-hand side of the palette.

The program presents the tools in the **Draft** module in the **Create** and **Change** areas:



Note: To display the tools in the palettes as icons with text, select the corresponding option on the shortcut menu of the palette.



Exercise 1: rectangles and lines

Task 1: drawing and modifying rectangles and lines of any kind

Overview

Use the following tool(s) to do this:

Function	How to activate it
 Rectangle	Tools palette (Basic family - Draft module - Create area)
 Based on diagonal line	Rectangle Context toolbar
 Delta point	Dialog line
 X coordinate	Dialog line
 Line	Tools palette (Basic family - Draft module - Create area)
 Polyline	Line Context toolbar
 Rasterize length	Dialog line
 Offset to reference point	Dialog line
 Offset to element	Dialog line
 Fillet	Tools palette (Basic family - Draft module - Change area)
 Auto-Delete Segment	Tools palette (Basic family - Draft module - Change area)

Solution

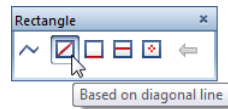
To draw and modify rectangles and lines of any kind

➡ Drawing file setting: 1 current

- 1 In the Tools palette, click  Rectangle.

As soon as you select a tool, the dialog line prompts you to enter values.

- 2 Before you enter values, however, check that  Based on diagonal line is selected on the Rectangle Context toolbar.



- 3 *Start point*
Set the first point anywhere in the workspace by clicking the left mouse button.
- 4 *Diagonal point*
Click a diagonal point.

Or:

If it isn't active, select the  Delta point option in the dialog line.



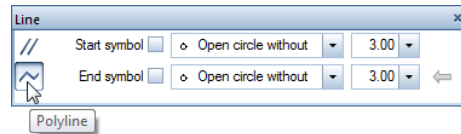
Tip: Instead of the TAB key, you can also use the PAGE UP and PAGE DOWN keys.

To specify the offset of the diagonal point in the X direction, enter any value for the  X coordinate (*without pressing ENTER to confirm!*). Then press the TAB key. This takes you to the  Y coordinate.

Enter any value for the offset of the diagonal point in the Y direction and press ENTER to confirm.

The rectangle is drawn.

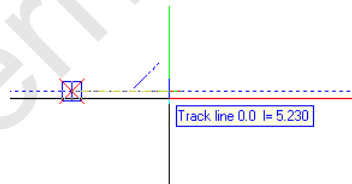
- 5 Quit the  **Rectangle** tool by pressing ESC or by selecting the  **Line** tool.
- 6 Select  **Polyline** on the **Line** Context toolbar. Check that the **Start symbol** and **End symbol** options are not selected.



- 7 *From point*
Set the first point anywhere in the workspace.
- 8 *To point*
Place the end point anywhere in the workspace.

Or:

Select the  **Track line** option in the dialog line (if it isn't active), move the crosshairs along the track line displayed and click as soon as the required length appears (you can set the required length using  **Rasterize length** in the dialog line).



Or:

Move the crosshairs along the track line and enter the required values for  **Offset to reference point** and  **Offset to element** in the dialog line:



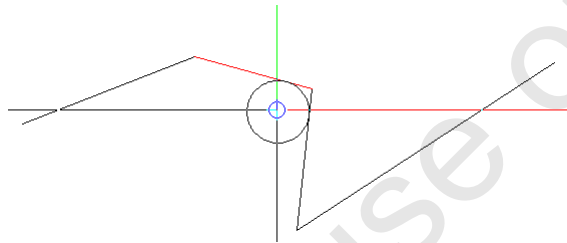
- 9 Create lines as you need.

10 To end a line and start with a new line, press ESC once. To quit the tool, press ESC twice.

11 Select the  Fillet tool (Change area).

12 *Click filleting element 1 / Click filleting element 2 / Enter radius of fillet*

Click two elements and enter the radius in the dialog line. Press ENTER to confirm.



13 Press ESC to quit the  Fillet tool.

14 Select the  Auto-Delete Segment tool (Change area).

15 *Click element*

Click the element you want to delete and press ESC to quit the

 Auto-Delete Segment tool.

A note on controlling the on-screen display using a 3-button mouse

If you are working with a 3-button mouse in Allplan, the three mouse buttons are associated with functions that change to reflect the current requirements.

Tip: Detailed information on the mouse button assignments is provided in the Allplan help; see the section entitled "Using the mouse".

As an alternative to the tools in the bottom border of the viewport (see the section entitled "Allplan's user interface"), you can use the mouse to control the on-screen display as follows:

- You can use the wheel button to reduce or enlarge the view (depending on the position of the crosshairs).
- You can pan using the middle mouse button.
- To display the drawing in its entirety, double-click the middle mouse button.
- You can use the right mouse button to zoom in on a section.

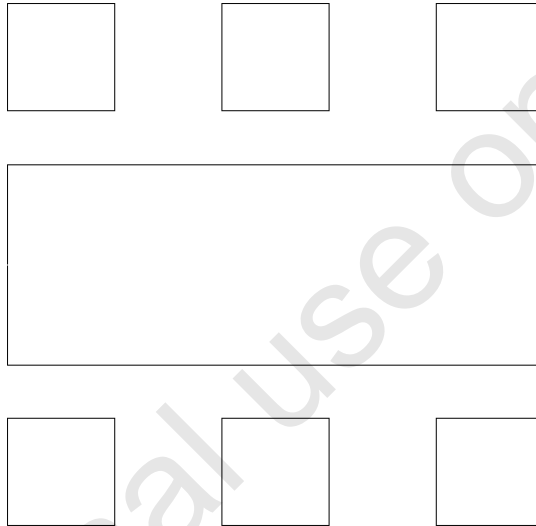
A note on grid dimensions and track lines

You can change the grid dimensions (basic dimensions, outside dimensions and opening dimensions) while you are drawing using the TAB key. This setting is also taken into account when you work with track lines.

You can also use the keyboard to quickly switch track lines on and off - just press the F11 key.

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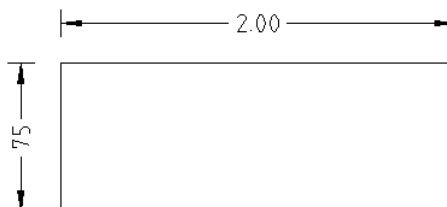
Exercise 2: table and chairs



Task 1: drawing a table

Overview

Draw a table using the values given below.



Use the following tool(s) to do this:

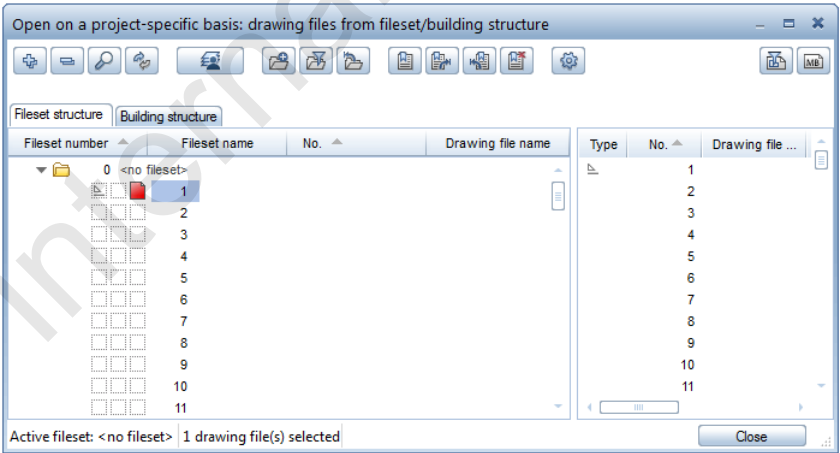
Function	How to activate it
 Line	Tools palette (Basic family - Draft module - Create area)
 Polyline	Line Context toolbar

Solution

To draw a table

- Drawing file setting: 1 current
- 1 Switch to a different drawing file first. Double-click in the workspace with the left mouse button.

The **Open on a project-specific basis: drawing files from fileset/building structure** dialog box is displayed.



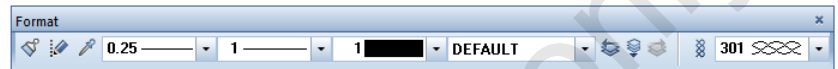
Tip: To name a drawing file, you can also press the F2 key.

- 2 Enter **Sketch** for the name of drawing file 1. Use the left mouse button to click beside the drawing file number and enter the name.
- 3 Enter **Table and chairs** for the name of drawing file 2.

- 4 Double-click drawing file 2 with the left mouse button.

Allplan saves drawing file 1, opens drawing file 2 and closes the dialog box.

- 5 In the Tools palette, click  **Line**.
- 6 Make the following settings on the **Format** toolbar:
Pen thickness: 0.25; line type: 1; line color: 1; layer: DEFAULT.



- 7 Select the  **Polyline** function on the Line Context toolbar. The **Start symbol** and **End symbol** options are switched off. Leave them as they are.
- 8 Make the following settings in the dialog line:

-  **Delta point:** on
-  **Track line:** on
-  **Rasterize length:** off
-  **Enter at right angles:** off
-  **Enter using cursor snap:** off



- 9 *From point*
Set the first point anywhere in the workspace by clicking with the left mouse button.
- 10 *To point*
Point to the right in the direction of the 0.0-degree track line.
- 11 Enter 2 (m) in the dialog line to specify the  **Offset** to reference point.



The offset is displayed in the preview:



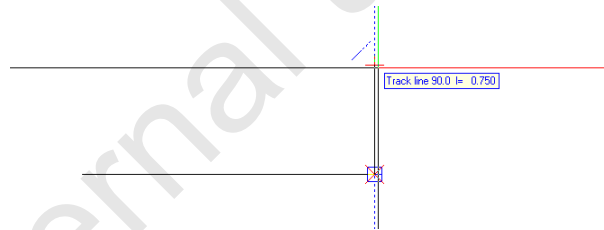
12 Press ENTER to confirm.

13 *To point*

Move the crosshairs upwards in the direction of the 90.0-degree track line.

14 Enter 0.75 (m) in the dialog line to specify the  **Offset to reference point**.

The offset is displayed in the preview:



15 Press ENTER to confirm.

16 *To point*

Point to the left in the direction of the 0.0-degree track line, enter 2 (m) in the dialog line to specify the  **Offset to reference point** and press ENTER to confirm.

17 *To point*

Move the crosshairs downwards in the direction of the 90.0-degree track line, enter 0.75 (m) in the dialog line to specify the  **Offset to reference point** and press ENTER to confirm.

The table is now finished.

18 You can quit the  **Line tool** by pressing ESC twice.

A note on using track lines

Switching track tracing on and off

You can switch track tracing on and off in the dialog line.



Entering numerical length values in the dialog line

As long as the preview of an element has not snapped to a track line or point, the values you enter relate to the start point of the element in question. You can enter values for the X, Y or Z coordinates in the dialog line.



As soon as the program snaps to an existing point or track point, the values relate to the point snapped.

When the program snaps to a track line, you can enter values in the dialog line using  **Offset to reference point** (starting point of element) and  **Offset length** (track line).

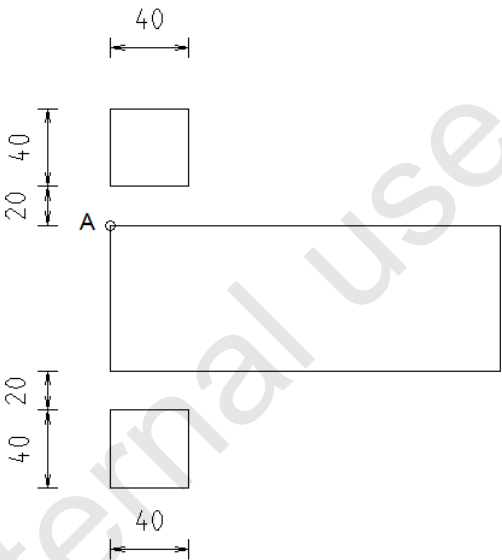


Detailed information on track tracing is provided in the Allplan help.

Task 2: precision drafting

Overview

Draw two chairs at an offset of 0.20 m to the table. Place one chair at top left and the other one at bottom left.



Use the following tool(s) to do this:

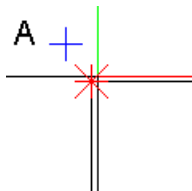
Function	How to activate it
 Rectangle	Tools palette (Basic family - Draft module - Create area)
 Delta point	Dialog line
 X coordinate	Dialog line
 Y coordinate	Dialog line

Solution

To design a chair

☞ Drawing file setting: 2 current

- 1 In the Tools palette, click  Rectangle.
- 2 If it isn't active, select the  Delta point option in the dialog line.
- 3 Check that  Based on diagonal line is selected on the Rectangle Context toolbar.



- 4 *Start point*

Move the crosshairs close to point A so that it is snapped.

This point is marked with a red X and the data entry boxes are highlighted in yellow in the dialog line. This means that any subsequent entries you make for the  X coordinate and  Y coordinate are based on the point snapped.

Important!

Do *not* move the mouse afterwards!

- 5 To specify the distance between the start point and point A in the X direction, enter 0.000 m for the  X coordinate (*without* pressing ENTER to confirm!). Then press the TAB key. This takes you to the  Y coordinate.
- 6 To specify the offset of the start point in the Y direction, enter 0.200 m for the  Y coordinate. Now press ENTER to confirm.



This defines the start point based on which the rectangle is drawn.

- 7 Move the crosshairs to this start point so that it is snapped.

Important!

Any subsequent entries you make for the diagonally opposite point will only apply to the start point if you do *not* move the mouse in the meantime!

8 Diagonal point

To specify the distance between the diagonal point and the start point(!) in the X direction, enter **0.400 m** for the Δx X coordinate (*without* pressing ENTER to confirm!). Then press the TAB key. This takes you to the Δy Y coordinate.

- 9 To specify the distance between the diagonal point and the start point(!) in the Y direction, enter **0.400 m** for the Y coordinate and press ENTER to confirm.

The chair is drawn.

Tip: Make sure that you enter the correct sign!

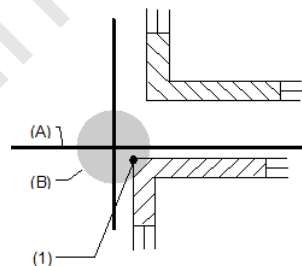
Draw the second chair yourself. Place it below the table at an offset of 0.2 m.

A note on the point snap feature

You can snap to points on existing elements (endpoints, midpoints, division points, points of intersection). You do not need to know the coordinates of these points, nor is it necessary to work with construction lines.

Allplan scans for points within a radius you define about the crosshairs. This means that when you point or click in the workspace, Allplan will "snap" to points within a specific distance (= snap radius) even if the center of the crosshairs is not placed directly over the point.

Tip: You can define *which* points are to be snapped in the  **Point snap options** (shortcut menu of an active tool).



- (A) Crosshairs
- (B) Snap radius
- (1) The program snaps to the coordinates of this point as it is within the snap radius.

Tip: In the Options dialog box (☒ Options, Point snap page), you can configure the system to beep when you click an undefined point.

You can set the size of the snap radius and specify which drawing files Allplan is to scan for points in the ☒ Point snap options.

To check the point snap options

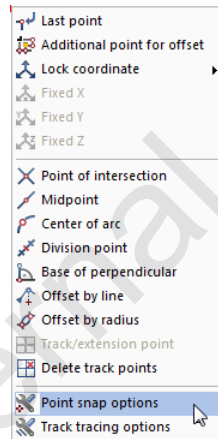
➤ Drawing file setting: 2 current

➤ Active tool:  Rectangle

1 Open the shortcut menu.

To do this, click in the workspace with the *right* mouse button.

2 Click ☒ Point snap options on the shortcut menu.



The Options dialog box, Point snap page, opens.

- 3 Check the Snap options to see whether the Detection area, in active documents and Detection area, in drawing files open in reference mode options are active.
- 4 In addition, check that the Snap radius is set to 2.00 mm.
- 5 Click OK to confirm the dialog box.
- 6 Press ESC to quit the  Rectangle tool.
-

Task 3: using track tracing

Introduction

Tip: While entering data, you can switch track tracing on and off without opening the dialog box. All you need to do is press the F11 key.

Tip: Among other things, you can use the  **Track tracing options** (shortcut menu of an active tool) to select the track lines and symbols you want Allplan to display.

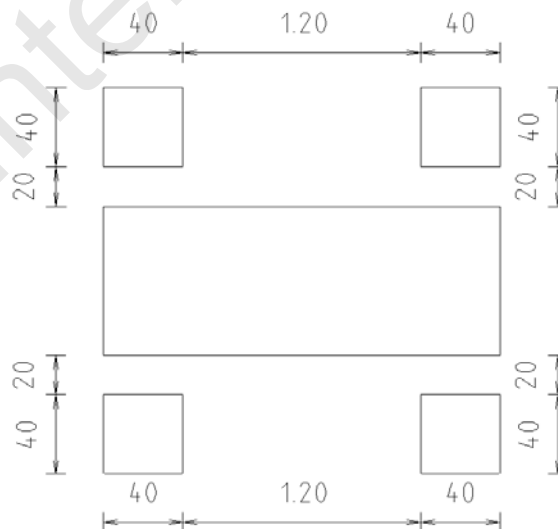
Using track tracing, you can "collect" up to five track points simply by pointing to existing elements. Symbols are assigned to these 'collected' track points, which define the type of track lines displayed.

Instead of pointing to an element and waiting for the program to activate track tracing, you can also click  **Track/extension point** on the shortcut menu and place a track point. You can use  **Delete track points** to delete all track points and start again.

Track points snapped are marked by rectangles appearing around the track point or point snap symbol.

Overview

Use track tracing to copy the chairs to the right.



Use the following tool(s) to do this:

Function	How to activate it
 Copy	Edit toolbar or shortcut menu

Solution

To copy a chair using track tracing

➡ Drawing file setting: 2 current

- 1 Click  Copy on the Edit toolbar.

Or:

Click in the workspace with the right mouse button and choose

 Copy on the shortcut menu.

Tip: Advanced information can also be found in the Allplan help; see the section entitled "Selecting elements".

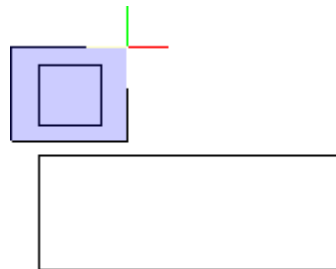
- 2 *Select element(s) you want to copy*

Select the chair at the top by enclosing it in a selection rectangle.

Move the crosshairs close to the chair, press the left mouse button and keep it pressed down. Enclose the chair in a selection rectangle and release the mouse button again.

The chair is displayed in the selection color.

Tip: You can choose the color that is to be used to display the elements you select in the Options dialog box on the Display page ( Options).



- 3 *From point*

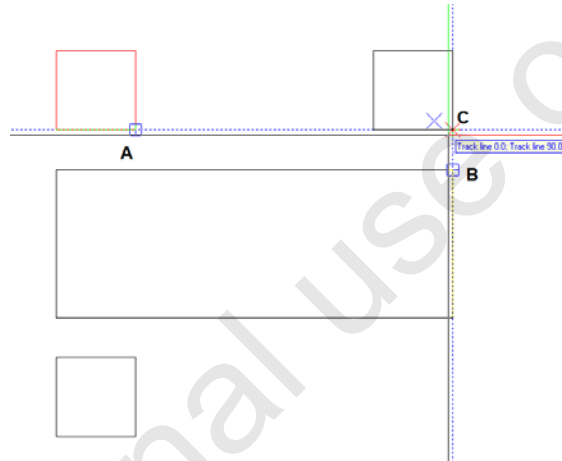
Click the bottom right corner of the chair (= point A).

Note: You can see points A, B and C in the illustration below.

4 *To point or enter number of copies*

Move the crosshairs close to point B so that the 90.0-degree track line appears.

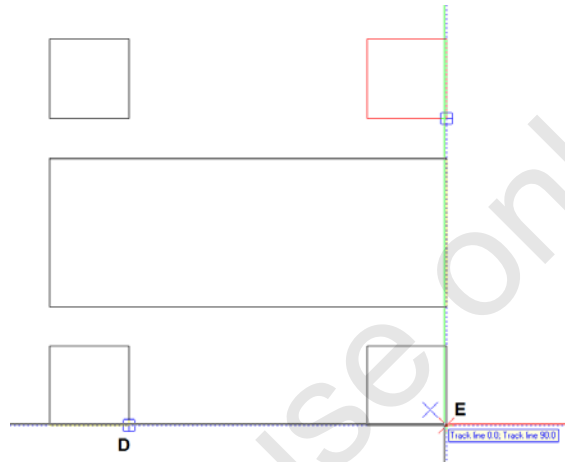
- 5 Move the crosshairs along this track line toward the point where the two track lines intersect (= point C) until the 0.0-degree track line and 90.0-degree track line appear, then place the chair by clicking the left mouse button.



- 6 Move the crosshairs close to point D (see below) so that the 0.0-degree track line appears.

- 7 Move the crosshairs along the 0.0-degree track line to the right until the 90.0-degree track line is displayed.

- 8 Place the chair at the point where the two track lines intersect (= point E) by clicking the left mouse button.



- 9 To point or enter number of copies
Press ESC to quit the tool.

A note on entity group selection

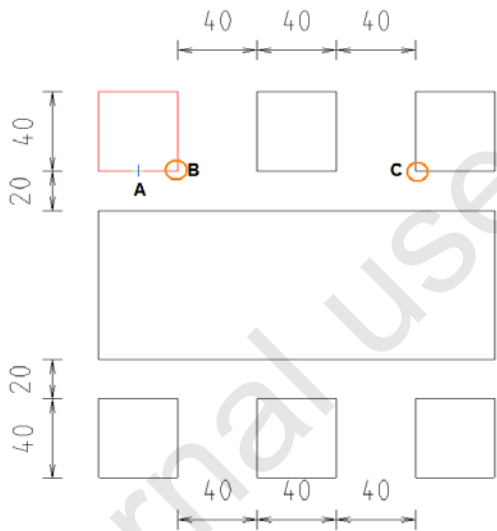
An entity group is a group of elements which can be addressed as a whole. Several connected lines constructed in one step are an entity group, for example. A rectangle is such a line.

You can address an entity group as a whole by clicking one of the elements in the group while holding down the SHIFT KEY. If, for example, a tool is active and you click a line of a rectangle while holding down the SHIFT KEY, Allplan will automatically select the *entire* rectangle.

Task 4: using midpoint snap

Overview

Create the middle chairs.



Use the following tool(s) to do this:

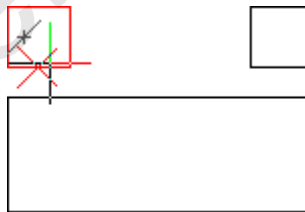
Function	How to activate it
 Copy	Edit toolbar or shortcut menu
 Point snap options	Shortcut menu when a tool is active and an element selected
 Midpoint	Shortcut menu when a tool is active and an element selected

Solution

To copy a chair using the midpoint snap feature

☞ Drawing file setting: 2 current

- 1 Click  Copy again and select the chair on the left.
- 2 Click in the workspace with the right mouse button and select  Point snap options on the shortcut menu.
- 3 Make the following settings on the **Point snap** page of the **Options** dialog box and click **OK** to confirm:
 - select the **Point of intersection** and **Midpoint** options in the **Point snap** area and
 - select the **Display CursorTips - CursorTips for point snap** option in the **Point snap representation** area.
- 4 *From point*
Move the crosshairs along the bottom line of the chair until  is displayed with the crosshairs (point A = midpoint of the bottom edge of the chair); then click the left mouse button.
Note: You can see points A, B and C in the illustration at the beginning of this task.



- 5 *To point or enter number of copies*
Click in the workspace with the right mouse button and click  Midpoint on the shortcut menu.
- 6 *Click start point of line or element / End point of line*
Click the start point (= point B) and end point (= point C) of the line to be divided.

The chair is placed exactly in the middle so that it is between the two existing chairs.

7 *Place point (to point) or enter the number of copies*

Repeat steps 5 and 6 for the chair at the bottom.

8 Press ESC to quit the  Copy tool.

A note on selecting elements using the mouse buttons

You can use the mouse to select elements when a tool is active (e.g.

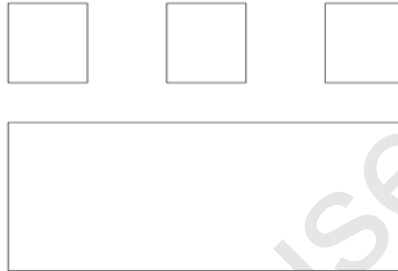
 Copy):

Mouse button	This...	Does this...
Left	Click an element	Selects or identifies the element
Left	Press and hold down; enclose several elements in a selection rectangle	Selects or identifies all the elements that are fully bounded by the rectangle
Middle - Middle	1st + 2nd click in the workspace	Sets the display scale so that all the elements in the visible drawing files (current, edit or reference) are all visible
Middle - Left	Click an element with middle and then left mouse button	Selects an entity group
or: SHIFT+ Left	or: Press and hold down the SHIFT KEY and click an element with left mouse button	
Right	Click a toolbar	Quits the active tool (= ESC KEY)
Right	Click in the workspace while a tool is active	Opens the shortcut menu for entering points

Task 5: deleting

Overview

Delete the chairs at the bottom.



Use the following tool(s) to do this:

Function	How to activate it
 Delete	Edit toolbar

Solution

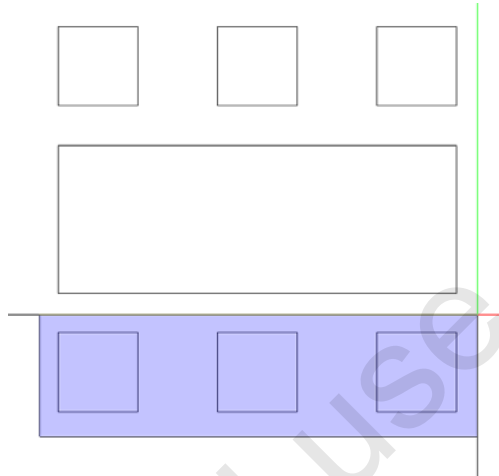
To delete the chairs at the bottom

➡ Drawing file setting: 2 current

- 1 Click  Delete on the Edit toolbar.

2 *Select element(s) you want to delete*

Press and hold down the left mouse button and enclose the three chairs at the bottom in a selection rectangle.



3 Release the left mouse button.

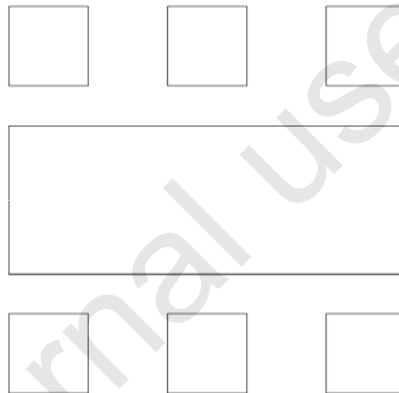
The chairs are deleted

4 Press ESC to quit the Delete tool.

Task 6: mirroring using direct object modification

Overview

Use direct object modification to mirror the three chairs at the top onto the opposite side of the table (see the section "A note on direct object modification").



Use the following tool(s) to do this:

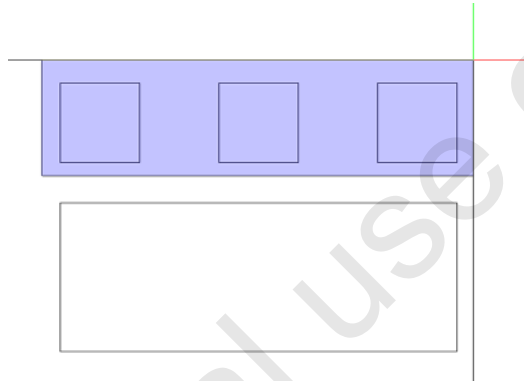
Function	How to activate it
 Copy and Mirror	Direct object modification context toolbar
 Midpoint	Shortcut menu

Solution

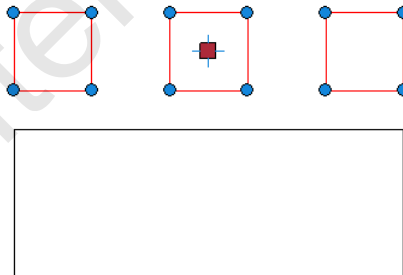
To mirror the chairs at the top

➡ Drawing file setting: 2 current

- 1 Press and hold down the left mouse button and enclose the three chairs at the top in a selection rectangle.

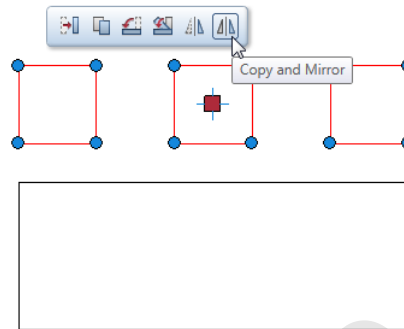


The three chairs are selected as a single entity. This is indicated by handles (see the section "A note on handles").

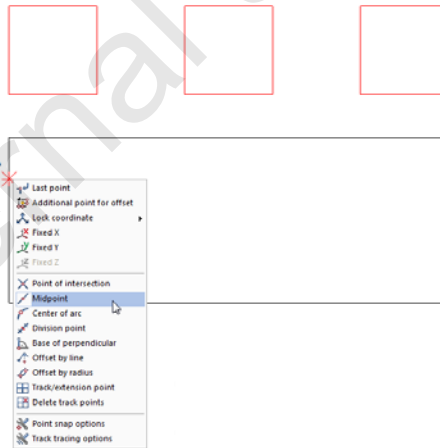


- 2 Point to a line of a *selected* rectangle without snapping a handle.
The **context toolbar** appears.

- 3 Click  Copy and Mirror (see the section "A note on customizing the context toolbar").



- 4 Click point 1 for mirror axis or click mirror axis
Point to the left edge of the table (near point A) and open the shortcut menu.

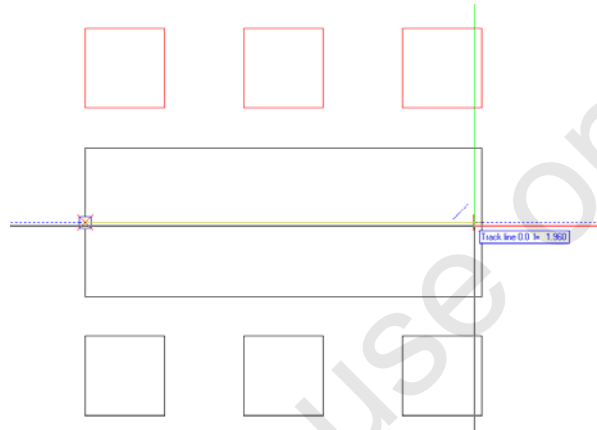


- 5 Click  Midpoint.

The midpoint of the left edge of the table is determined and the chairs to be copied are attached to the crosshairs.

6 *2nd point of mirror axis*

Move the crosshairs toward the right edge of the table, so that the 0.0-degree track line appears. Click in the workspace with the left mouse button.



The chairs are placed correctly.

7 Direct object modification is still active. Press ESC to finish.

A note on direct object modification

Allplan offers a wide number of options for editing existing design entities. The most important editing options found on the menus and toolbars can also be accessed straight from the elements. Using direct object modification, you can move, rotate, mirror and copy elements immediately after you have selected them. In addition, you can modify the element geometry and change other object-specific properties.

Basically, you need to differentiate between two different objectives: first you want to edit an element in its entirety, for example, move, rotate, mirror or copy the entire element, which means that the element itself remains unchanged. Second you want to edit an element individually, for example, resize it, which means that its geometry and/or properties change.

In order to work with direct object modification, you need to select the **Display handles** option ( **Options - Desktop environment - Direct object modification**).

Elements you want to edit using direct object modification need to be selected first. You can select elements either by clicking them or by enclosing them in a selection rectangle.

The table below provides a *brief* overview of the most important options for selecting elements:

 *No tool is selected.*

To do this

Do this

Select a single element

Click the element

Select several elements

Click in the workspace, press and hold down the mouse button and enclose the elements in a selection rectangle

Select additional elements

Press and hold down the CTRL key and click the additional elements or enclose them in a selection rectangle

Select all elements

Press CTRL+A

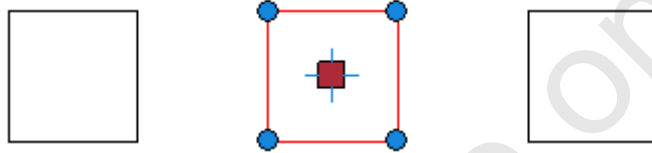
If the **Display handles** option is selected ( **Options - Desktop environment - Direct object modification - Handles**) and you select elements, the controls for direct element modification appear at the selected elements: handles, toggle buttons and data entry boxes. In addition, the **context toolbar** opens when you move the crosshairs to a handle. After having selected a tool, the **coordinate dialog box** appears. You can enter values in this dialog box.

For more information on direct object modification please consult the tool descriptions in the Allplan help.

A note on element handles

When you click an element *without* having selected a tool beforehand, handles appear.

Handles are colored symbols that appear at object-specific geometric points of selected elements and that provide context-sensitive interactivity.



By clicking these handles, you can modify the geometric properties of elements. The shape and color of a handle indicate what you can do with this handle.

Look in the Allplan help for detailed information on the controls for direct element modification.

A note on customizing the context toolbar

For the sake of clarity, the context toolbar contains only the four most important edit tools:



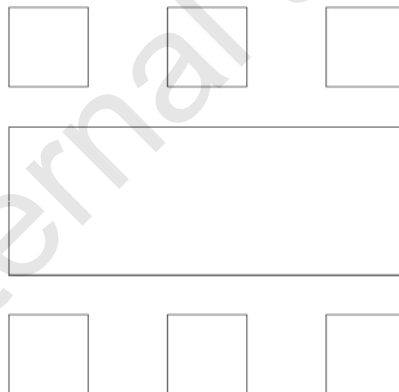
If you want, you can add more tools on the Direct object modification page (✂ Options - Desktop environment).

Exercise 3: symbols

Task 1: saving the table and chairs as a symbol

Overview

Save the table and chairs you created in exercise 2 as a project-specific symbol in the library.



Use the following tool(s) to do this:

Function	How to activate it
 New group	Library palette
 New symbol	Library palette

Solution

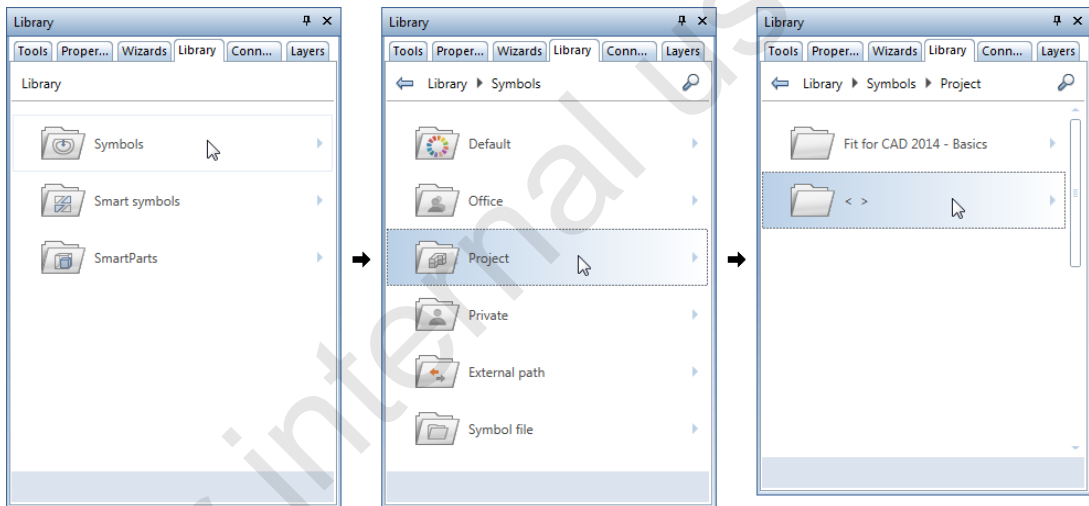
To save the table and chairs as a symbol

➡ Drawing file setting: 2 current

- 1 Select the **Library** palette.
- 2 If necessary, go back to the first page of the library.

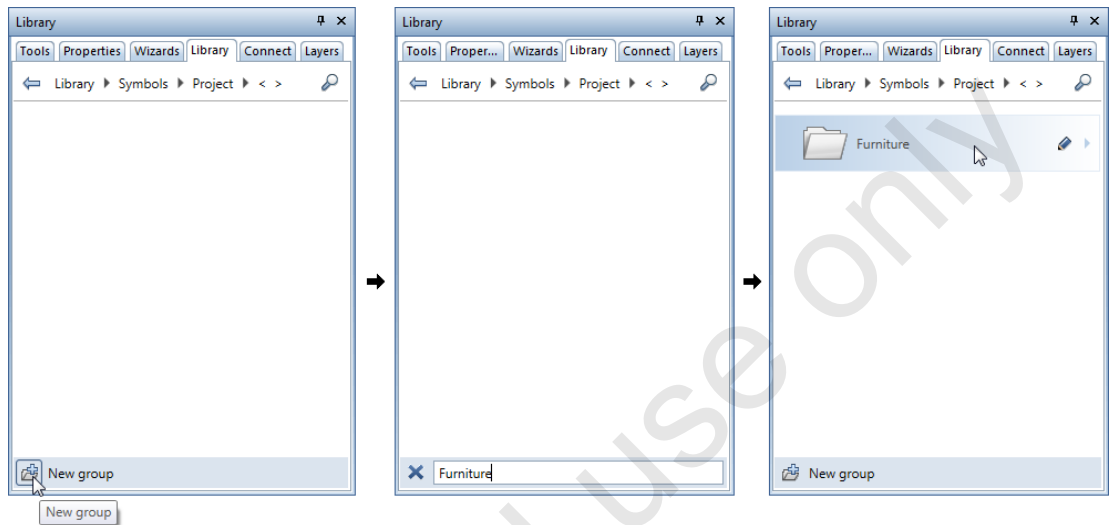
To do this, click the **Library** folder in the top bar of the **Library** palette or click  **Back**, which takes you up level by level in the folder hierarchy of the library.

- 3 Open the **Symbols - Project** folders and then the < > folder for the empty project.



You can find the  **New group** tool at the bottom of the **Library** palette. You can use this tool to create a new group.

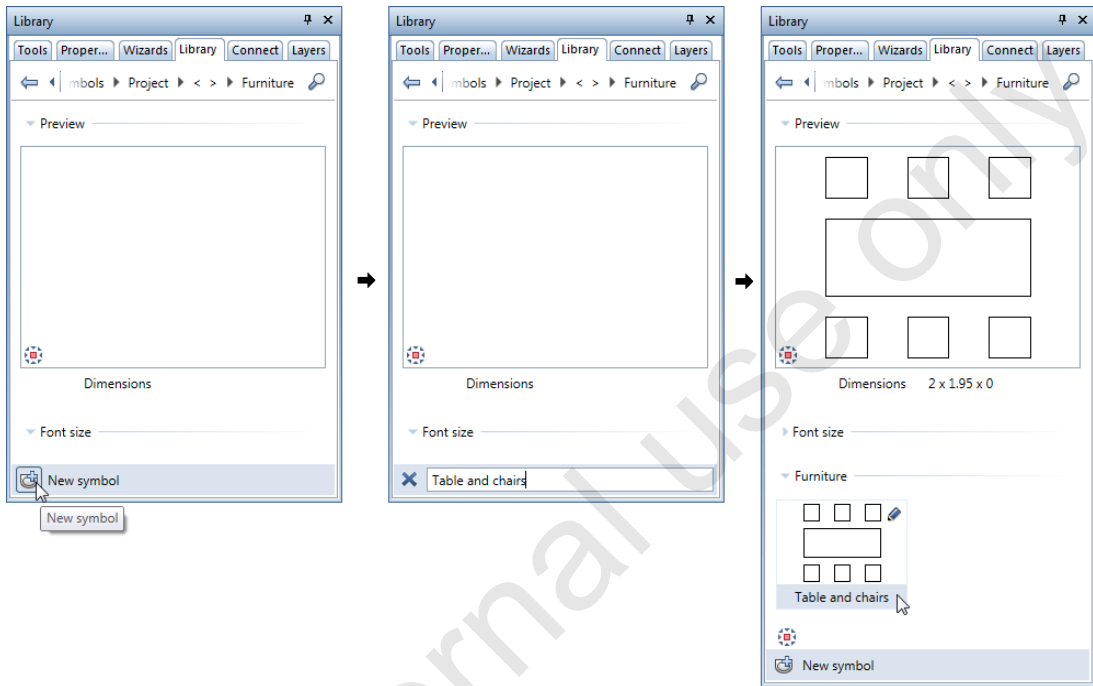
- 4 Click  **New group**, enter **Furniture** for the group name and open the new Furniture folder.



Now you can find the  **New symbol** tool at the bottom of the palette.

- 5 Click  **New symbol** and enter **Table and chairs** for the name of the symbol (see illustration below).
- 6 *Select element(s) you want to save as a symbol*
Select the table and the chairs by enclosing them in a selection rectangle.
- 7 *Set the symbol's base point*
Click a point by which the symbol is to be attached to the crosshairs when it is retrieved (the midpoint of the left table edge, for example).
- 8 In the next dialog box, define the symbol as a **Dumb** symbol without **Snoop** functionality and click **OK** to confirm.

The table and chairs are saved as a new symbol in the library and displayed in the preview. You can see the **Furniture** folder with the **Table and chairs** symbol in the area below the preview:

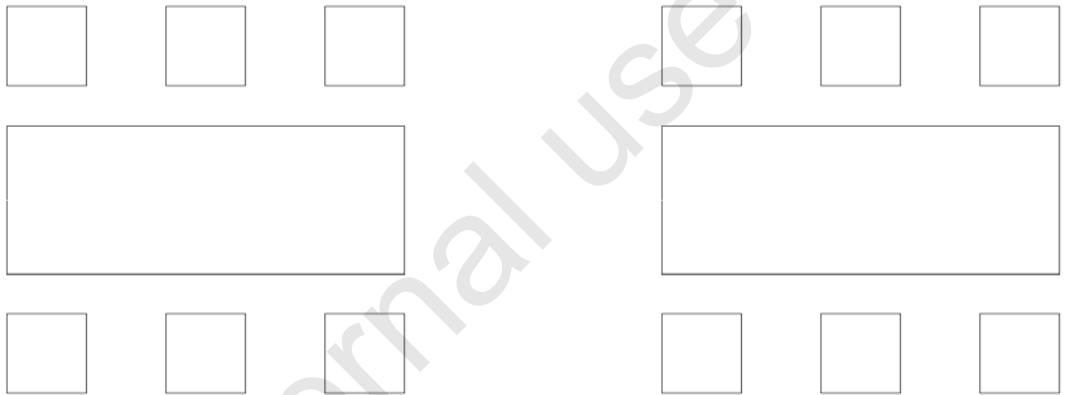


Note: When you point to the symbol, the  icon appears. Clicking this icon opens a shortcut menu you can use to delete, rename and copy symbols.

Task 2: retrieving the table and chairs from the library

Overview

Retrieve the **Table and chairs** symbol from the symbol folder of the **Library** palette and place it beside the original seating arrangement.



Solution

As you have just created the **Table and chairs** symbol, the respective folder is still open in the **Library** palette.

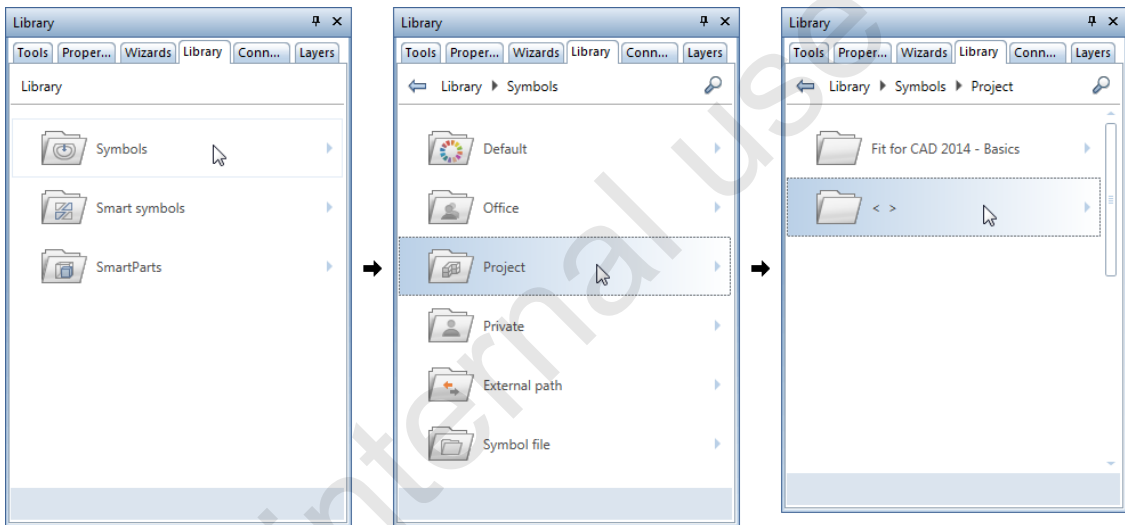
The following description will show you how to access this folder from any other folder in the **Library** palette.

To retrieve the table and chairs from the symbol folder of the library palette

➤ Drawing file setting: 2 current

Tip: Use  **Find** to scan the current folder (and its subordinate folders) for specific symbols.

- 1 Go back to the first page of the **Library** palette.
Click the **Library** folder in the top bar of the **Library** palette or click  **Back**, which takes you up level by level in the folder hierarchy of the library.
- 2 Open the **Symbols - Project** folders and then the **< >** folder for the empty project.



Here, you can find the Furniture folder you created in task 1.

- 3 Open the **Furniture** folder.

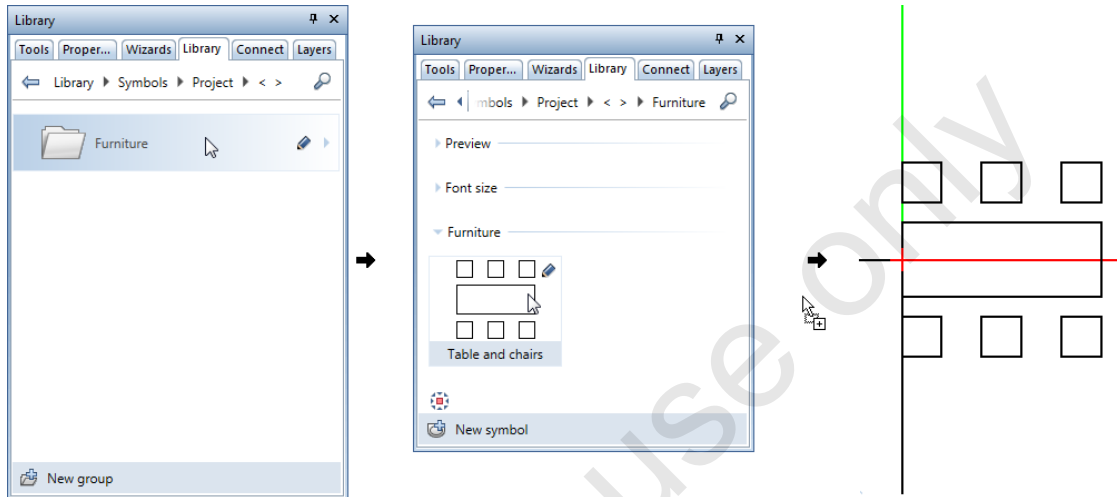
In the **Furniture** area, you can find the **Table and chairs** symbol you created in task 1.

- 4 Double-click the **Table and chairs** symbol.

Or:

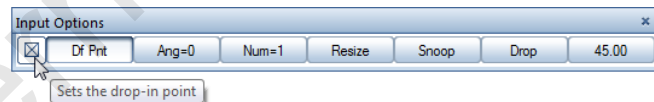
Drag the **Table and chairs** symbol into the workspace.

The symbol is attached to the crosshairs at the base point you defined in task 1 (midpoint of the left table edge).

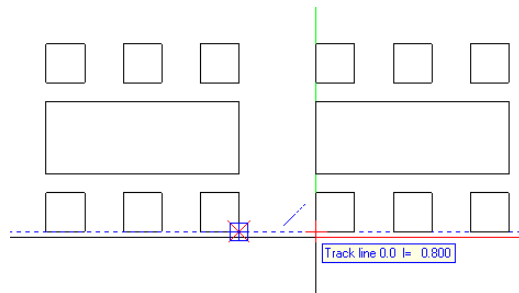


5 *Set the symbol's base point*

In the **Input Options**, set the drop-in point to bottom left.

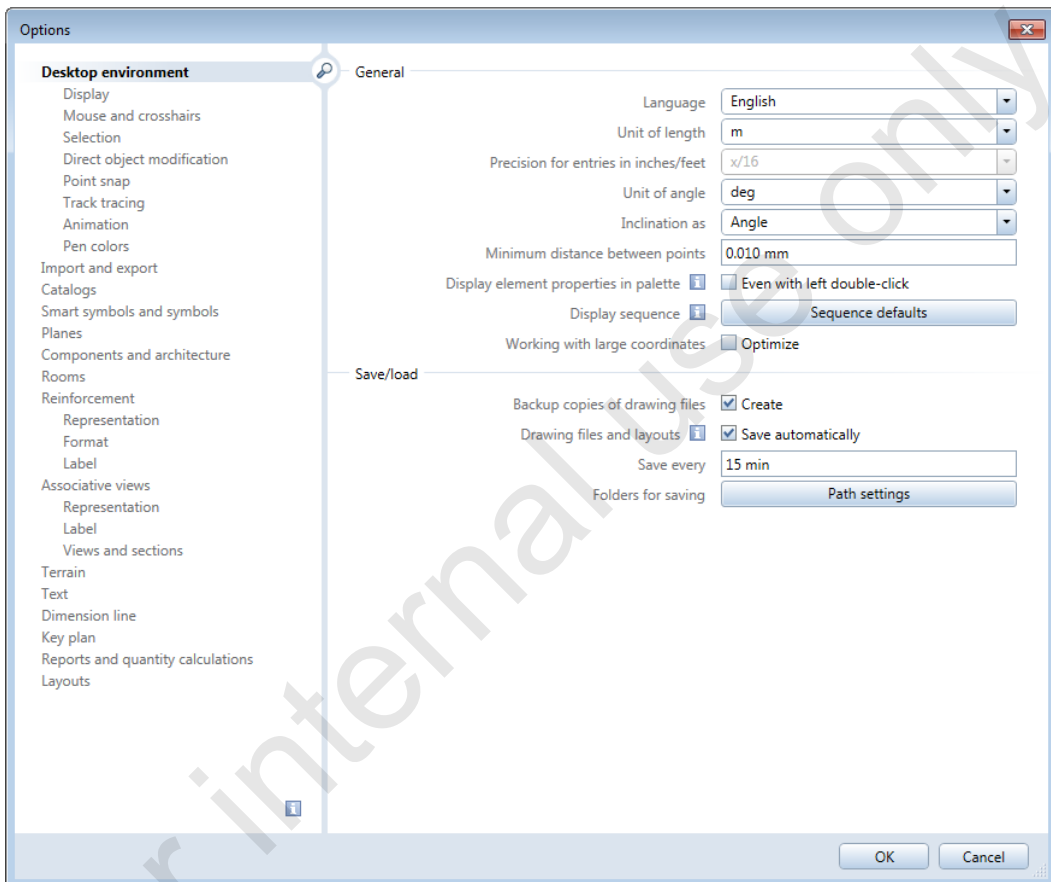


6 Use the 0.0-degree track line to place the symbol so that it is aligned with the original seating arrangement.

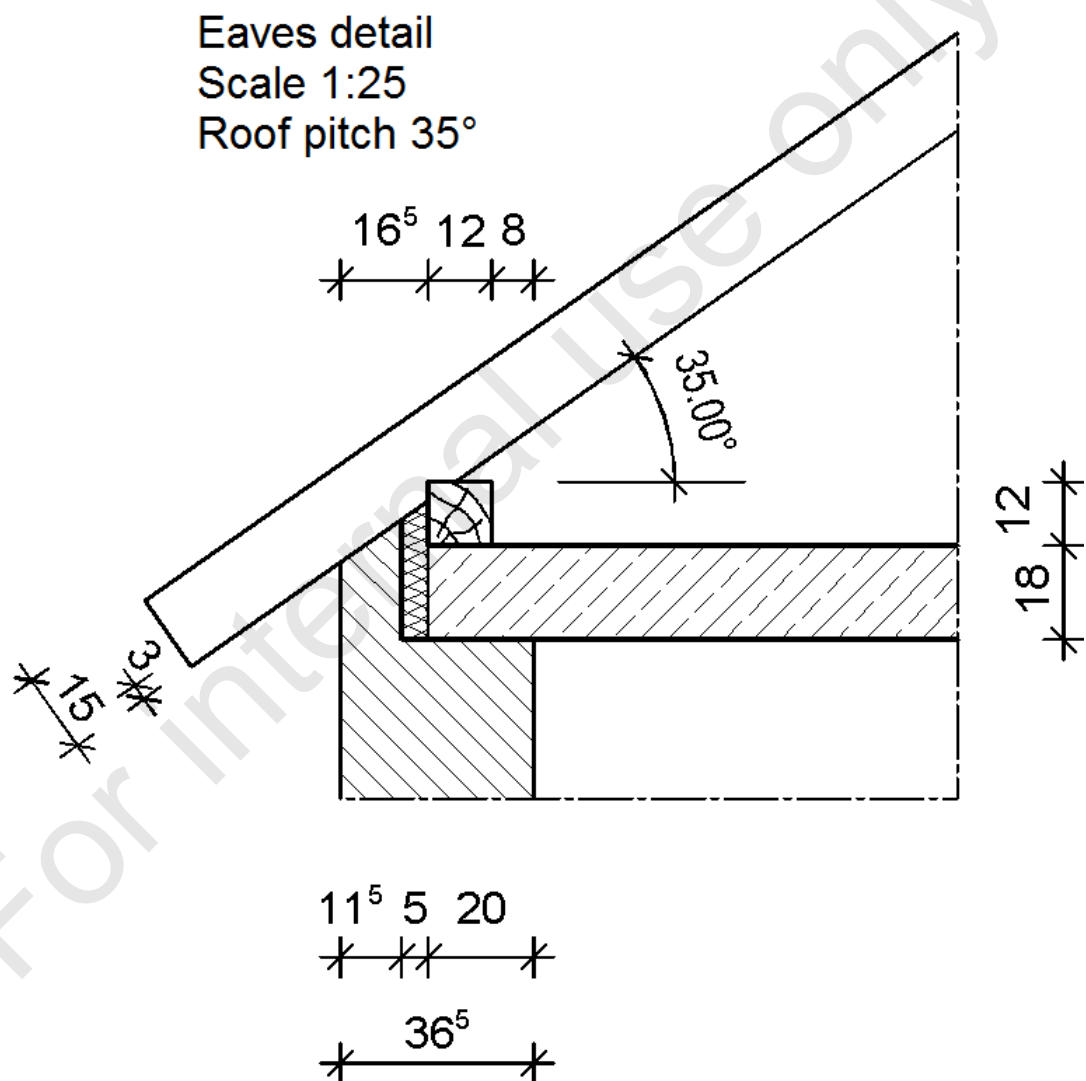


A note on basic settings (options)

You can use the  **Options (Default toolbar)** to set general defaults for your desktop environment and for each of the program modules.



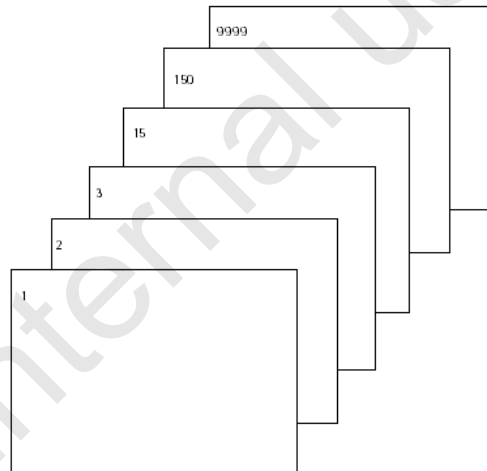
Exercise 4: eaves detail



Introduction

Drawing files

In Allplan, the actual design and data creation process happens in drawing files. These are the equivalent of the transparencies used in conventional building design. Drawing files can be used to give projects a structure. In IT terms, a drawing file is a conventional file stored on your hard disk. You can display and edit up to 80 drawing files at once - in other words, you can have several files open simultaneously. A project can contain up to 9999 drawing files. When working without layers, the individual building elements (such as walls, stairs, labeling, etc.) are drawn on different drawing files and superimposed like transparencies.

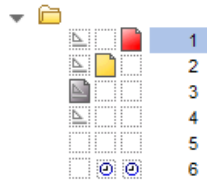


In order to edit the drawing files, they have to be activated (opened). You can do this using the **Open on a project-specific basis: drawing files from fileset/building structure dialog box**.

Drawing file status

With the drawing file status, you define the drawing file on which you draw and which drawing files are visible and/or can be modified.

The following illustration shows the different drawing file statuses. An explanation is provided in the table below.

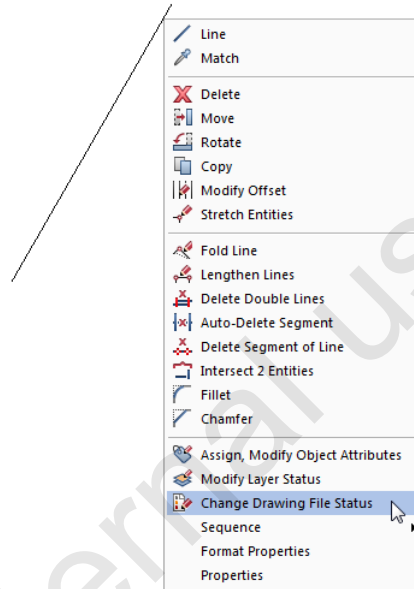


No.	Drawing file status	Remark
1	Active (= current) drawing file	The active drawing file is the one on which you draw. There must always be one active drawing file.
2	Open in edit mode	Elements in drawing files open in edit mode are visible and can be modified. You can open up to 60 drawing files in edit and/or reference mode.
3	Open in reference mode	Elements in drawing files open in reference mode are visible, but cannot be modified. You can configure the program to display all the elements in reference drawing files using a single color. To do this, select the  Options and open the Desktop environment - Display page. Empty drawing files cannot be opened in reference mode.
4	Inactive	Elements in inactive drawing files are not visible.
5	Empty drawing file	Empty drawing files have no data type icon.
6	Assigned temporarily	The drawing file is assigned temporarily to the fileset; this assignment is removed when you switch to a different fileset.

A note on changing the drawing file status using the shortcut menu

You can change the drawing file status using an element's shortcut menu.

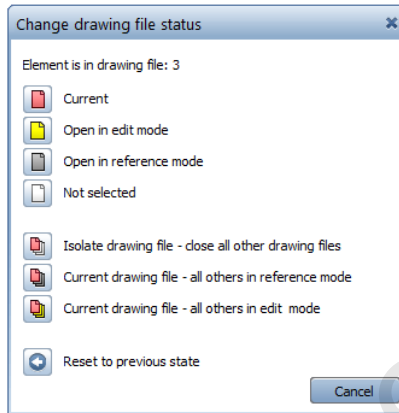
Click an element with the right mouse button and select the  **Change Drawing File Status** tool on the shortcut menu.



Using  **Change Drawing File Status**, you can select almost all drawing file statuses for the open drawing files depending on the status of the drawing file that contains the selected element. What's more, you can also reset the statuses to their previous states. This tool is ideal for quickly switching between various statuses and discarding the changes immediately afterwards. You no longer need to look for the drawing file that contains the element.

You can find  **Change Drawing File Status** not only on the shortcut menu but also on the File menu and **Special** toolbar. Not all elements can be selected using the shortcut menu. Take a wall in a reference drawing file, for example. In these cases, select the **Change Drawing File Status** tool on the menu or toolbar, specify what you want to do and then click the relevant element.

The dialog box offers the following options:



Note: The icon representing the status of the drawing file with the selected element appears pressed in.

Element is in drawing file: shows the number and name of the drawing file that contains the selected element.



Current: sets the status of the drawing file with the selected element to current. The previously current drawing file is set to edit mode, and the status of reference documents does not change.

You cannot change the status of the current drawing file. In this case, only the functions that can be applied to drawing files open in edit and reference mode are available.



Open in edit mode: opens the drawing file with the selected element in edit mode. The status of the other drawing files does not change.



Open in reference mode: opens the drawing file with the selected element in reference mode. The status of the other drawing files does not change.



Not selected: closes the drawing file with the selected element. The status of the other drawing files does not change.

 **Isolate drawing file - close all others:** sets the status of the drawing file with the selected element to current and closes all the other drawing files.

 **Current drawing file - all others in reference mode:** sets the status of the drawing file with the selected element to current and opens all the other drawing files in reference mode.

 **Current drawing file - all others in edit mode** sets the status of the drawing file with the selected element to current and opens all the other drawing files in edit mode.

 **Reset to previous state:** restores the most recent status settings of all the open drawing files, which means the status settings that were active before you selected this tool.

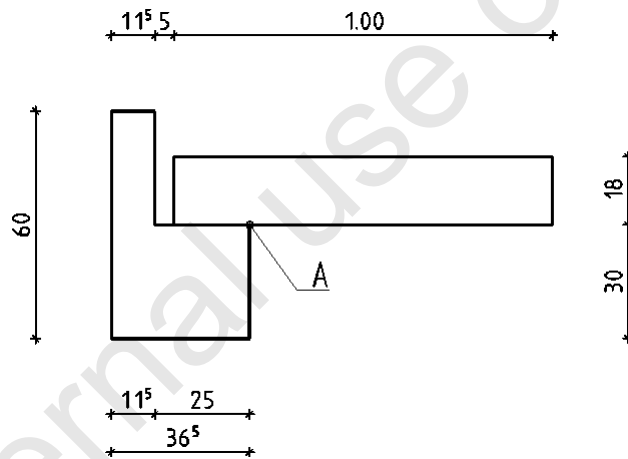
 **Info (workgroup only):** in a workgroup environment, this shows the user of a reference drawing file that cannot be set to current or edit mode.

Note: If a reference drawing file is being edited by another user in a **workgroup** environment, this drawing file cannot be set to current or edit mode.

Task 1: wall and slab

Overview

Start by designing the wall cross-section and the slab cross-section of the eaves detail at a scale of 1:25. Open an empty drawing file and use the dimensions given below.



Use the following tool(s) to do this:

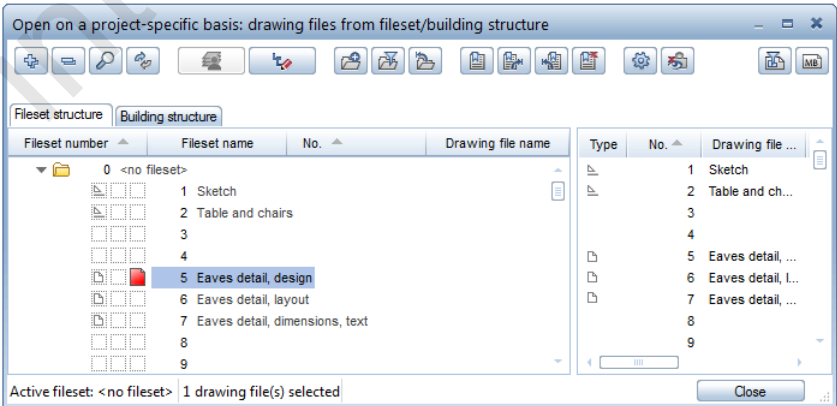
Function	How to activate it
Open on a Project-Specific Basis	File menu or Default toolbar or shortcut menu
Reference Scale	View menu
Line	Tools palette (Basic family - Draft module - Create area)
Polyline	Line Context toolbar
Delta point	Dialog line
X coordinate	Dialog line
Y coordinate	Dialog line

Function	How to activate it
 Rectangle	Tools palette (Basic family - Draft module - Create area)
 Based on diagonal line	Rectangle Context toolbar

Solution

To name and switch drawing files

- ➡ Drawing file setting: 2 current
- 1 On the **Standard** toolbar, click  **Open on a Project-Specific Basis**.
 - 2 In the area under the fileset called **<no fileset>**, click the empty field after drawing file 5 and enter **Eaves detail, design**.
 - 3 Click the empty field after drawing file 6 and enter **Eaves detail, layout**.
 - 4 Click the empty field after drawing file 7 and enter **Eaves detail, dimensions, text**.
 - 5 Make drawing file 5 current by double-clicking the drawing file number or the drawing file name.



The dialog box closes automatically.

Tip: You can also use

 **Reference Scale** on the **View** menu to set the scale. Select **25.00**.

6 Set the scale to 1:25.

Click the scale displayed to the right of **Scale:** in the status bar and select **1 : 25**.

Tip: You can quickly switch track tracing on and off by pressing the F11 key.

To draw the wall cross-section

➡ Drawing file setting: 5 current

- 1 In the Tools palette, click  **Line**.
- 2 If it isn't active, select  **Polyline** in the Line Context toolbar.

3 *From point*

Disable  **Track line** and enable  **Delta point** (if it isn't active) in the dialog line, and set the first point anywhere in the workspace.

4 *To point*

Enter the following values one after another and press ENTER to confirm after each one:

 **Δx** = 0.115

 **Δy** = -0.3

 **Δx** = 0.25

 **Δy** = -0.3

 **Δx** = -0.365

 **Δy** = 0.6

- 5 Press ESC twice to quit the  **Line** tool.
-

To draw the slab cross-section

➡ Drawing file setting: 5 current

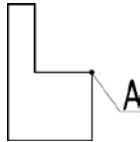
➡  **Delta point** (dialog line) is active.

- 1 In the Tools palette, click  **Rectangle**.

- 2 Check that  Based on diagonal line is active on the Rectangle Context toolbar.

- 3 *Start point*

Point to point A so that it is marked with a red X.



Important!

Do *not* move the mouse afterwards!

- 4 To specify the distance between the start point (= the point based on which the rectangle is drawn) and point A, enter **-0.200 m** for the  **X coordinate** and press ENTER to confirm.
- 5 Move the crosshairs to this start point so that it is snapped.

Important!

Any subsequent entries you make for the diagonally opposite point will only apply to the start point if you do *not* move the mouse in the meantime!

- 6 *Diagonal point*

To specify the width of the rectangle, enter **1.000 m** for the  **X coordinate**, press the TAB KEY to activate the  **Y coordinate**, enter **0.180 m** for the height of the rectangle and press ENTER to confirm.

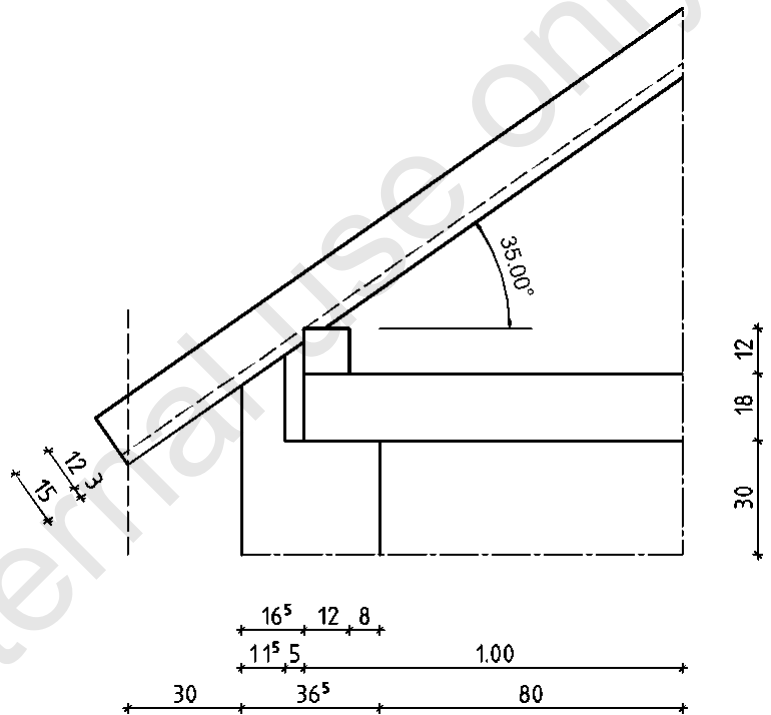
- 7 *Start point*

Press ESC to quit the  Rectangle tool.

Task 2: roof beam and rafter

Overview

Design the roof beam and the rafter as shown below.



Use the following tool(s) to do this:

Function

How to activate it



Rectangle

Tools palette (Basic family - Draft module - Create area)



Based on diagonal line

Rectangle Context toolbar



X coordinate

Dialog line



Y coordinate

Dialog line

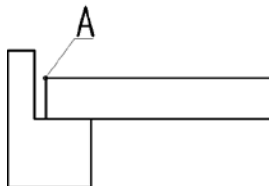
Function	How to activate it
 Line	Tools palette (Basic family - Draft module - Create area)
 Cursor snap	Dialog line
 Parallel Lines	Tools palette (Basic family - Draft module - Create area)
 Intersect 2 Entities	Tools palette (Basic family, Draft module, Change area) or shortcut menu
 Delete	Edit toolbar or shortcut menu
 Auto-Delete Segment	Tools palette (Basic family, Draft module, Change area) or shortcut menu

Solution

To draw a roof beam

➡ Drawing file setting: 5 current

- 1 In the Tools palette, click  Rectangle.
- 2 Check that  Based on diagonal line is active on the Rectangle Context toolbar.
- 3 *Start point*
To define the start point, click point A.



4 *Diagonal point*

To define the height and width of the roof beam, enter **0.120 m** for both the  **X coordinate** and the  **Y coordinate** and press ENTER to confirm.

5 Press ESC to quit the **Rectangle tool**.

To draw a rafter

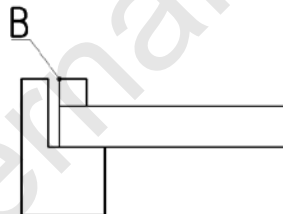
➡ Drawing file setting: 5 current

1 Double-click a line with the right mouse button.

This will automatically activate the  **Line tool** and set the properties to those of the line you clicked.

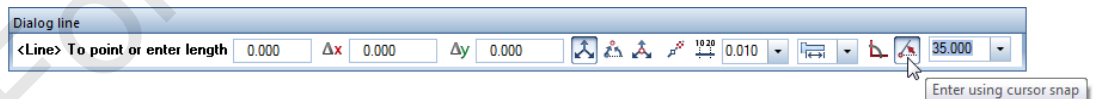
2 *From point*

Click the top left corner of the roof beam (= point B).

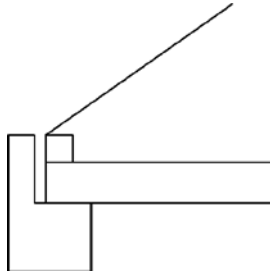


3 *To point*

Select the  Enter using cursor snap option in the dialog line and enter an angle of **35°**.



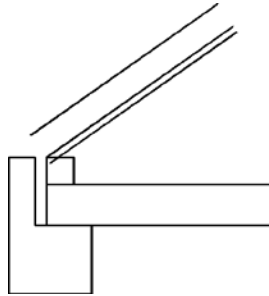
- 4 Point to the top right and draw a line of any length with this angle.



- 5 Press ESC twice to quit the  Line tool.
- 6 In the Tools palette, click  Parallel Lines.
- 7 *Click element*
Click the line representing the rafter.
- 8 *Through point or offset*
Enter 0.030 m for the offset in the dialog line and press ENTER to confirm.
- 9 *Which side? Number*
Click below the line representing the rafter and press ENTER to accept the value 1 proposed by the system.
- 10 *Through point or offset*
Draw another parallel line above the line representing the rafter.
In the dialog line, enter -0.150 m for the offset to the first parallel line and press ENTER to confirm.

11 Number

Press ENTER to accept the value 1 proposed by the system.



12 Press ESC to finish entering lines that are parallel to this line.

13 In the Tools palette, click  Parallel Lines again.

14 Click element

Click the left edge of the wall.

15 Through point or offset

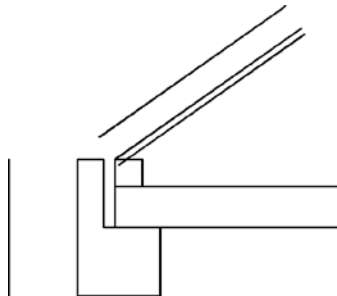
Enter 0.300 m for the offset in the dialog line and press ENTER to confirm.

16 Which side?

Click to the left of the wall

17 Number

Press ENTER to accept the value 1 proposed by the system and press ESC to quit the  Parallel Lines tool.



- 18 In the Tools palette, click  **Intersect 2 Entities** and then the bottom line of the rafter.

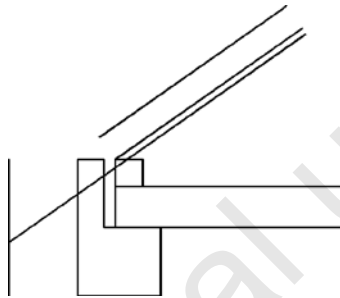
Or:

Click the bottom line of the rafter with the right mouse button and select  **Intersect 2 Entities** on the shortcut menu.

- 19 *Click 2nd element*

Click the most recently created line parallel to the edge of the wall.

The two lines intersect.



- 20 Press ESC to quit the  **Intersect 2 Entities** tool.

- 21 Click  **Delete** on the Edit toolbar and then the line parallel to the edge of the wall.

Or:

Click the line parallel to the edge of the wall with the right mouse button and select  **Delete** on the shortcut menu.

- 22 *Select element(s) you want to delete*

Delete the middle line of the rafter, too. Then press ESC to quit the  **Delete** tool.

- 23 Draw the end of the rafter.

Double-click the bottom line of the rafter with the right mouse button.

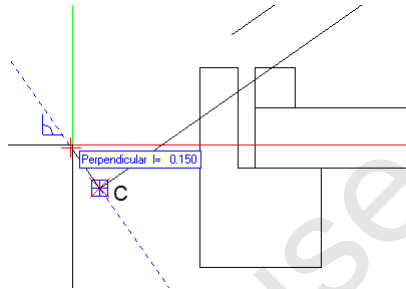
- 24 *From point*

Click the left end point of the line representing the rafter (= point C).

25 To point

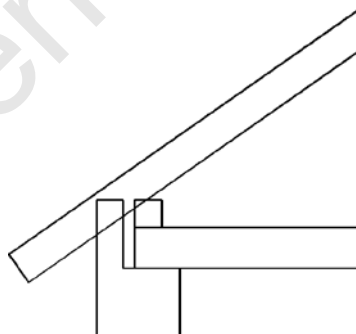
In the dialog line, deactivate  Enter using cursor snap and select  Track tracing.

26 Position the crosshairs so that a track line appears that shows the 0.15m-long perpendicular to the line representing the rafter and click.



27 Press ESC twice to quit the  Line tool.

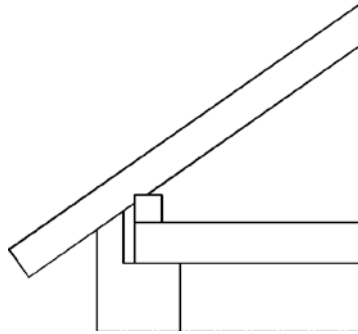
28 Use  Intersect 2 Entities to complete the rafter and to add two boundary lines (one on the right and another one at the bottom). Quit the tool when you have finished.



29 Delete the redundant lines using  Auto-Delete Segment (Tools palette or shortcut menu).

30 Modify the display parameters of the boundary lines on the right and at the bottom.

To do this, click the relevant line, select the **Properties** palette and set the **Pen thickness** to **0.18** and the **Line type** to **11**.



For internal use only

Solution

To apply hatching to the wall and slab

➡ Drawing file setting: 5 current

- 1 Double-click in the workspace with the left mouse button.

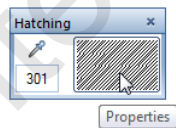
The **Open on a project-specific basis: drawing files from fileset/building structure** dialog box is displayed.

- 2 Make drawing file 6 current and set 5 to reference mode.
- 3 Close the dialog box.
- 4 Check that the scale is set to 1:25.

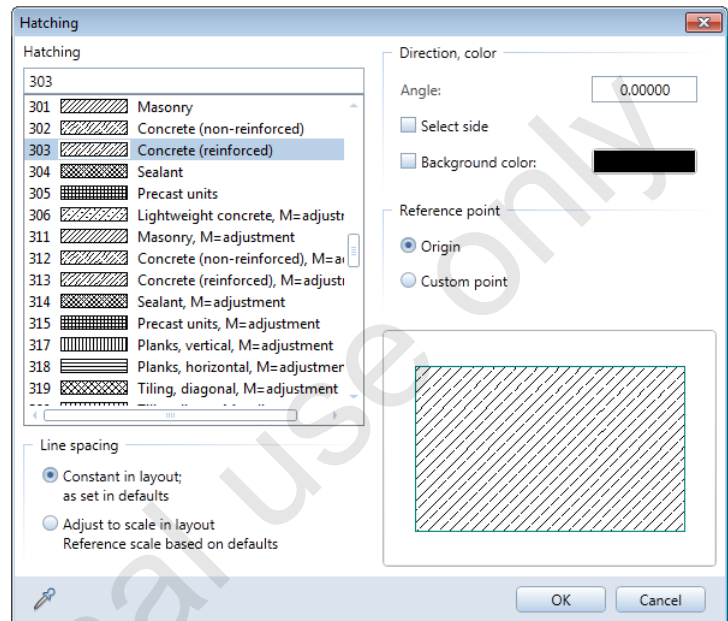
Note: The scale can be set separately for each drawing file. If you select a new drawing file (make it current) without opening another drawing file in edit or reference mode, the scale of the new drawing file is set to 1:100, by default. If, on the other hand, another drawing file is open in edit or reference mode, Allplan will automatically use the scale of this drawing file.

- 5 In the Tools palette, click  **Hatching**.

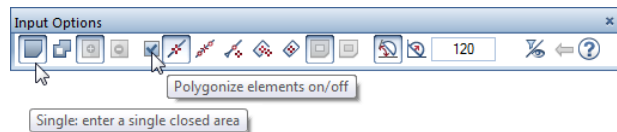
- 6 *Set properties, place polygon point 1, element or offset*
On the **Hatching** Context toolbar, click  **Properties**.



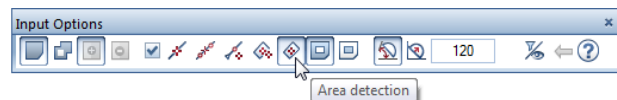
- 7 In the **Hatching** dialog box, choose hatching style 303 Concrete (reinforced) and click **OK** to confirm.



- 8 Check that the  **Single: enter a single closed area** option and the **Polygonize elements on/off** check box are selected in the **Input Options**.



- 9 Select  **Area detection** in the **Input Options**.



Tip: To change the hatching style, double-click the hatching you want to change with the left mouse button.

The **Hatching** dialog box opens and you can select a different hatching style.

Or:

Use the **Properties** palette to change the hatching style.

- 10 Click within the slab.

Hatching is automatically applied to the outline.

- 11 *Set properties, place polygon point 1, element or offset*

On the **Hatching** Context toolbar, click  **Properties** again, choose hatching style 331 **Masonry** and click **OK** to confirm.

- 12 Click within the wall and press ESC to quit the  **Hatching** tool.

To apply a pattern for thermal insulation

- Drawing file setting: 6 current; 5 open in reference mode.

- 1 In the **Tools** palette, click  **Pattern**.

- 2 *Set properties, place polygon point 1, element or offset*

On the **Pattern** Context toolbar, click  **Properties**.

- 3 In the **Pattern** dialog box, select the **Custom point** option in the **Reference point** area.

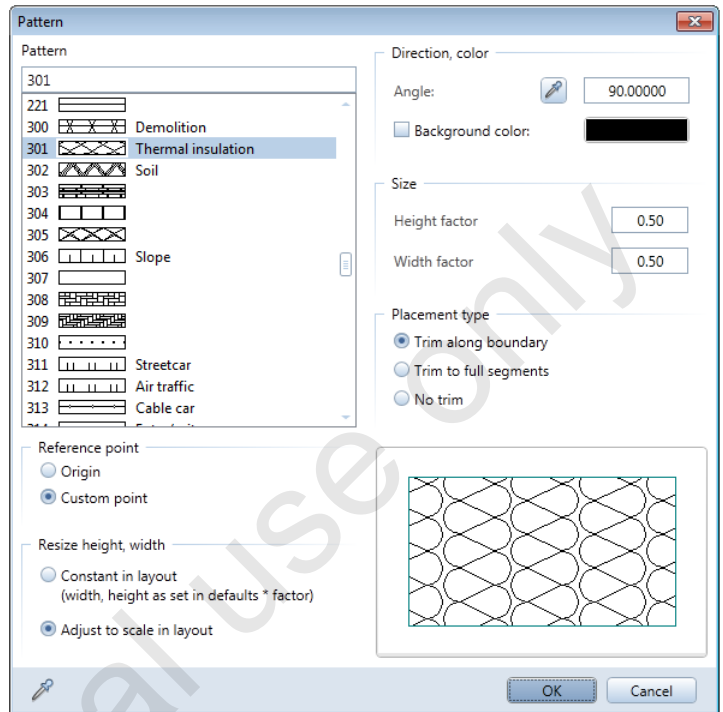
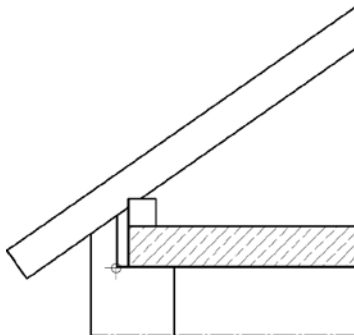
The **Pattern** dialog box closes.

- 4 *Click local reference point*

Click a corner where the pattern is to start (see illustration).

The **Pattern** dialog box is displayed again.

- 5 Choose pattern style 301 **Thermal insulation**, set the **Angle**, **Width factor** and **Height factor** as shown and click **OK** to confirm.



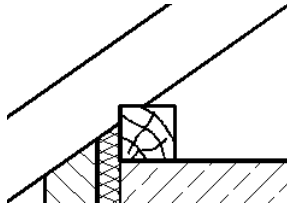
- 6  **Area detection** is still active. Click in the joint between wall and slab.

The pattern is applied.

- 7 Press ESC to quit the  **Pattern** tool.

To draw a vein in the roof beam

- Drawing file setting: 6 current; 5 open in reference mode.
- 1 In the Tools palette, click  Freehand Line.
- 2 *Place start of line or enter granularity of line in mm*
For the granularity of the line, enter 0.100 mm.
- 3 Draw a vein in the roof beam.



Click in the workspace to place the first point of the freehand line, keep the left mouse button pressed down and drag the mouse. When you have finished drawing the freehand line, release the mouse button again.

- 4 Press ESC to quit the  Freehand Line tool.
-

Task 4: dimensioning and labeling

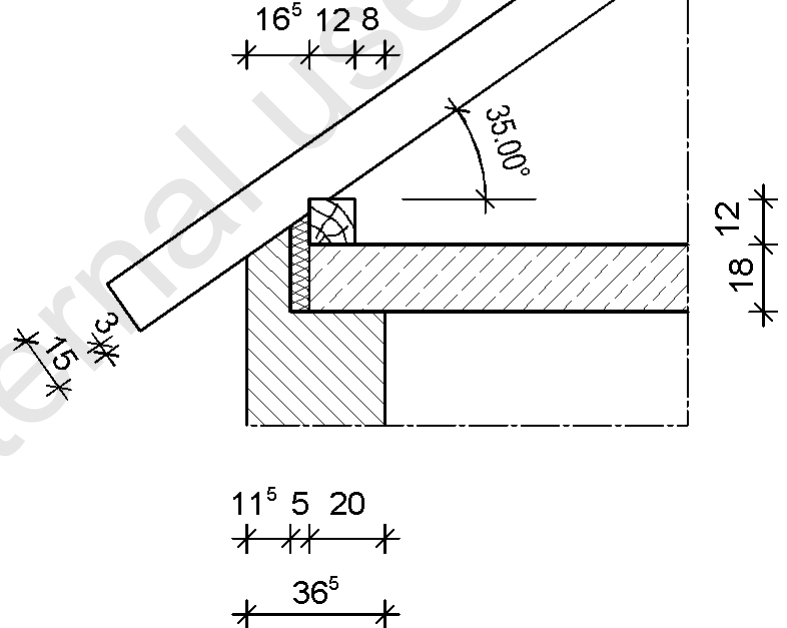
Overview

Dimension and label the detail.

Traufdetail

M 1:25

Dachneigung 35°



Use the following tool(s) to do this:

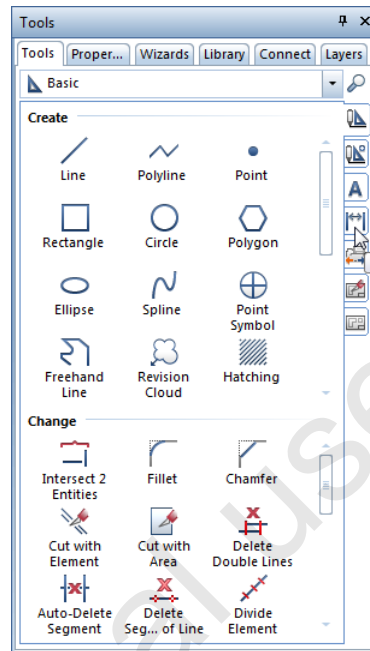
Function	How to activate it
 Dimension Line	Tools palette (Basic family - Dimension Lines module - Create area)
 Angle Dimensioning	Tools palette (Basic family - Dimension Lines module - Create area)
 Horizontal Text	Tools palette (Basic family - Text module - Create area)
 Modify Dim. Line	Tools palette (Basic family - Dimension Lines module - Change area)

Solution

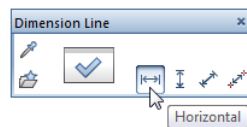
To create horizontal and vertical dimension lines

- Drawing file setting: 6 current; 5 open in reference mode.
- 1 Double-click in the workspace with the left mouse button.
The Open on a project-specific basis: drawing files from fileset/building structure dialog box is displayed.
- 2 Make drawing file 7 current and set drawing files 5 and 6 to reference mode.
- 3 Close the dialog box.
- 4 Check that the scale is set to 1:25.

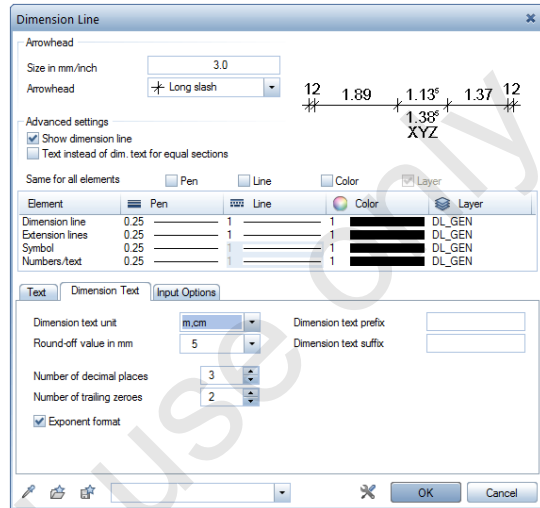
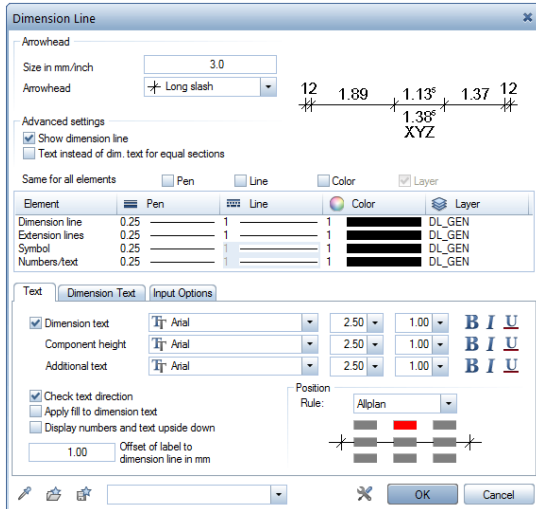
- 5 Use the tabs to switch to the Dimension Lines module.



- 6 In the Tools palette, click  Dimension Line. On the Dimension Line Context toolbar, select the  Horizontal option.



- 7 Click  **Properties**, set the parameters on the tabs as shown and click OK to confirm.



- 8 *Through point / which dimension line*
Click where the dimension line is to be located.
- 9 *Point to dimension*
Click the points you want to dimension one after the other. Then press ESC.
The dimension line is created.
- 10 *Through point / which dimension line*
Use the same approach to create the other horizontal dimension lines.
- 11 Select the  **Vertical** option on the **Dimension Line** Context toolbar and create vertical dimension lines. The procedure is the same for horizontal dimension lines.
- 12 Select the  **Angle** option on the **Dimension Line** Context toolbar.
- 13 *Through point / which dimension line*
Define the position of the inclined dimension line.

14 1st direction point or direction line or direction angle

Define the angle of the inclined dimension line:

- Enter the angle (125°) in the dialog line.

or:

- Click a direction line (the line representing the end of the rafter, for example).

15 Point to dimension

Click the points you want to dimension. Then press ESC.

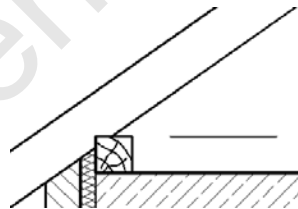
16 Place the second inclined dimension line. Finally, press ESC to quit the Dimension Line tool.

To create angle dimensioning

- Drawing file setting: drawing file 7 is current; drawing files 5 and 6 are open in reference mode.

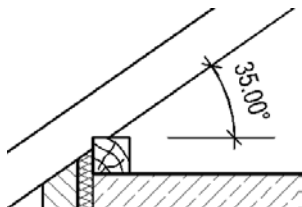
Tip: To select a tool, you can also double-click an existing element with the *right* mouse button.

- 1 Draw a horizontal  Line at the height of the top of the roof beam.



- 2 In the Tools palette, click  Angle Dimensioning.
- 3 Click line 1 or place first point for side/line 1
Click the bottom line representing the rafter.
- 4 Click line 2 or place first point for side/line 2
Click the line you drew in step 1.
- 5 Click point through which angle dim. line is to pass
Allplan temporarily displays a radius to help you place the

dimension line. Once you have found the appropriate position, click.

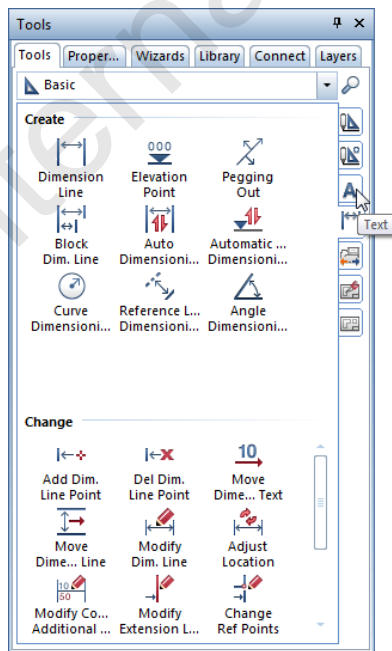


6 Press ESC to quit the  Angle Dimensioning tool.

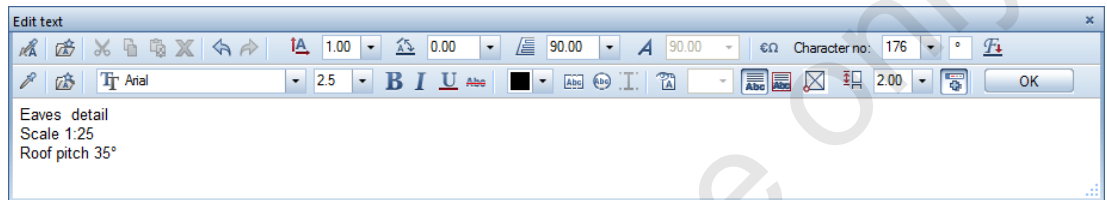
To label the detail

➤ Drawing file setting: drawing file 7 is current; drawing files 5 and 6 are open in reference mode.

1 Use the tabs to switch to the Text module.



- 2 In the Tools palette, click  Horizontal Text.
- 3 *Place start point for text*
Click where the first line of text is to start. Specify a point at top left so that the text is aligned with the design.
- 4 The Enter Text dialog box is displayed. Type in text, set the parameters as shown and click OK to confirm.



- 5 *Place start point for text*
Press ESC to quit the  Horizontal Text tool.

A note on modifying dimension lines

You can change the manner in which dimension lines are displayed at any time.

To modify dimension lines

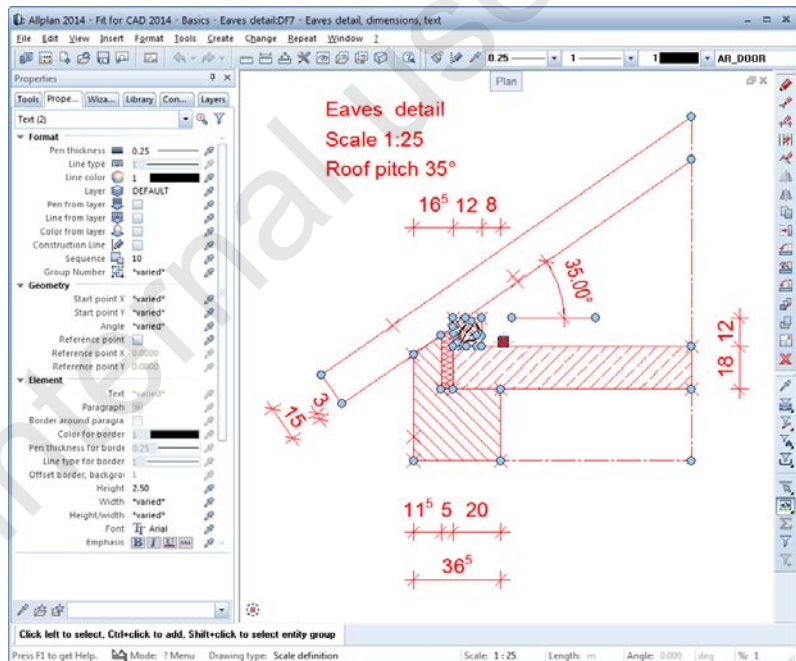
- 1 In the Tools palette, click  Modify Dim. Line (Basic family - Dimension Lines module - Change area).
- 2 Click  Properties, set the parameters as you need and click OK to confirm.
- 3 *Select the element(s) you want to modify*
Click the dimension line(s) you want to modify
or:
Enclose several dimension lines in a selection rectangle you open with the left mouse button.

A note on modifying elements using the properties palette

You can use the **Properties** palette to modify the properties of all the elements in the current drawing file and those open in edit mode. This palette is available for 2D elements and engineering elements; however, it cannot be used with architectural elements.

Start by selecting all the elements in the drawing files (using CTRL+A, for example). Then select the type of element you want to modify in the list box at the top in the **Properties** palette. Now you can change the properties of the element type selected

In the following illustration, drawing file **7** is current and drawing files **5** and **6** are *open* in edit mode. Text is selected as the element to be modified.



A note on the clipboard

To copy the entire drawing to another Windows program

- 1 Select the entire drawing by enclosing it in a selection rectangle with the left mouse button.

Tip: Detailed information on the clipboard is provided in the Allplan help; see the section entitled “Using the Clipboard”.

- 1 Click  **Copy** (Edit menu).

This copies the drawing to the Clipboard.

- 2 Start a Windows program like MS Word.
- 3 Paste the data from the Clipboard into the document.

In MS Word, for example:

In the **Clipboard** area on the **Start** tab, open the  **Paste** menu and click **Paste Special**. The **Paste Special** dialog box opens. Select the **Picture (Enhanced Metafile)** option and click **OK** to confirm.

Or:

Press ALT+CTRL+V, select the **Picture (Enhanced Metafile)** option in the **Paste Special** dialog box and click **OK** to confirm.

A note on copying the current screen section

To copy a section of the drawing to another Windows program

- 1 Display the section you want to copy to the Clipboard.

Use  **Zoom Section** (viewport toolbar) to enlarge this section so that it fills out the entire workspace.

Or:

Zoom in on the section you want to copy by enclosing it in a selection rectangle using the right mouse button.

- 2 Click  **Copy to Clipboard** (View menu).

The contents of the workspace are copied to the Clipboard.

- 3 Start a Windows program like MS Word.
- 4 Paste the data from the Clipboard into the document.

In MS Word, for example:

In the **Clipboard** area on the **Start** tab, click  **Paste**.

Or:

Press CTRL+V.

A note on the print preview

Before you start printing, you can check the result on-screen.

To open the print preview

- 1 On the **Default** toolbar, click  **Open on a Project-Specific Basis**.

Note: You can use the  **Print Preview Settings** to define various settings before you start printing. These settings apply every time you open the print preview.

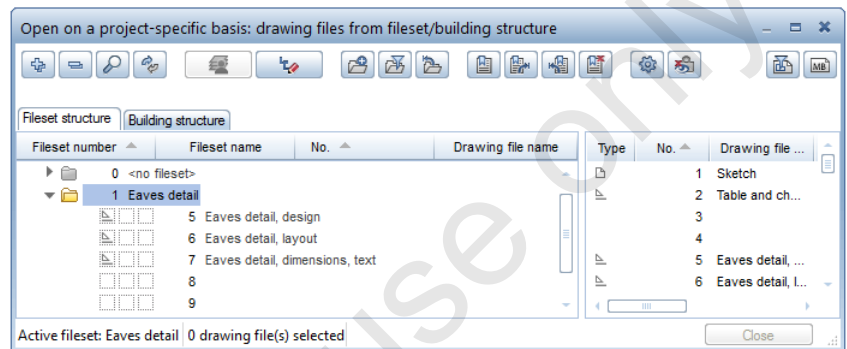
- 2 Select the  **Set Up Printer** tool on the toolbar of the print preview and specify the parameters.
- 3 Use  **Zoom All**,  **Zoom Section** and  **Pan** to display the section as you need.

Note: More information on the print preview is provided in the Allplan help.

- 4 When you have finished, select  **Export PDF Data** to output the document in PDF format or use  **Quick Print** to start printing.
 - 5 Click  **Close** to quit the print preview.
-

Task 5: creating a fileset

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Create fileset	Open on a project-specific basis: drawing files from fileset/building structure dialog box

Solution

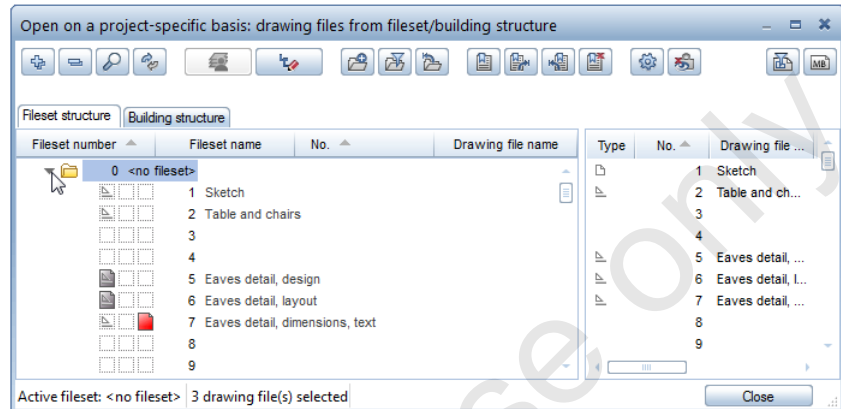
To create fileset 1 eaves detail

- Drawing file setting: drawing file 7 is current; drawing files 5 and 6 are open in reference mode.

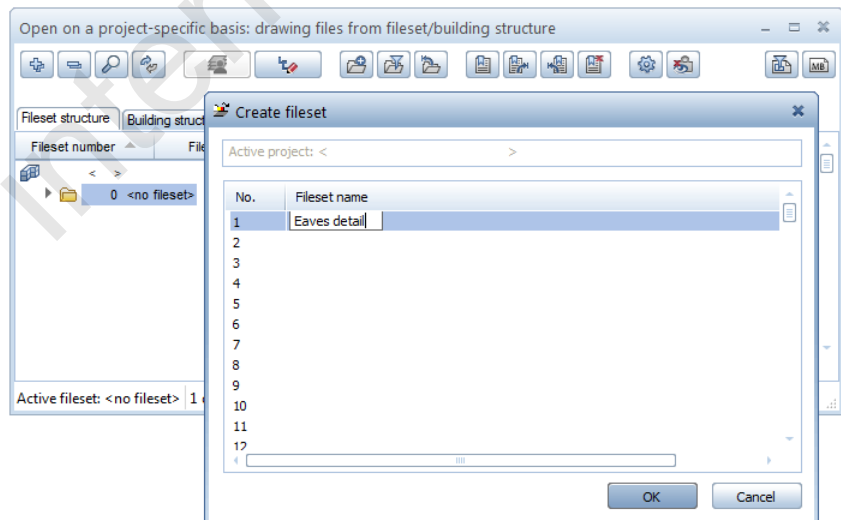
- 1 Double-click in the workspace with the left mouse button.

The **Open on a project-specific basis: drawing files from fileset/building structure** dialog box is displayed.

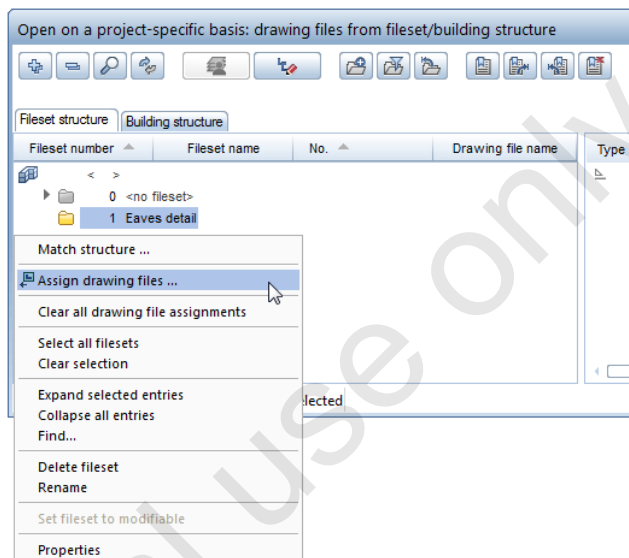
- 2 Close the drawing file tree for fileset <no fileset> by clicking the arrow to the left of the folder.



- 3 Click  Create fileset in the top part of the Open on a project-specific basis: drawing files from fileset/building structure dialog box.
- 4 The Create fileset dialog box opens. Name fileset 1 Eaves detail and click OK to confirm.

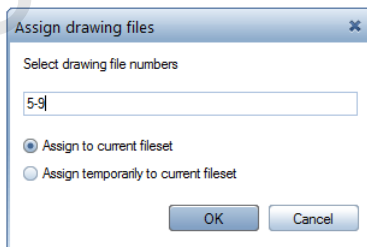


- 5 Open the shortcut menu of fileset 1 Eaves detail and select **Assign drawing files....**



The Assign drawing files dialog box opens.

- 6 Specify drawing files 5-9, check that the Assign to current fileset option is selected and click OK to confirm.



For internal use only

Exercise 5: title block

INDEX					
a					
b					
c					
d					
e					
f					
INDEX	DATE				

SITE PLAN	

CONSTRUCTION PROJECT	
New Residential House with Garage	

CLIENT	
Dr. Sam Sample 123 Sample Way Anytown Tel.: Fax: Email:	

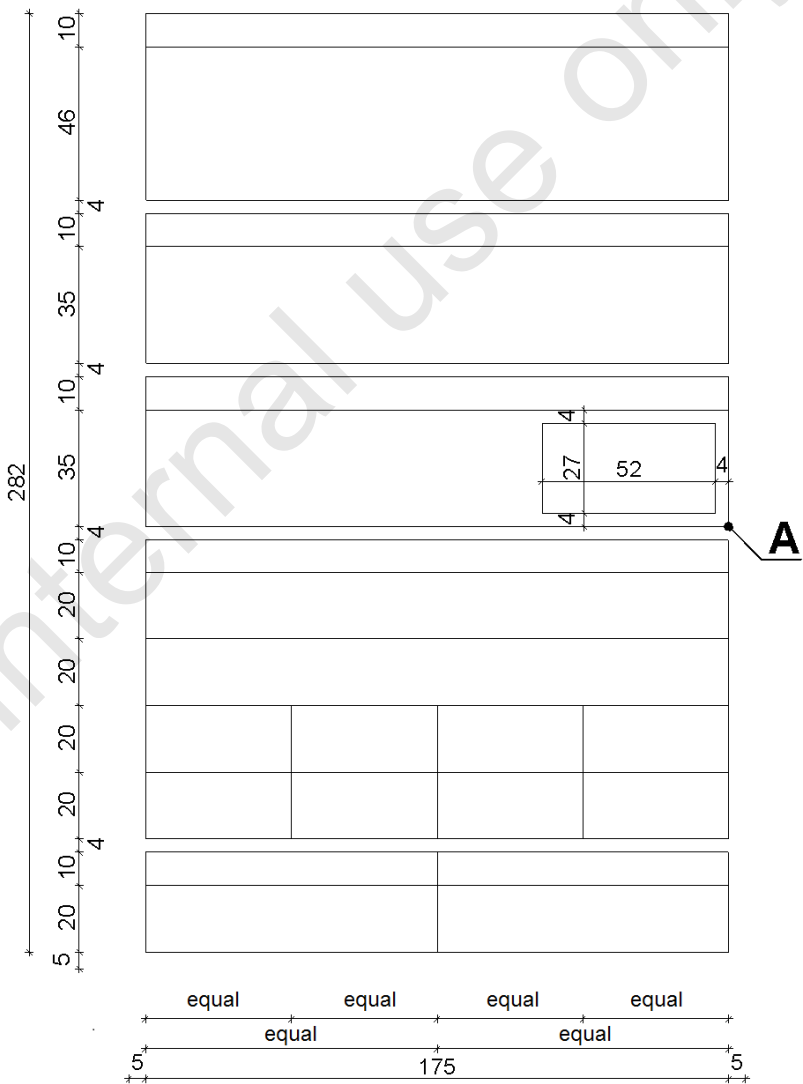
ARCHITECT	
Dipl.-Ing. Max Musterman Hofstraße 10 81229 Munich Tel.: +49 89 12345-0 Fax: +49 89 12345-200 Email: info@maxmusterman.com	

DETAILS			
STAGE			
Draft			
CONTENTS			
Floor plans			
SCALE	CREATED ON	CHANGED ON	DRAWN BY
1:100	01.01.2013	01.01.2014	M. Terfloth
PROJECT NO.	LEVOUT NO.	FORMAT	INDEX
11-01-E01	001	A0	a

CLIENT		ARCHITECT	

Task 1: designing the title block (bottom half)

Overview



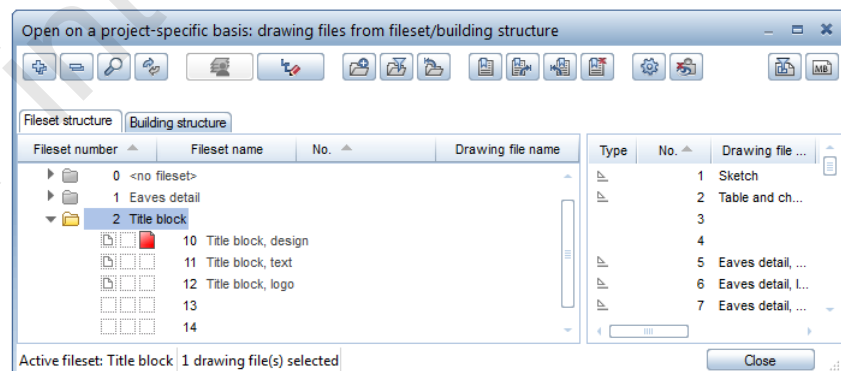
Use the following tool(s) to do this:

Function	How to activate it
 Create fileset	Open on a project-specific basis: drawing files from fileset/building structure dialog box
 Reference Scale	View menu
 Options	Default toolbar
 Rectangle	Tools palette (Basic family - Draft module - Create area)
 Based on diagonal line	Rectangle Context toolbar
 Delta point	Dialog line
 X coordinate	Dialog line
 Y coordinate	Dialog line
 Zoom All	Viewport toolbar
 Parallel Lines	Tools palette (Basic family - Draft module - Create area)
 Auto-Delete Segment	Tools palette (Basic family - Draft module - Change area)
 Midpoint	Shortcut menu when a tool is active and an element selected
 Division point	Shortcut menu when a tool is active and an element selected

Solution

To create fileset 2 title block

- The **Open on a project-specific basis: drawing files from fileset/building structure** dialog box is still open.
- 1 Close the drawing file tree for fileset 1 Eaves detail by clicking the arrow to the left of the folder.
- 2 Click  **Create fileset** in the top part of the **Open on a project-specific basis: drawing files from fileset/building structure** dialog box.
- 3 The **Create fileset** dialog box opens. Name fileset 2 Title block and click OK to confirm.
- 4 Open the shortcut menu of fileset 2 Title block and select **Assign drawing files....**
- 5 The **Assign drawing files** dialog box appears. Select drawing files 10–14 and click OK to confirm.
- 6 Name the drawing files as follows:
 Drawing file 10: Title block, design
 Drawing file 11: Title block, text
 Drawing file 12: Title block, logo
- 7 Open drawing file 10.



- 8 Close the dialog box.

To design the title block

➡ Drawing file setting: 10 current

- 1 Set the reference scale to 1:1.

Click the scale displayed to the right of **Scale:** in the status bar and select 1 : 1.

- 2 Select the **unit of length** by clicking the unit displayed to the right of **Length:** in the status bar and selecting **mm**.

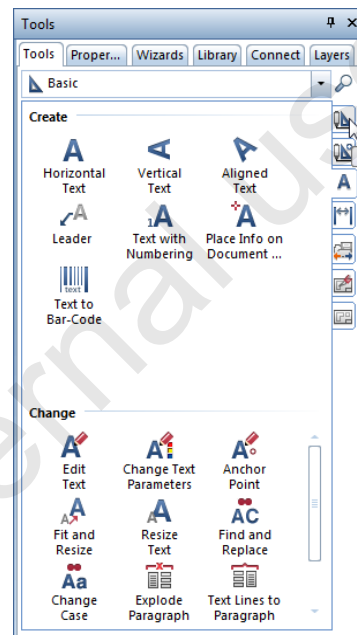
- 3 Use the tabs to switch to the **Draft** module.

Tip: You can also use

 **Reference Scale** on the **View** menu to set the scale. Select **1.00**.

Tip: You can also set the **Unit of length** in the

 **Options (Default toolbar)** on the **Desktop environment** page in the **General** area.



- 4 In the Tools palette, click  **Rectangle**.
- 5 Check that  **Based on diagonal line** is active on the **Rectangle** Context toolbar.
- 6 Set the **Pen thickness** to 0.35 mm and select **Line type 1** (**Format** toolbar).
- 7 *Start point*
Place the first point in the workspace.

8 *Diagonal point*

If it isn't active, activate the  **Delta point** option in the dialog line. To specify the width of the rectangle, enter 175 mm for the  **X coordinate**. To specify the height of the rectangle, enter 282 mm for the  **Y coordinate** and press ENTER to confirm.

9 Press ESC to quit the **Rectangle** tool.

10 Click **Zoom All** (viewport toolbar).

11 In the Tools palette, click **Parallel Lines**.

12 *Click the element*

Click the bottom line.

13 *Through point or offset*

Enter 20 mm for the offset in the dialog line and press ENTER to confirm.

14 *Which side? Number*

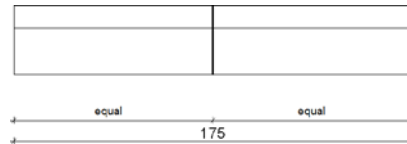
Click above the bottom line in the workspace and press ENTER to accept the value 1 proposed by the system.

15 *Through point or offset*

Create more parallel lines. Use the following parameters:

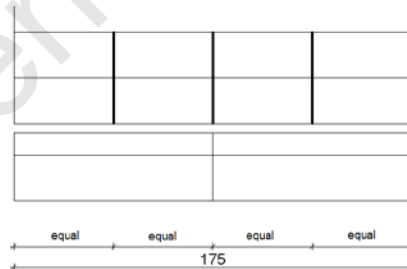
- Offset: 10 mm / Number: 1
- Offset: 4 mm / Number: 1
- Offset: 20 mm / Number: 4
- Offset: 10 mm / Number: 1
- Offset: 4 mm / Number: 1
- Offset: 35 mm / Number: 1
- Offset: 10 mm / Number: 1
- Offset: 4 mm / Number: 1
- Offset: 35 mm / Number: 1
- Offset: 10 mm / Number: 1
- Offset: 4 mm / Number: 1
- Offset: 46 mm / Number: 1

- 16 Press ESC to quit the  **Parallel Lines** tool.
- 17 Use  **Auto-Delete Segment** (Tools palette or shortcut menu) to delete redundant line segments (see illustration at the beginning of this task) and press ESC to quit the tool.
- 18 Subdivide the bottom area into two columns of equal width.



In the Tools palette, select  **Parallel Lines** again. Then click the left or right boundary line of the bottom area.

- 19 *Through point or offset*
Click the bottom line with the *right* mouse button and choose  **Midpoint** on the shortcut menu.
- 20 Press ESC to quit the  **Parallel Lines** tool.
- 21 Subdivide the bottom half of the area above into four columns of equal width.

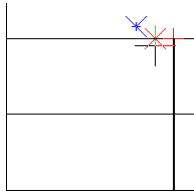


Double-click a line with the right mouse button.

- 22 *From point*
Click the bottom line with the right mouse button and choose  **Division point** on the shortcut menu.
- 23 *Click division point*
Enter 4 for the **Number of divisions** (*without* pressing ENTER to confirm!) and click the first division point.

24 To point

Press the SHIFT KEY, move the crosshairs upwards to align the line vertically and click as soon as Allplan snaps to both the element and the perpendicular:



25 Press ESC to finish entering this line.

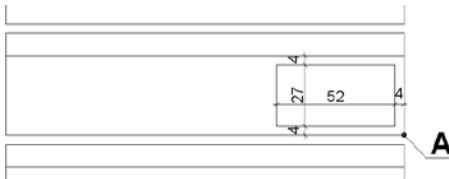
26 From point

Using the same approach, draw the two other lines and press ESC twice to quit the  Line tool.

To draw the border for the logo

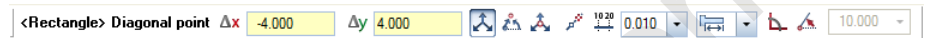
➡ Drawing file setting: 10 current

- 1 In the Tools palette, click  Rectangle.
- 2 Check that  Based on diagonal line is active on the Rectangle Context toolbar.
- 3 *Start point*
Move the crosshairs close to point A (= bottom right corner) so that it is snapped.

**Important!**

Do *not* move the mouse afterwards!

- 4 To specify the distance between the start point (= the point based on which the rectangle is drawn) and point A in the X direction, enter **-4.000** mm for the  **X coordinate** (*without* pressing ENTER to confirm!). Then press the TAB key. This takes you to the  **Y coordinate**.
- 5 To specify the offset of the start point in the Y direction, enter **4.000** mm for the  **Y coordinate** and press ENTER to confirm.



This defines the start point.

- 6 Move the crosshairs to this start point so that it is snapped.

Important!

Any subsequent entries you make for the diagonally opposite point will only apply to the first point if you do *not* move the mouse in the meantime!

- 7 *Diagonal point*

To specify the distance between the diagonal point and the first point(!) in the X direction, enter **-52.000** mm for the  **X coordinate** (*without* pressing ENTER to confirm!). Then press the TAB key. This takes you to the  **Y coordinate**.

- 8 To specify the distance between the diagonal point and the first point(!) in the Y direction, enter **27.000** mm for the Y coordinate and press ENTER to confirm.
- 9 Press ESC to quit the  **Rectangle** tool.

Overview

[illegible]

Use the following tool(s) to do this:

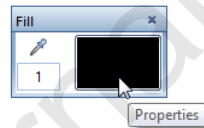
Function	How to activate it
 Fill	Tools palette (Basic family - Draft module - Create area)

Solution

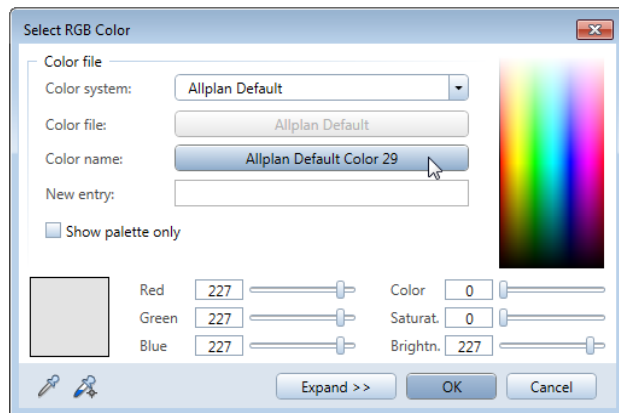
To create fills for column headers

➡ Drawing file setting: 10 current

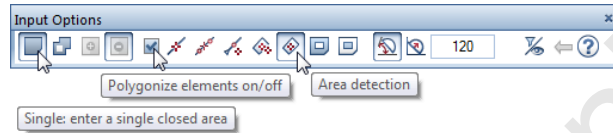
- 1 In the Tools palette, click  Fill.
- 2 Set properties, place polygon point 1, element or offset
On the Fill Context toolbar, click Properties.



- 3 The Select RGB Color dialog box is displayed. Select Allplan Default Color 29 for the Color name and click OK to confirm.



- 4 Check the **Input Options** to see if the  **Single: enter a single closed area** option and the **Polygonize elements on/off** check box are selected and make sure that  **Area detection** is *switched on*.



- 5 *Set properties, place polygon point 1, element or offset*
Click the header rows of the individual areas (see illustration at the beginning of this task).
- 6 Press ESC to quit the  **Fill tool**.

Task 3: labeling the title block (bottom half)

Overview

A

CONSTRUCTION PROJECT			
New Residential House with Garage			
CLIENT			
Dr. Sam Sample 123 Sample Way Anytown Tel.: Fax: Email:			
ARCHITECT			
Dipl. Ing. Max Musterman Konrad-Zuse-Platz 1 81829 Munich Tel.: +49 (89) 92793 - 0 Fax: +49 (89) 92793 - 5200 Email: info@nemetschek.com			
DETAILS			
STAGE			
Draft			
CONTENTS			
Floor plans			
SCALE	CREATED ON	CHANGED ON	DRAWN BY
1:100	01.01.2014	01.01.2014	M. Terfloth
PROJECT NO.	LAYOUT NO.	FORMAT	INDEX
11-01-E01	001	A0	a
CLIENT		ARCHITECT	

Use the following tool(s) to do this:

Function	How to activate it
 Horizontal Text	Tools palette (Basic family - Text module - Create area)
 Delta point	Dialog line
 X coordinate	Dialog line
 Y coordinate	Dialog line
 Copy	Edit toolbar or shortcut menu
 Delete	Edit toolbar or shortcut menu

Solution

To enter horizontal text

➡ Drawing file setting: 10 current

- 1 Double-click in the workspace with the left mouse button.

The **Open on a project-specific basis: drawing files from fileset/building structure** dialog box is displayed.

- 2 Make drawing file 11 current and set 10 to reference mode.
- 3 Close the dialog box.

Allplan has automatically set the reference scale for drawing file11 to 1:1. Check this.

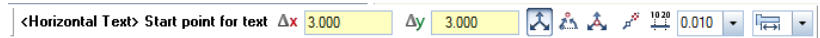
- 4 Use the tabs to switch to the Text module.
- 5 In the Tools palette, click  Horizontal Text.

- 6 *Place start point for text*

If it isn't active, select  Delta point in the dialog line and move the crosshairs close to point A (= bottom left corner of the column header) so that this point is snapped.

- 7 To specify the distance between the start point and point A in the X direction, enter 3.000 mm for the  X coordinate (*without pressing ENTER to confirm!*). Then press the TAB key. This takes you to the  Y coordinate.

- 8 To specify the offset of the start point in the Y direction, enter 3.000 mm for the Δy Y coordinate and press ENTER to confirm.

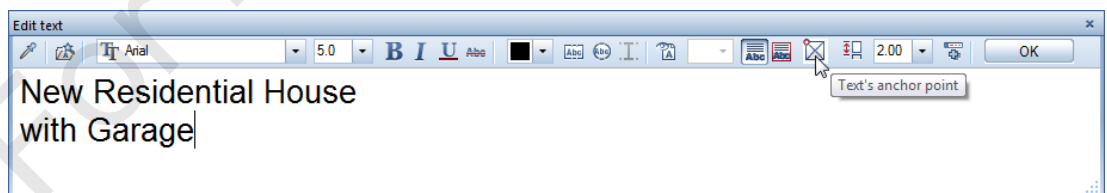


This defines the starting point of the text. The Enter Text dialog box is displayed.

- 9 Set the text parameters as shown, type in CONSTRUCTION PROJECT and click OK to confirm.



- 10 *Place start point for text*
Point to point A so that it is snapped again.
- 11 To specify the offset from the start point of the text to point A, enter 3.000 mm for the Δx X coordinate again. But this time, enter -3.000 mm for the Δy Y coordinate and press ENTER to confirm.
- 12 Set the text height to 5.0 mm and the text's anchor point to  top left.
- 13 Type in New Residential House with Garage and click OK to confirm.



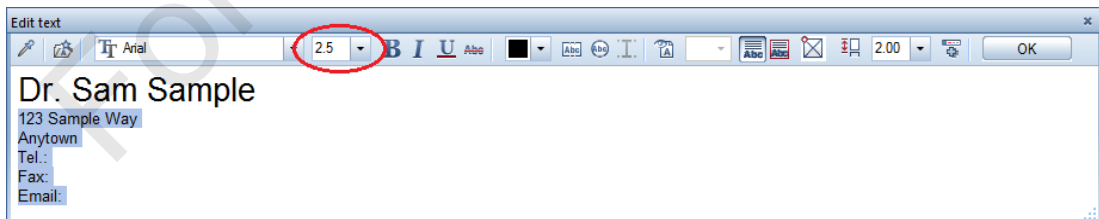
- 14 *Place start point for text*
Press ESC to quit the  Horizontal Text tool.

To copy and modify text

- Drawing file setting: 11 current; 10 open in reference mode.
- 1 Click  **Copy** on the Edit toolbar.
Or:
Click in the workspace with the right mouse button and choose  **Copy** on the shortcut menu.
 - 2 *Select element(s) you want to copy*
Select the two texts by enclosing them in a selection rectangle.
 - 3 *To point or enter number of copies*
Copy the two texts from point A to the bottom left corner of each column header (the rows to which you applied fills in the previous task).
 - 4 *Place point (to point) or enter the number of copies*
Press ESC to quit the  **Copy** tool.
 - 5 Modify the text in the filled column headers as shown in the overview at the beginning of this task (CLIENT, ARCHITECT, DETAILS, CLIENT, ARCHITECT).

To do this, double-click a text, replace it with the new text and click **OK** to confirm.
 - 6 Modify the "CLIENT" and "ARCHITECT" texts in the fields at the top (= address fields) as shown in the overview at the beginning of this task.

Leave the height of the first line of text set to 5.0 mm, but change the height for all the other lines to 2.5 mm.



- 7 Modify the "DETAILS" text in the same way.

Replace the two-line "New residential house with garage" text you copied with the word "STAGE" and change the text height to 2.5 mm.

- 8 Use the  Horizontal Text (Tools palette) to add the text "Draft" to the "STAGE" field

Specify an offset of 3.000 mm from the bottom left corner of the field in both the X direction and the Y direction, set the text height back to 5.0 mm and the text's anchor point to  bottom left.

- 9  Copy (Edit toolbar or shortcut menu) "STAGE" and "Draft" to the other text fields of the "DETAILS" category.

- 10 Modify these texts as shown in the overview at the beginning of this task.

- 11  Delete (Edit toolbar or shortcut menu) the texts from the "CLIENT" and "ARCHITECT" fields at the bottom as these fields are reserved for the signatures
-

A note on text in general

Text height and text width

The Text Height and Text Width parameters are absolute values. "Absolute" means that the text size always stays the same, regardless of the reference scale.

Text is entered line by line and each line is to be confirmed with ENTER. When you press ESC, the entries or changes you have made are deleted.

Line Feed

The line feed is calculated based on the following formula: **line feed** x **text height**. Each time you press ENTER, the program goes to the next line.

Paragraph text

When  Paragraph text is entered in the Enter Text dialog box, the lines you enter will form a paragraph. The individual lines of text in a paragraph retain their original spacing regardless of the reference scale you set. The lines in a paragraph can also be addressed as a single entity for easy manipulation.

You can use  Delete Text Line to delete individual lines in a paragraph. Use  Explode Paragraph to resolve the paragraph into lines.

You can find both tools in the Tools palette (Basic family - Text module - Change area) or on the shortcut menu.

A note on modifying how text is displayed

You can change the manner in which text is displayed at any time.

To change text settings

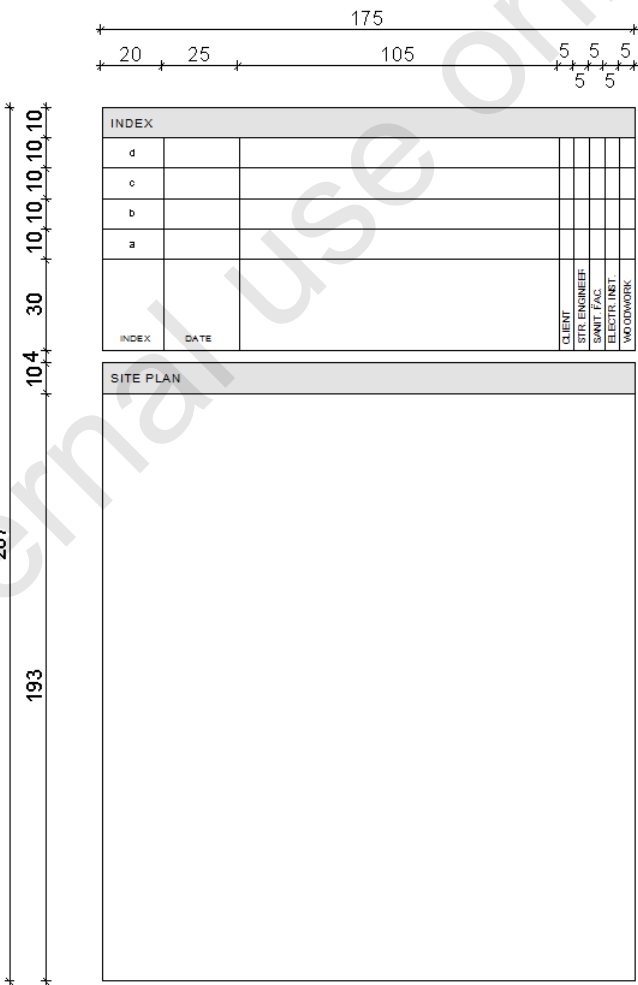
- 1 Click  Change Text Settings (Tools palette or shortcut menu).



- 2 *Select element(s) you want to modify*
Click in the Text height or Text width box, change the value displayed and press ENTER to confirm.
 - 3 Click the text you want to modify.
The text immediately adapts to the new parameters
 - 4 *Select element(s) you want to modify*
Press ESC to quit the  Change Text Settings tool.
-

Task 4: designing and labeling the title block (top half)

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Rectangle	Tools palette (Basic family - Draft module - Create area)
 Based on diagonal line	Rectangle Context toolbar
 Delta point	Dialog line
 X coordinate	Dialog line
 Y coordinate	Dialog line
 Parallel Lines	Tools palette (Basic family - Draft module - Create area)
 Auto-Delete Segment	Tools palette (Basic family - Draft module - Change area)
 Fill	Tools palette (Basic family - Draft module - Create area)
 Horizontal Text	Tools palette (Basic family - Text module - Create area)
 Vertical Text	Tools palette (Basic family - Text module - Create area)
 Copy	Edit toolbar or shortcut menu

Solution

You should already be familiar with all the tools you require to accomplish this task as they were covered in detail in the previous exercises. Now try to design the top half of the title block yourself. The gap between the top half and the bottom half of the title block is 10 mm. Use the following description as a guideline.

To design and label the top half of the title block

- Drawing file setting: 11 current; 10 open in reference mode.
- 1 Make drawing file 10 current; drawing file 11 is open in edit mode.
- 2 Use  Rectangle (Tools palette) to draw the outlines of the two areas
- 3 Subdivide the areas into lines and columns using  Parallel Lines (Tools palette).
- 4 Delete redundant line segments using  Auto-Delete Segment (Tools palette or shortcut menu).
- 5 Use  Fill (Tools palette) to apply fills to the column headers.
- 6 Make drawing file 11 current; drawing file 10 is open in edit mode.
- 7 Use  Horizontal Text (Tools palette) and  Vertical Text (Tools palette) to label the column headers and the individual fields.

Text, once created, can simply be copied and modified. Use  Copy (Edit toolbar or shortcut menu) and edit the text afterwards.

Task 5: saving the title block as a text symbol

Overview

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SITE PLAN	

CONSTRUCTION PROJECT	
New Residential House with Garage	

CLIENT	
Dr. Sam Sample 123456789 123456789 123456789 123456789 123456789	

ARCHITECT	
Dipl.-Ing. Max Musterman 123456789 123456789 123456789 123456789 123456789	

DETAILS	
Stage Draft	
CONTENTS	
Floor plans	
SCALE	CREATED ON
1:100	01.01.2013
PROJECTED	CHANGED ON
11-01-E-01	01.01.2013
LAYOUT	001
FOUR	11-01-E-01
INDEX	11-01-E-01
CLIENT	ARCHITECT

A

Use the following tool(s) to do this:

Function	How to activate it
 New symbol	Library palette

Solution

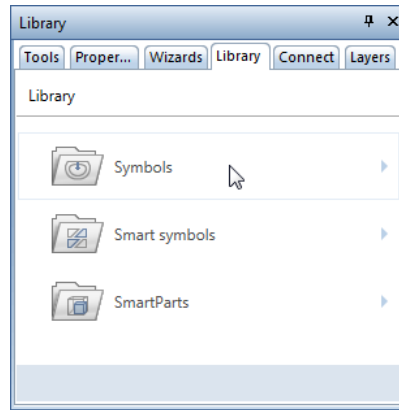
To save the title block as a symbol

- Drawing file setting: 11 current; 10 open in edit mode.
- 1 Draw two angles in construction line format: one at the bottom left corner and the other one at the bottom right corner of the title block (line length: 5 mm; horizontal/vertical offset to title block: 5 mm each). These angles serve as drop-in points when you retrieve the symbol later.
To do this, click  **Construction Line on/off** on the **Format** toolbar, select the  **Line** tool and draw the two angles. Then switch  **Construction Line** off again.

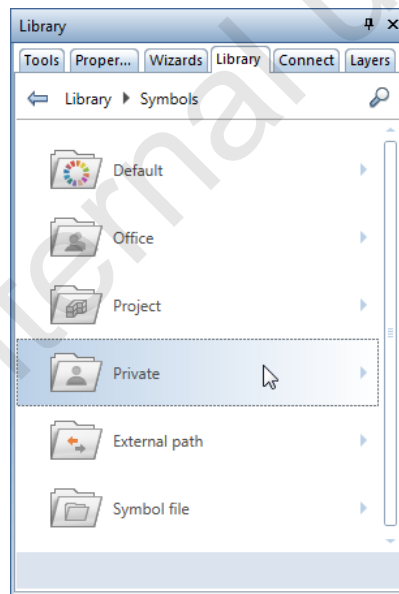
11-01-E01	001	A0	a
CLIENT		ARCHITECT	

- 2 Select the **Library** palette.

3 Open the **Symbols** folder.



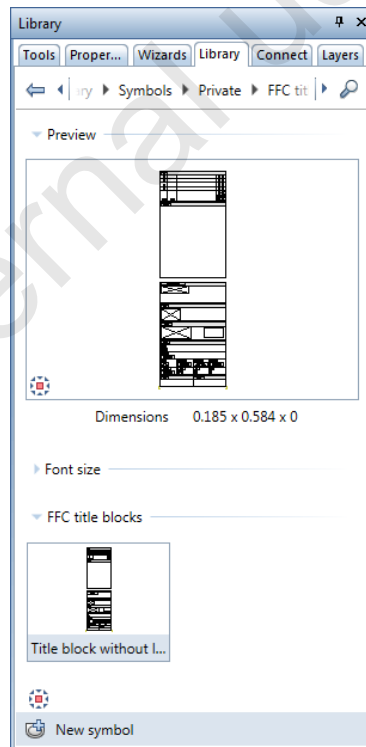
4 Open the **Private** folder.



- 5 Select the  New group tool at the bottom of the palette.
- 6 Enter FFC title blocks for the name of the symbol group and press ENTER to confirm.
- 7 Open the FFC title blocks symbol group.

- 8 You can find the  **New symbol** tool at the bottom of the **Library** palette. Click it.
- 9 Enter **Title block without logo** for the name of the symbol and press ENTER to confirm.
- 10 *Select element(s) you want to save as a symbol*
Select the entire title block by enclosing it in a selection rectangle.
- 11 *Set the symbol's base point*
Click the corner of the bottom right angle (= point A).
- 12 In the next dialog box, define the symbol as a **Dumb symbol** without **Snoop** functionality and click **OK** to confirm.

This saves the **Title block without logo** symbol in the **FFC title blocks** symbol group.



For internal use only

Unit 2

For internal use only

For internal use only

Exercise 1: project organization

Introduction to Allplan's data structure

How to structure and manage data

You can use projects and documents to manage data in Allplan. The options that are actually available to you depend on the license you have purchased.

The table below provides an overview of the options provided by the two variants.

Open on a project-specific basis	Open/save NDW file
----------------------------------	--------------------

Working with Allplan's project structure as usual	Opening Allplan documents across projects
---	---

	Opening Allplan documents saved to CD or memory stick
--	---

	Designing across projects
--	---------------------------

	Sending drawing files by email
--	--------------------------------

In this guide, you will use the *project-oriented* approach.

Overview of projects, filesets, drawing files and layouts

A project is an organizational unit. When you work in Allplan in a project-based manner, a new *project* is created for each construction project. Technically, a project is a folder; metaphorically speaking, it is a drawer containing the drawing files. An unnamed **private project** for practice and testing is available to each user.

Filesets are an important organizational unit within projects. A fileset can consist of up to 128 drawing files. You can assign any

drawing file to a fileset. Up to 1,000 filesets can be created per project. A fileset can be placed in a layout to be printed with a single command.

The actual design and data creation process happens in *drawing files*. These are the equivalent of the transparencies used in conventional building design. Drawing files can be used to give projects a structure. In IT terms, a drawing file is a conventional file stored on your hard disk. You can display and edit up to 80 drawing files at once - in other words, you can have several files open simultaneously. A project can contain up to 9999 drawing files. When working without layers, the individual building elements (such as walls, stairs, labeling, etc.) are drawn on different drawing files and superimposed like transparencies.

Layers provide an additional means of applying a structure - within documents. They apply to all the drawing files in a project. Design entities and components can automatically be assigned to the correct layer. Layers can be set so that they are not visible to the user.

A *layout* is the unit you send to the printer or plotter. As opposed to design using a conventional drafting board, the scope of the layout does not have to be defined in advance. Generally, you leave the layout (which involves arranging and laying out drawing files and/or filesets) until you're finished with the design. Each project can contain up to 3,000 layouts.

Allplan provides two options for structuring drawing files in a project:

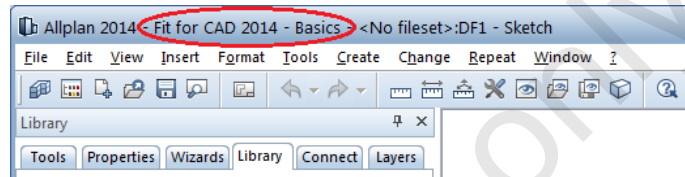
- the  fileset structure and
- the  building structure.

You can select either option in the **Open on a project-specific basis: drawing files from fileset/building structure** dialog box. Click

 **Open on a Project-Specific Basis** (File menu or Default toolbar).

Task 1: creating a project

Overview



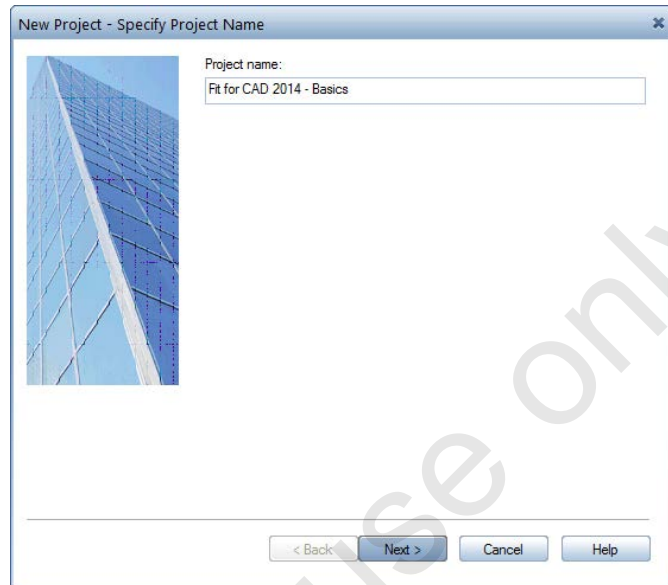
Use the following tool(s) to do this:

Function	How to activate it
 New Project, Open Project	File menu
 New Project	New Project, Open Project dialog box

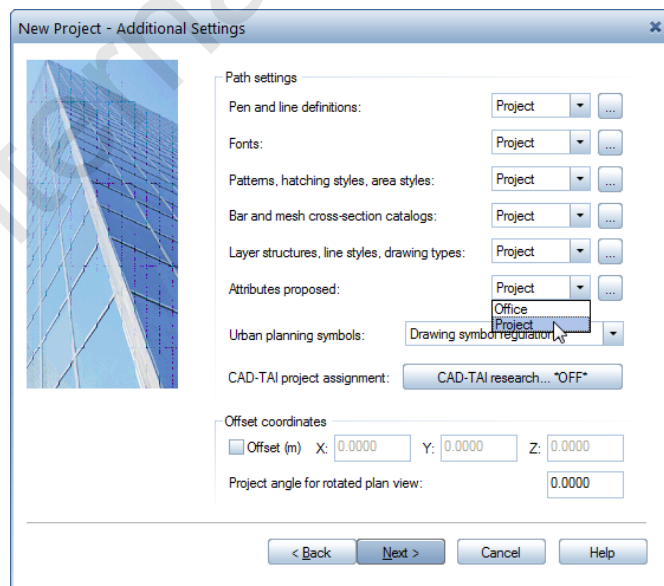
Solution

To create a new project

- 1 On the File menu, click  New Project, Open Project....
- 2 In the New Project, Open Project dialog box, click  New Project.
- 3 Enter Fit for CAD 2014 - Basics for the name of the project and click Next.

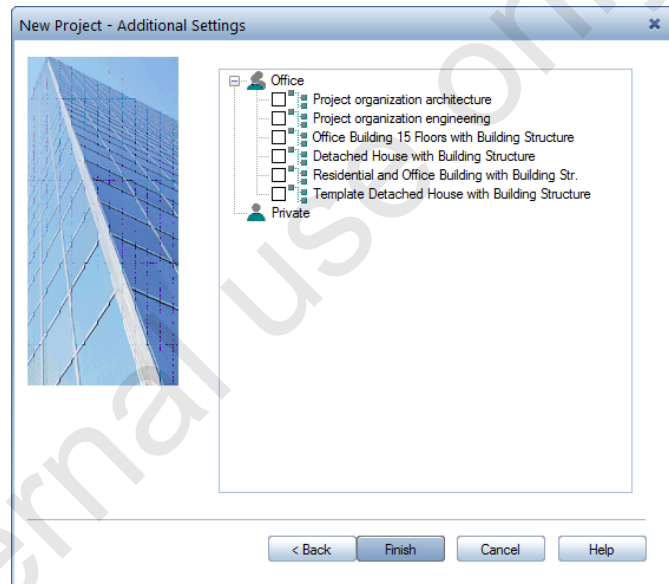


- 4 In the next dialog box, set all the Path settings to Project and click Next.



- 5 Click **Finish** to confirm the next dialog box without selecting a project structure.

Note: If Allplan is installed *with* Workgroup Manager, you can find the **Next** button instead of the **Finish** button in this dialog box. Clicking it opens another dialog box, where you can specify the owner and authorized users of the project. Finally, click **Finish** to create the project.



Allplan automatically opens the new Fit for CAD 2014 - Basics project and makes drawing file 1 current.

A note on path settings

The path settings define which pen, line, hatching definitions, fonts and material catalogs are used.

- **Office:**
The office standard enables you to use the same settings for different projects. The office standard is available to all users on a network, and specific rights are required to make changes in the office standard.
- **Project:**
The definitions are copied from the office standard to the relevant project. The settings only apply to the relevant project and may differ from the office standard. They can be changed by every user working on this project.

Task 2: setting defaults

Introduction

To give the project a uniform appearance, you will now set the unit of length and angle, check a number of important settings and specify how elements are displayed on screen.

Overview

Use the following tool(s) to do this:

Function	How to activate it
 Options	Tools menu or Default toolbar
 Show/Hide	View menu or Default toolbar
 System Angle	Tools menu

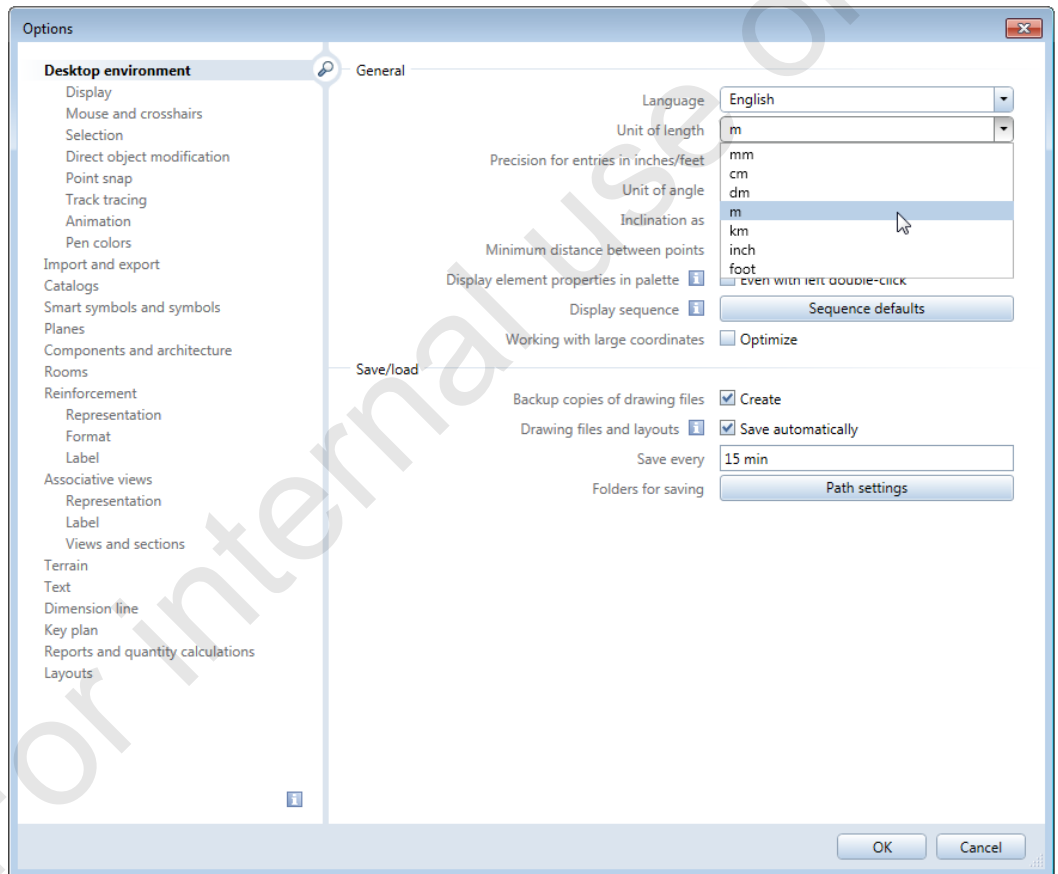
Solution

To set defaults

- 1 Set the unit of length to "m" and the unit of angle to "deg".

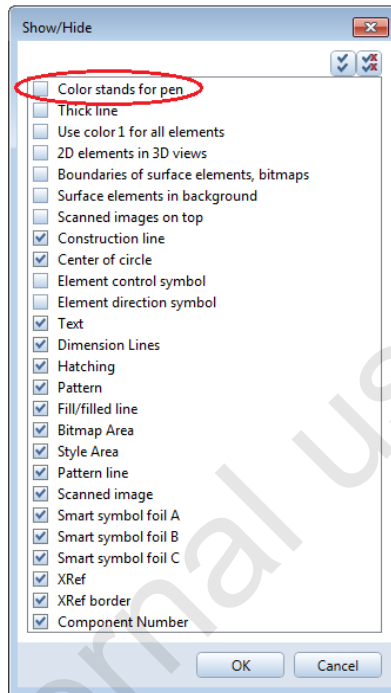
Click  Options on the Default toolbar and select the Desktop environment page in the Options dialog box.

- 2 Set the Unit of length to m.



- 3 Set the Unit of angle to deg.
- 4 Click OK to confirm the settings.
- 5 Check that the Color stands for pen option is not selected.

On the Default toolbar, click  Show/Hide and, if necessary, switch off the Color stands for pen option in the Show/Hide dialog box.



6 Click OK to confirm the setting.

7 Check the system angle.

On the Tools menu, click  System Angle.

8 *Start point, direction line or system angle*

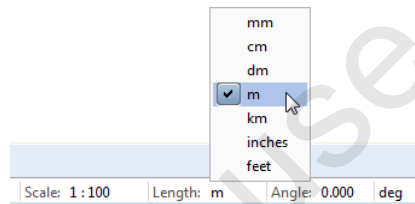
Check that the value is set to 0.000 and press ENTER to confirm.

A note on making settings using the status bar

You can also use the status bar to specify the most important settings. Click the current option and select a setting in the list box that appears.

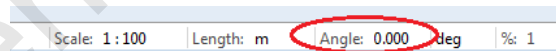
To define settings using the status bar

- Click the unit of length displayed to the right of **Length:** and select **m** in the list box.



Or:

- Check that the system angle is set to **0.00 °** and the unit of angle to **deg**.



If they aren't, click the value displayed and select the correct setting in the list box.

Task 3: creating a building structure

Introduction

You already familiarized yourself with drawing files and filesets in the first exercises. You drew on drawing files and then assigned some of these files to a fileset

As an alternative to this fileset structure, Allplan also provides the building structure, which you can use to structure the documents (drawing files) in a project. You will use the latter to structure the training project, which acts as a central theme over the course of this seminar

What is the building structure?

The building structure provides a customizable, flexible way of structuring, organizing and using documents (=drawing files) in Allplan (think of the Building Information Model). You can use the building structure to logically structure a building using several hierarchical levels.

Analyses, such as sections, views and reports, can be derived directly from the building structure.

Allplan comes with several predefined building structures.

The plane model is directly associated with the building structure.

The building structure consists of a number of hierarchically structured levels; drawing files are assigned to the individual levels. You can then assign a pair of default reference planes to each structural level. All the drawing files belonging to a structural level can use the default planes assigned to this structural level. Consequently, the associated drawing files update automatically to reflect any changes you make to the height settings of a structural level.

What is the plane model?

Default reference planes and roofscapes are managed in a plane model. A plane model contains pairs of default reference planes. Each pair of planes has a name. The same is true for the lower and upper default reference plane.

The pairs of reference planes in a plane model are equivalent to the stories of a building and can be assigned to the structural levels of the building structure or to individual drawing files. A project can include several discrete plane models.

You can change the height of the default reference planes in the plane model. Any changes made to the height are immediately reflected in the drawing files to which you have assigned a default reference plane from the building model.

A plane model must not include pairs of planes with overlapping height settings with the exception of the pair of planes that defines the minimum and maximum height of the building.

You can assign the height of a pair of planes to a drawing file or structural level of the building structure. However, you can also use the lower and upper default reference plane from different pairs of planes. This way, you can create components across several floors (e.g. chimneys).

You can also assign default reference planes that are not associated with the plane model to drawing files. You can even select a custom height for the lower default reference plane and adopt the upper default reference plane from a plane model.

Plane models can also be used without a building structure.

In the  **Options, Planes** page, you can configure the program to display planes in elevation and isometric views.

In the  **Options - Desktop environment - Animation** page or in the  **Animation Options (How)**, you can configure planes to be displayed in animation windows.

Plane models are saved as XML files in the project-specific \prj\bim folder.

Advantages of the building structure

Working with the building structure has significant advantages:

- The building structure includes an integrated plane model you can use to manage default planes and roof planes for an entire project. These planes can be assigned directly to drawing files.
- Data can be copied in an easy and comfortable manner (for example, create new stories, design alternatives etc.).
- Views, sections and reports can be generated quickly and easily.
- Source drawing files and destination drawing files are saved; you do not need to give any thought to which drawing files should be activated.
- Simplified data exchange via IFC.
- Structuring data based on the topological structure of a building reflects the approach of designers.

Applying the building structure to the training project

You will use the building structure for the training project in this seminar. The advantage of working with the building structure is that views, sections and building lists can be generated quickly and easily.

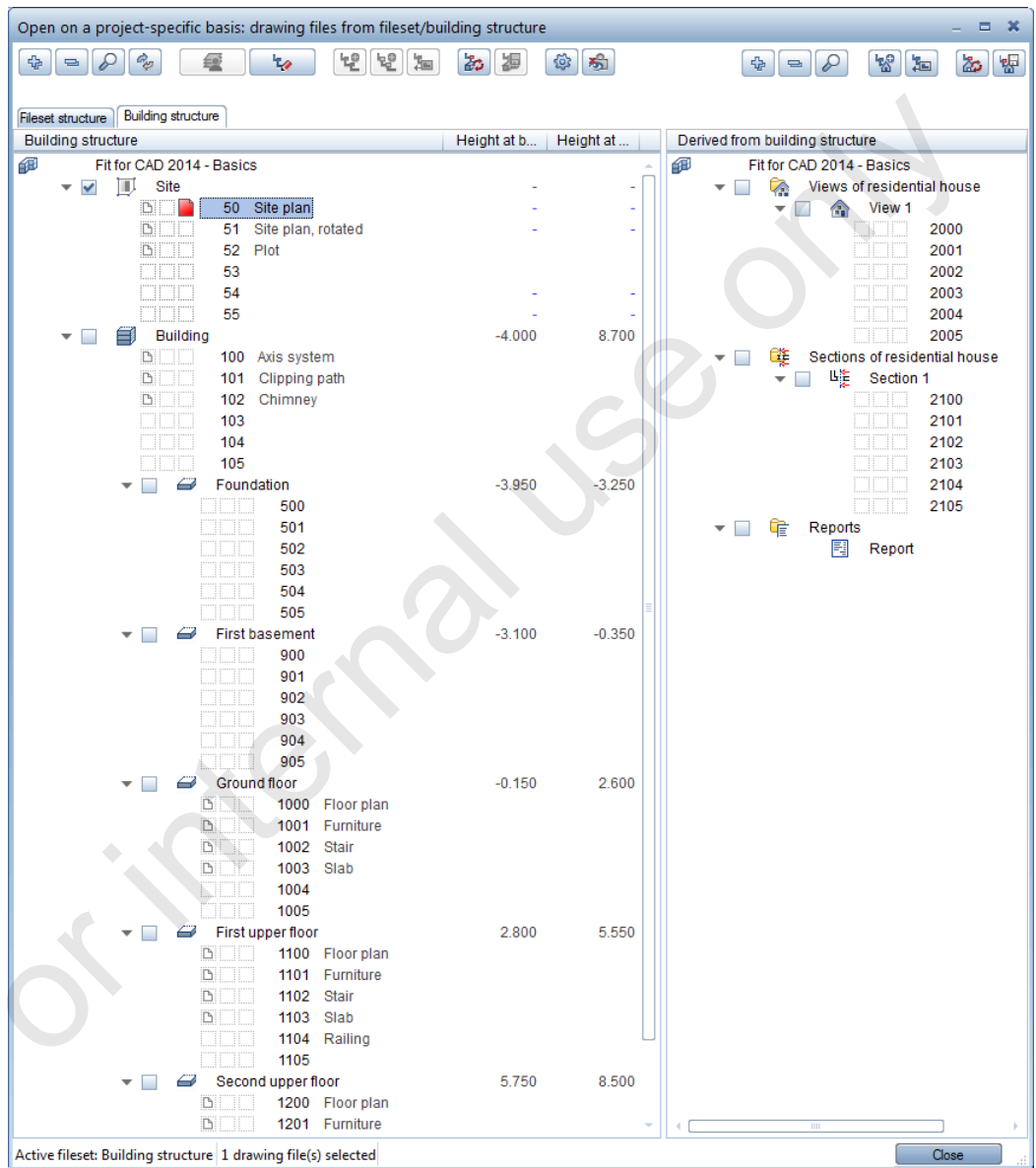
As opposed to the fileset structure, you can only assign each drawing file once in the building structure.

You will create your own building structure for this training project using the  Floor Manager.

Start by defining the number of stories and height settings for the entire building and the individual stories.

In the  Floor Manager dialog box, you can also configure Allplan to create the building structure automatically. If you have selected this option, you can assign drawing files to the selected structural levels. In addition, you can specify whether to create views and sections.

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Open on a Project-Specific Basis	File menu or Default toolbar
 Reference Scale	View menu or status bar

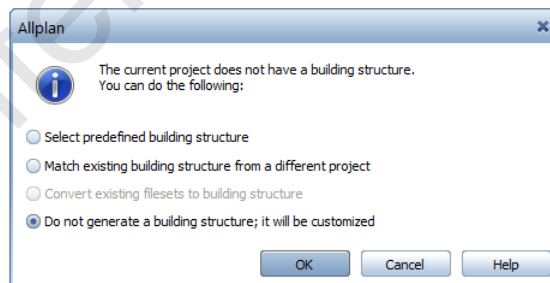
Solution

To create a building structure

- 1 Click  **Open on a Project-Specific Basis** (File menu or Default toolbar).
- 2 The **Open on a project-specific basis: drawing files from fileset/building structure** dialog box opens. Select the **Building structure** tab.

As there is no building structure for this project, the **Allplan** dialog box appears.

- 3 Click **Do not generate a building structure; it will be customized** and then click **OK** to confirm the dialog box.

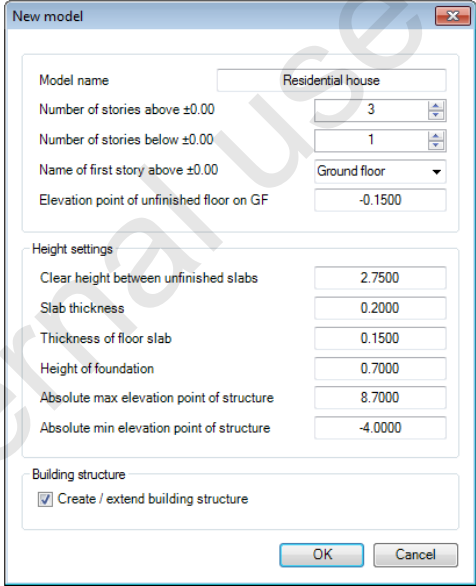


- 4 Click  **Floor Manager** in the **Open on a project-specific basis: drawing files from fileset/building structure** dialog box and acknowledge the prompt with **Yes**.

The floor manager is displayed.

Note: If you are working in a workgroup environment, you need to temporarily lock the building structure and plane model for other users. To do this, click  **Edit building structure, plane model (lock for other users)** in the **Open on a project-specific basis: drawing files from fileset/building structure** dialog box.

- 5 The **Floor Manager** dialog box appears. Click  **New model**. The **New model** dialog box opens.
- 6 Type "Residential house" for the **Model name** and set the other parameters as shown below. Make sure that you select the **Create / extend building structure** check box.



New model	
Model name	Residential house
Number of stories above ±0.00	3
Number of stories below ±0.00	1
Name of first story above ±0.00	Ground floor
Elevation point of unfinished floor on GF	-0.1500
Height settings	
Clear height between unfinished slabs	2.7500
Slab thickness	0.2000
Thickness of floor slab	0.1500
Height of foundation	0.7000
Absolute max elevation point of structure	8.7000
Absolute min elevation point of structure	-4.0000
Building structure	
☒ Create / extend building structure	
OK Cancel	

- 7 Click **OK** to confirm the settings. The **Create / extend building structure** dialog box is displayed.
- 8 Select the **Assign drawing files** check box, select drawing file **100** for the **First drawing file** and set **Increment** to **6**.
- 9 Change the order in which the stories are listed by clicking  **Sort stories in descending order**.

- 10 Enter the following drawing file numbers in the **From file** column:
- Drawing file **500** for the foundation
 - Drawing file **900** for the first basement
 - Drawing file **1000** for the ground floor
 - Drawing file **1100** for the first upper floor
 - Drawing file **1200** for the second upper floor
- 11 In the **Derived from building structure** area, select the **Add views** check box and enter **1** for the number of views. Select drawing file **2000** for the first drawing file and set increment to **6**.
- 12 In addition, select the **Add sections** check box and enter **1** for the number of sections. Select drawing file **2100** for the first drawing file and set increment to **6**.

The Create / extend building structure dialog box should now display the following settings:

Create / extend building structure

☒ Assign drawing files

Building structure

First d-file: 100 Increment: 6

Structural level	Name	From file	To file
☐ Site		---	---
☐ Structure		---	---
☒ Building		100	105
☒ Ground floor		500	505
☒ 1. Upper floor		900	905
☒ 2. Upper floor		1000	1005
☒ 1. Basement		1100	1105
☒ Foundation		1200	1205

Derived from building structure

☒ Add views: 1 First d-file: 2000 Increment: 6

Structural level	Name	From file	To file
View 1		2000	2005

☒ Add sections: 1 First d-file: 2100 Increment: 6

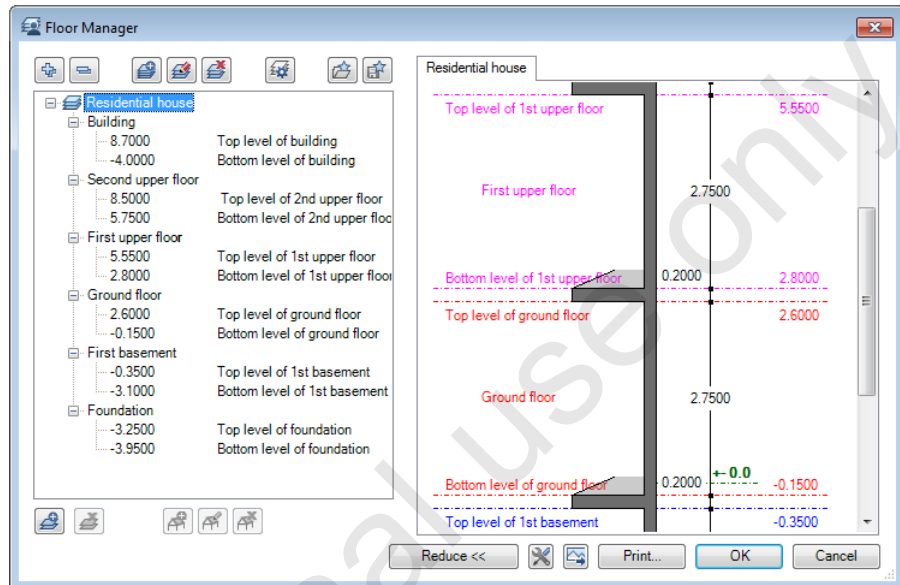
Structural level	Name	From file	To file
Section 1		2100	2105

OK Cancel

Note: You can quickly and easily create additional stories, views and sections later by copying existing stories, views and sections.

13 Click OK to confirm the settings.

The building structure you have just defined is shown in the right hand part of the Floor Manager dialog box. Click  at top left to display the entire building structure:

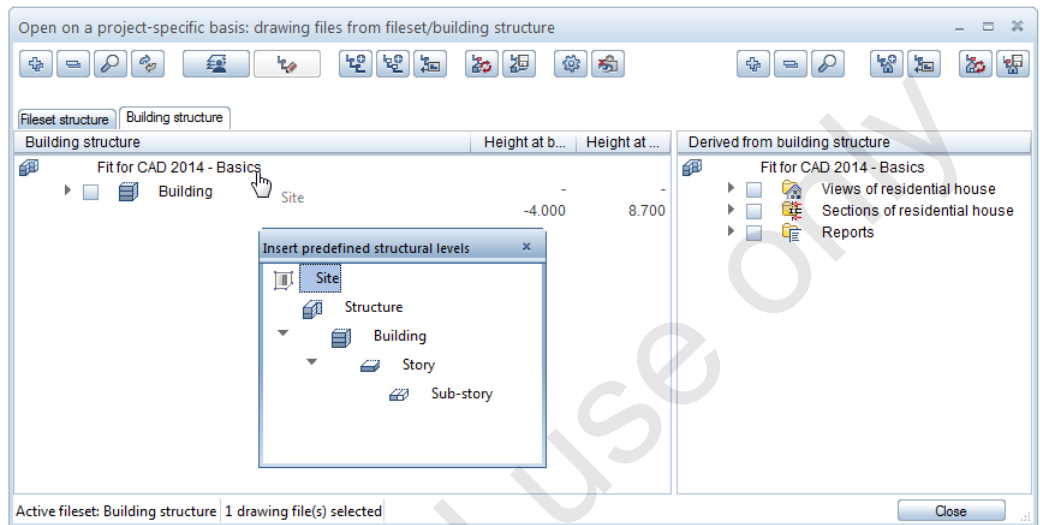


14 Click **OK** to confirm the Floor Manager dialog box.

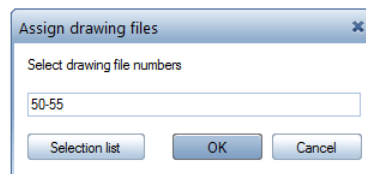
15 The next step is to insert the predefined structural level called **Site**.

Click  **Insert predefined structural levels in the Open on a project-specific basis: drawing files from fileset/building structure dialog box.**

- 16 In the **Insert predefined structural levels** dialog box, select **Site** and drag it to the structure tree of the project.



- 17 Close the **Insert predefined structural levels** dialog box by clicking  **Insert predefined structural levels** again. Alternatively, click  **Close**.
- 18 Assign drawing files 50 to 55 to the **Site** structural level.
- Click the **Site** structural level with the right mouse button and choose  **Assign drawing files** on the shortcut menu.
- 19 The **Assign drawing files** dialog box appears. Select drawing files 50-55 and click **OK** to confirm.



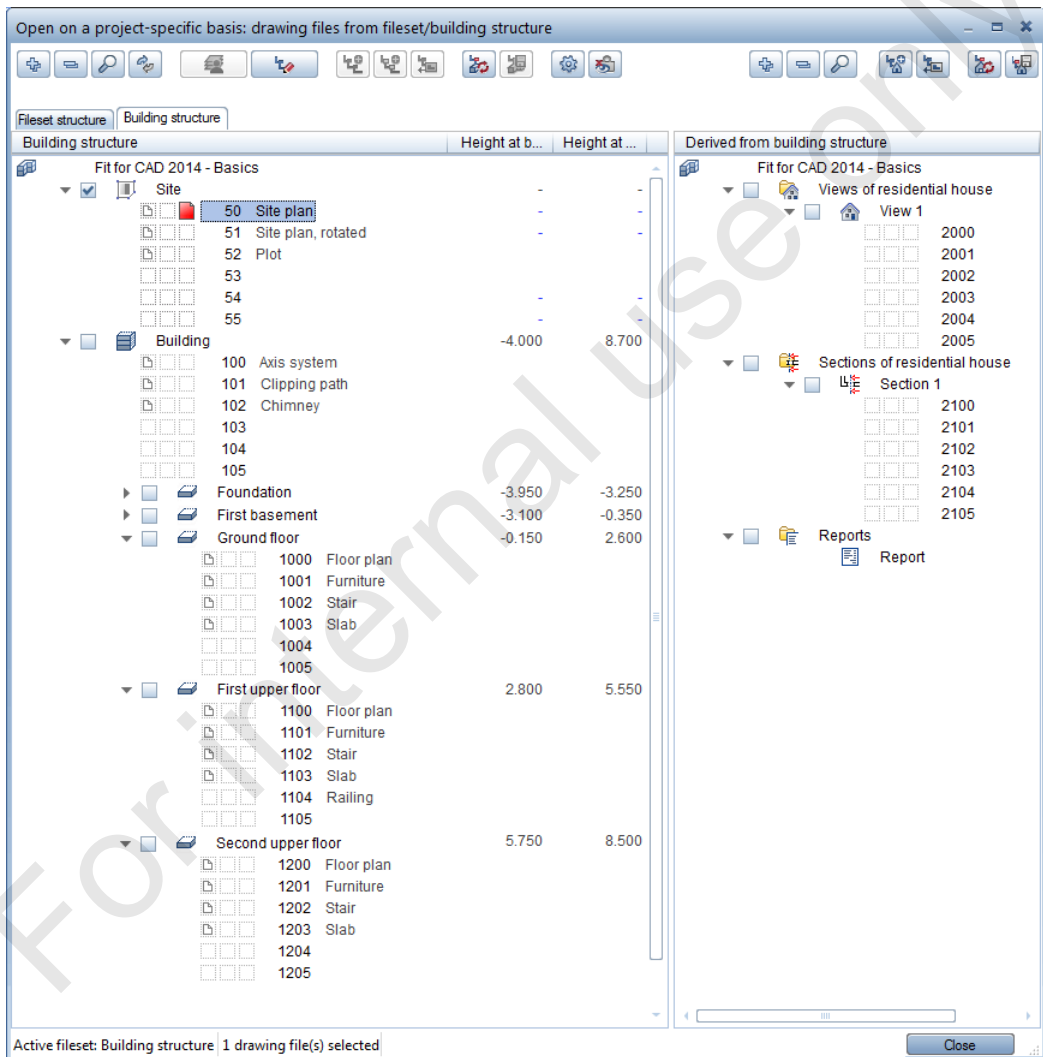
- 20 Now name the drawing files as shown in the illustration below.

To do this, click a drawing file number with the right mouse button and select **Rename** on the shortcut menu.

Or:

Select a drawing file number and then click in the empty space next to it.

- 21 Finally, activate the Site structural level by selecting the check box and make drawing file 50 Site plan current.



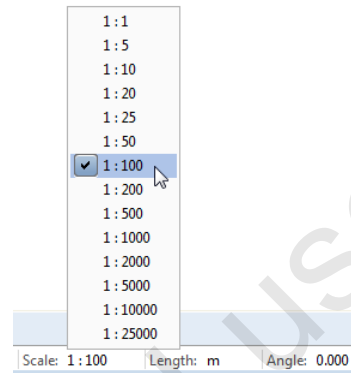
- 22 Close the Open on a project-specific basis: drawing files from fileset/building structure dialog box.

23 Set the reference scale to 1:100.

On the View menu, click  Reference Scale. The Scale dialog box appears. Select 100.

Or:

Set the reference Scale indicator in the status bar to 1:100.



A note on saving the current status of the building structure

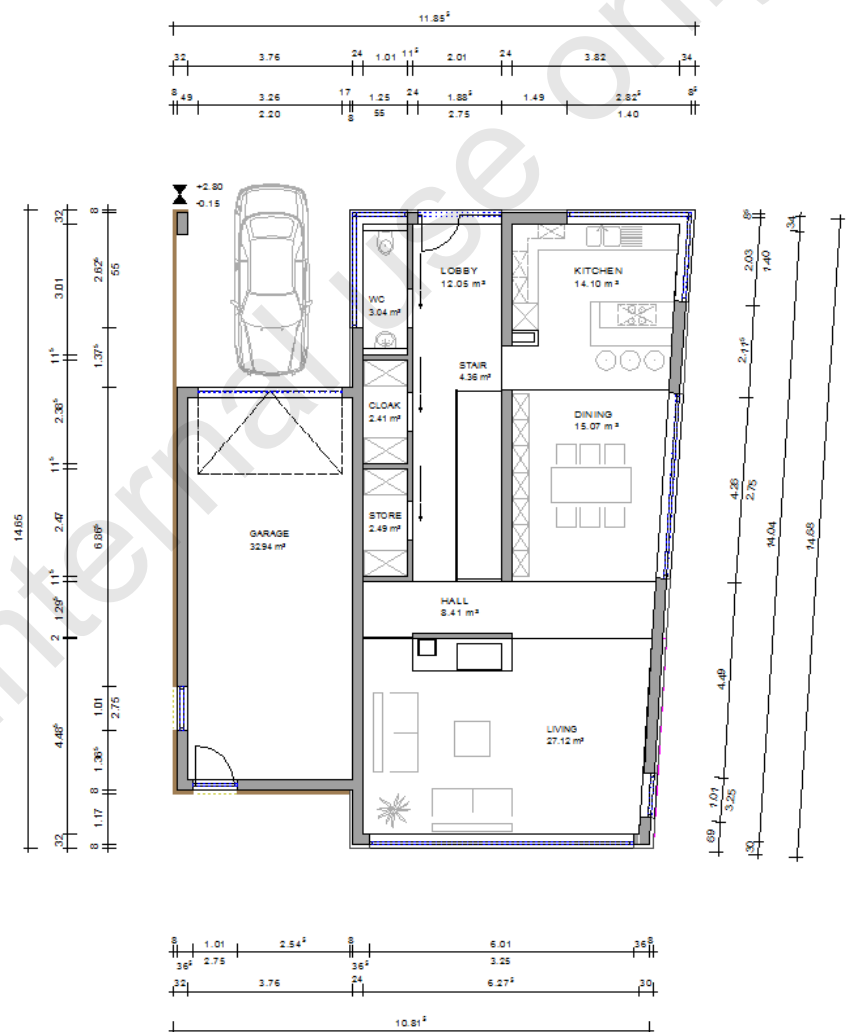
You can save the current status of the building structure and of the objects derived from the building structure separately (depending on where you select this tool). Allplan saves these settings in a user-specific and project-specific XML-format file in the BIM\user\settings folder.

 **Save:** saves the current status of the building structure in the project-specific Allplan_BIM_BuildingStructure.xml file and the current drawing file status in the Structure_Settings.xml file.

 **Save:** saves the current status of the objects derived from the building structure in the project-specific Allplan_BIM_Views.xml file and the current drawing file status in the View_Settings.xml file.

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Exercise 2: floor plan of ground floor



Task 1: layer settings

Introduction

Layers provide an additional means of applying a structure - within drawing files. Layers are not limited to a single drawing file i.e. different files may contain the same layers. They are important organizational elements you can use to show and hide specific elements. The use of layers obviates the need for frequent switching between drawing files. In addition, layers ensure that associative elements - such as wall dimensions or sill elevation labels - reside in the same drawing file and yet can still be hidden from view.

Allplan provides the predefined **ARCHITECTURE** layer structure. You can use this structure as it is, or, if it does not meet your requirements, you can customize it for your needs.

This structure provides predefined **format properties** (pen thickness, line type and so on) for the individual layers. You can configure Allplan to propose these properties automatically for the elements you are designing. This requires special settings, which are described in the following section. Of course, the layer proposed is not mandatory; you can select a different layer at any time

Overview

Use the following tool(s) to do this:

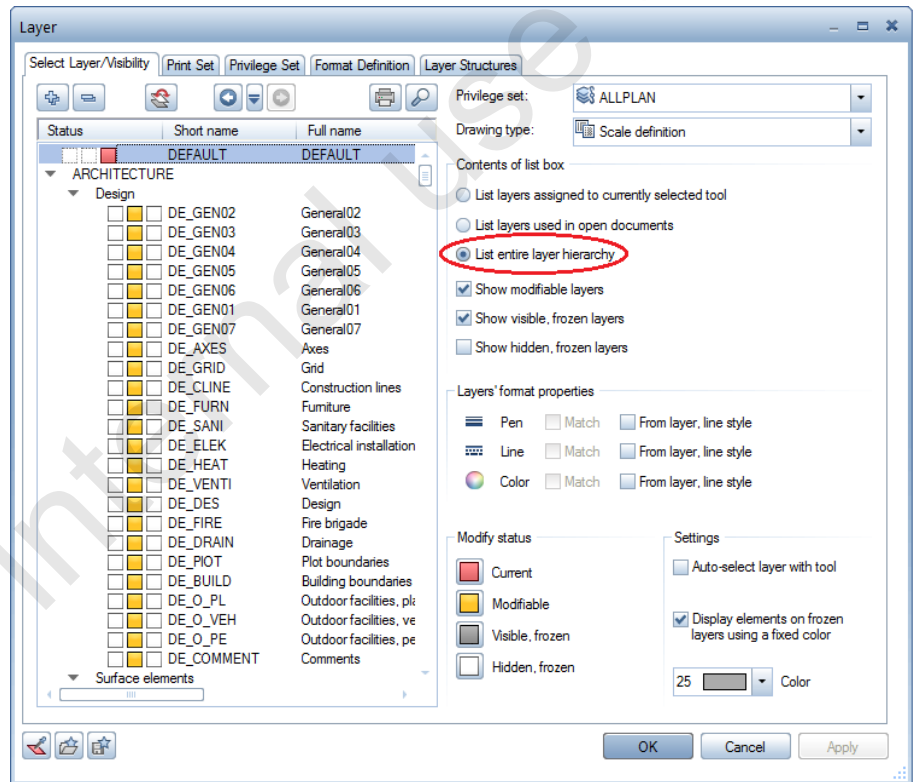
Function	How to activate it
 Select, Set Layers	Format menu or double-click the right mouse button

Solution

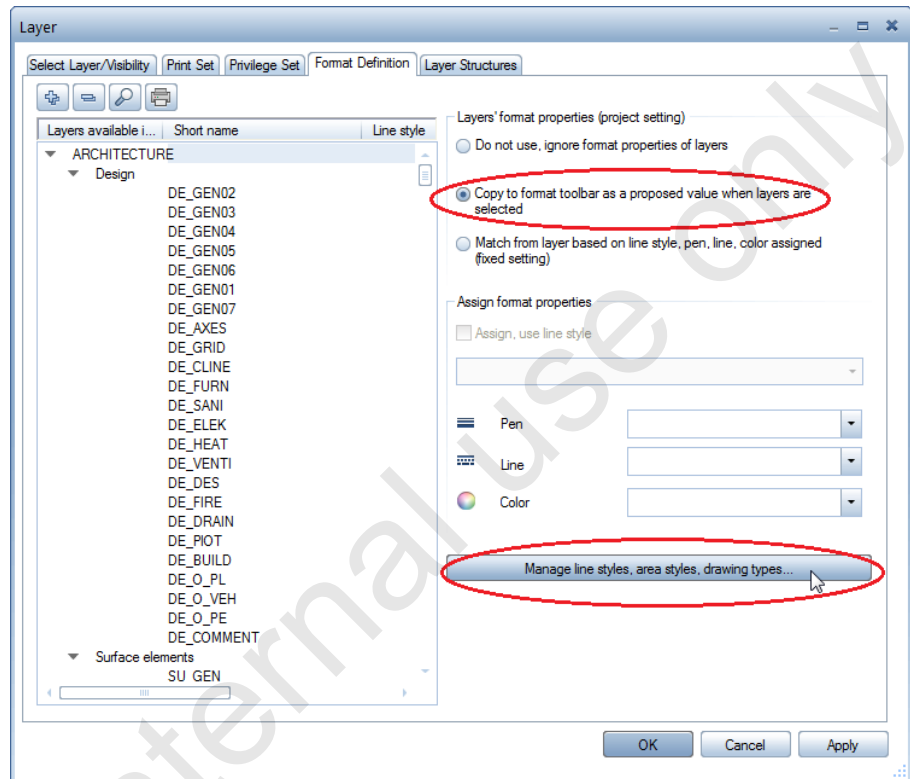
Tip: These settings apply to *all* the layers in the project. Once you have defined these basic settings, you can select the current layer quickly using the **Select, Set Layers** list box on the **Format** toolbar.

To define layer settings

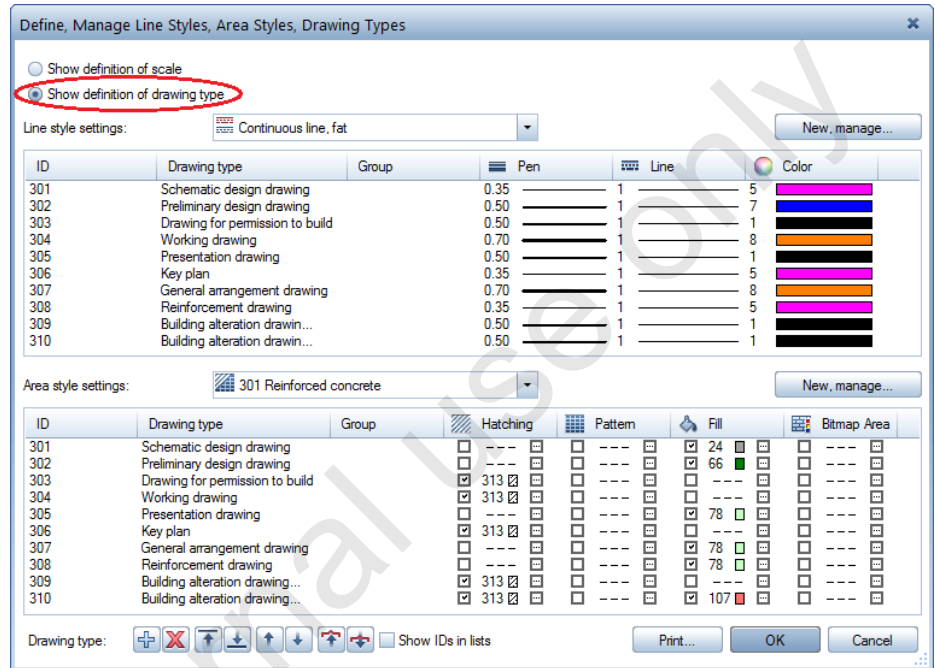
- 1 On the **Format** menu, click  **Select, Set Layers**.
Or:
Double-click in the workspace with the right mouse button.
- 2 The **Layer** dialog box opens and the **Select Layer/Visibility** tab is displayed. Select the **List entire layer hierarchy** option in the **Contents of list box** area.



- 3 Switch to the Format Definition tab and select the Copy to format toolbar as a proposed value option in the Layers' format properties area.

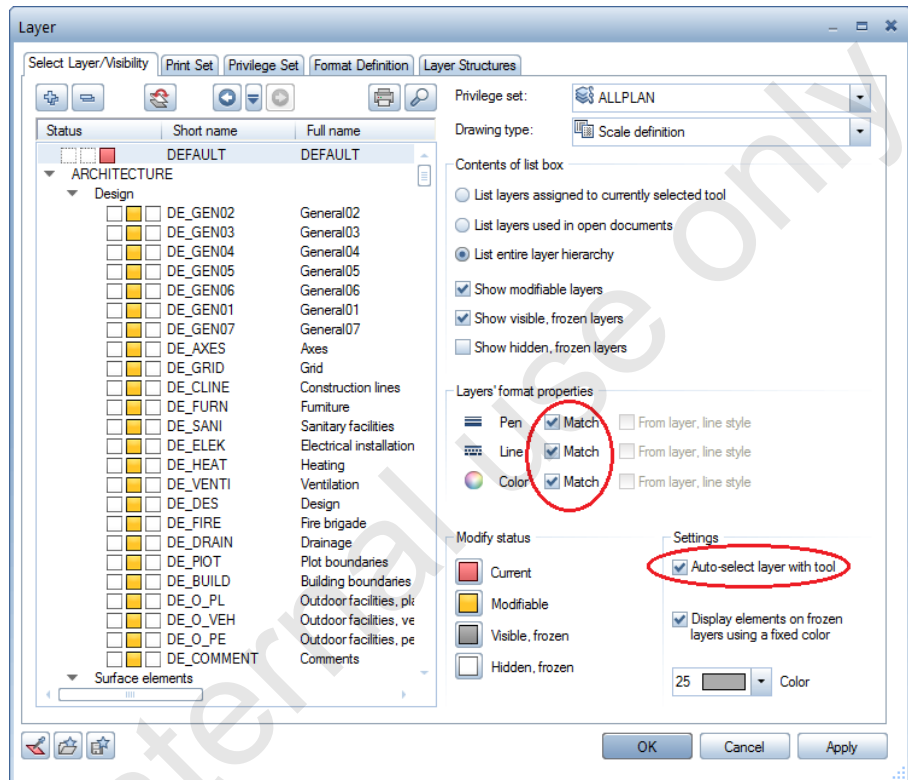


- 4 Click **Manage line styles, area styles, drawing type...** and select the **Show definition of drawing type** option in the **Define, Manage Line Styles, Area Styles, Drawing Types** dialog box.



- 5 Click **OK** and switch back to the **Select Layer/Visibility** tab in the **Layer** dialog box.

- 6 Select the Auto-select layer with tool option in the Settings area and select all three Match check boxes in the Layers' format properties area.



- 7 Click Apply and confirm the settings in the Layer dialog box by clicking OK.

A note on modifying the layer status

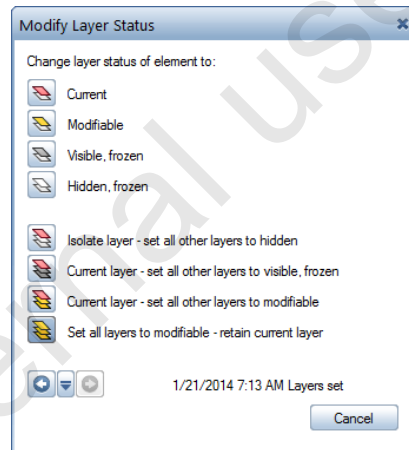
To quickly modify the status of a layer that is assigned to a specific element, you can use the **Modify Layers Status** tool.

To modify the layer status

- 1 On the View menu, point to Layer Status and click  **Modify Layer Status**.

Or:

Using the right mouse button, click the element whose layer status you want to change, and, on the shortcut menu, select  **Modify Layer Status**.



- 2 Select the required status in the **Modify Layer Status** dialog box.

Note: You can only make changes to the layer status if this is permitted by the current privilege set.

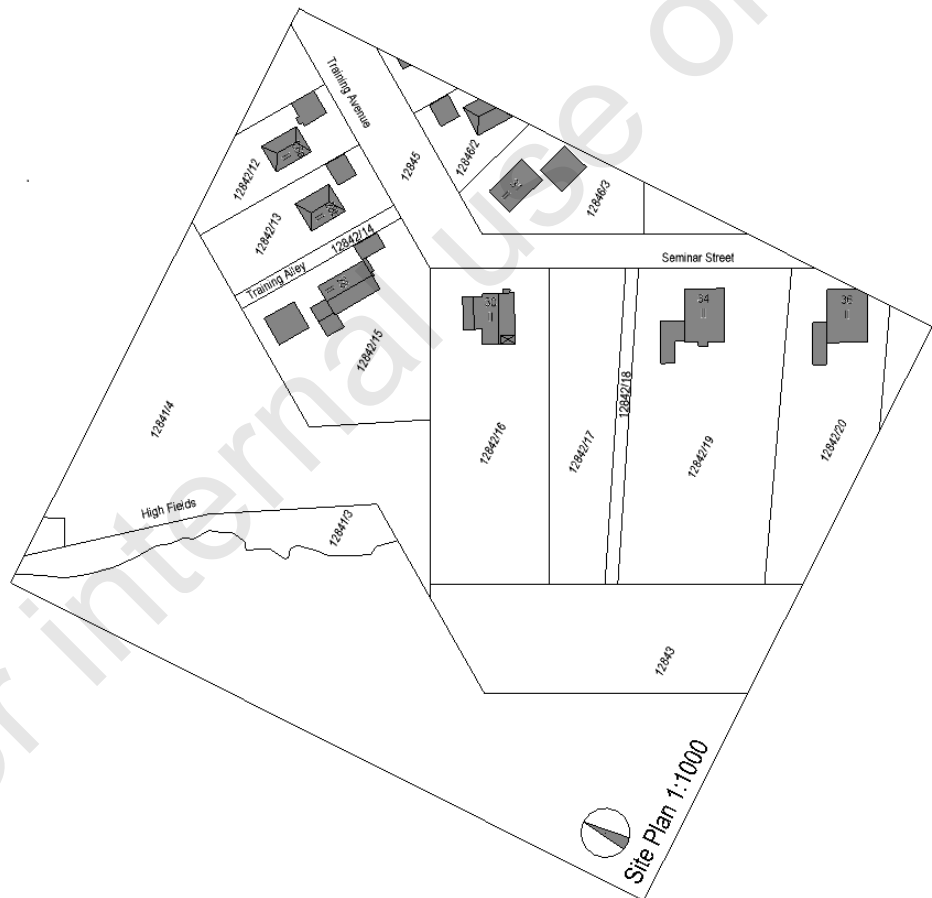
- **Current:** Selects the layer of the element clicked as the current layer.
- **Modifiable:** Sets the layers of the elements clicked to modifiable (you can select several elements).
- **Visible, frozen:** Sets the layers of the elements clicked to visible, frozen (you can select several elements).

- **Hidden, frozen:** Sets the layers of the elements clicked to hidden, frozen (you can select several elements).
 - **Isolate layer - set all other layers to hidden:** Selects the layer of the element clicked as the current layer and sets all the other layers to hidden, frozen (with the exception of the default layer).
 - **Current layer - set all other layers to visible, frozen:** Selects the layer of the element clicked as the current layer and sets all the other layers to visible, frozen (with the exception of the default layer).
 - **Current layer - set all other layers to modifiable:** Selects the layer of the element clicked as the current layer and sets all the other layers to modifiable.
 - : Undoes changes made to the layer visibility or restores changes you have undone. Using  Layer visibility you can display the course of changes made to the layer visibility and undo up to 30 changes. This setting is user-specific and saved separately for each project.
- 3 If you accessed the  **Modify Layer Status** tool from the View menu or the **Special** toolbar (instead of the shortcut menu): Click the elements one after the other to assign the selected status to them.
-

Task 2: importing the site plan

Overview

The first step is to import the site plan, which is a DXF file at a scale of 1:1000. Start by importing it at 1:100 to drawing file 50. Then copy it to drawing file 51 and rotate the copy.



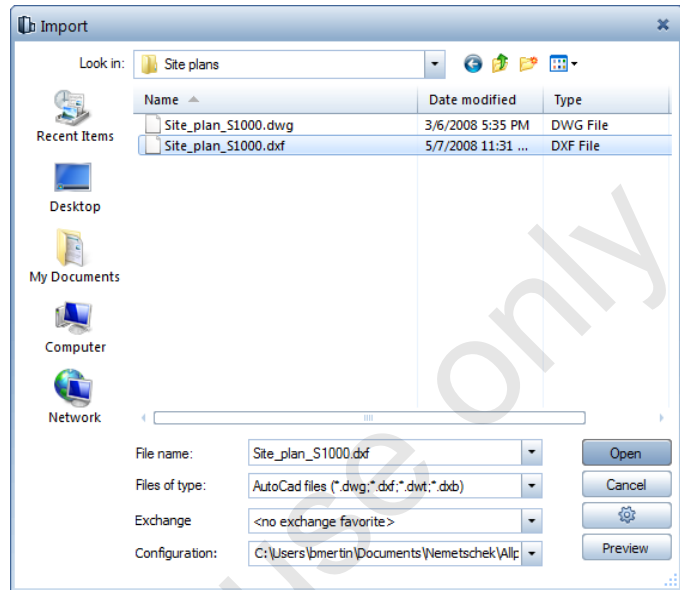
Use the following tool(s) to do this:

Function	How to activate it
 Import	File menu - Import - submenu
 Measure Length	Tools menu or Default toolbar
 Measure Coordinates	Tools menu or Default toolbar
 Copy	Edit menu or CTRL+C
 Paste to Original Position	Edit menu or CTRL+ALT+V
 Rotate	Edit toolbar

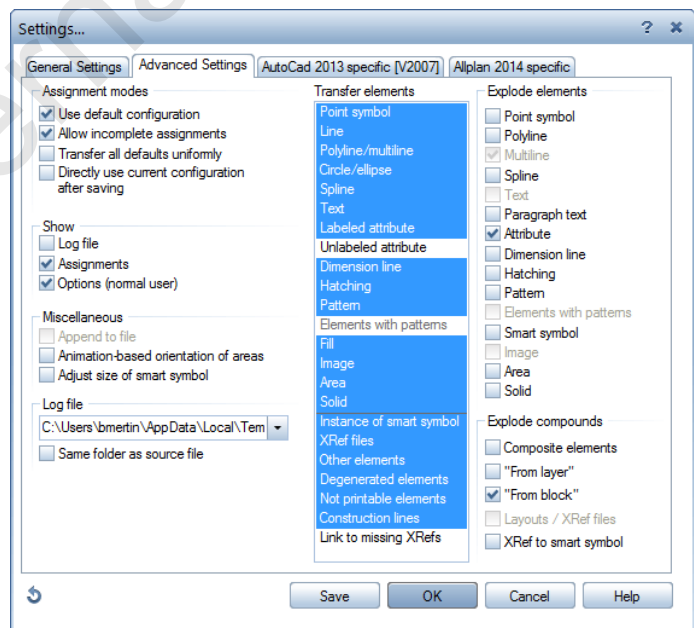
Solution

To import a DXF File

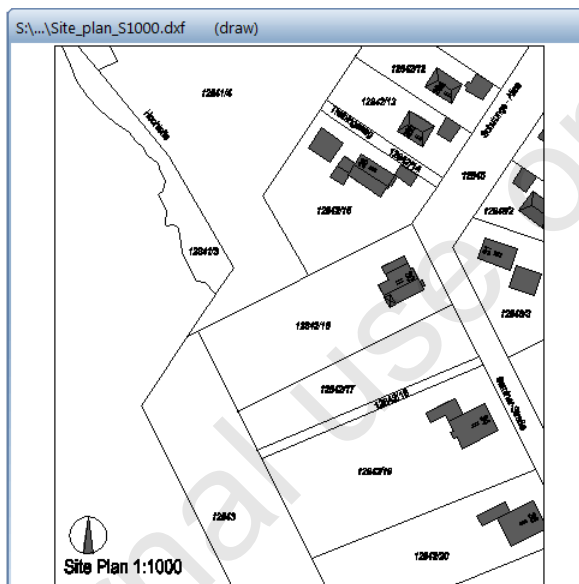
- Structural level(s): **Site** active
 - Drawing file setting: **50** current
 - Reference scale: **1:100**
 - Unit of length: **m**
 - "Fit for CAD" CD inserted in the drive
- 1 Select the **File** menu, point to **Import** and click **Import AutoCAD Data...** on the submenu.
 - 2 In the **Import** dialog box, set the path to <cd>\Site plans and select the **Siteplan_S1000.dxf** file.



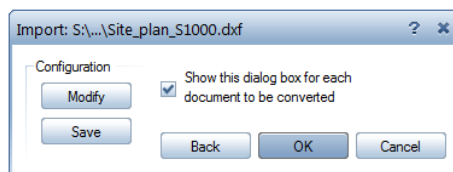
- 3 Click  **Settings**, select the **Advanced Settings** tab and check the following settings:



- 4 If the settings are correct, click **OK** to confirm the **Settings** dialog box.
- 5 In the **Import** dialog box, click **Preview** to see a preview of the site plan.



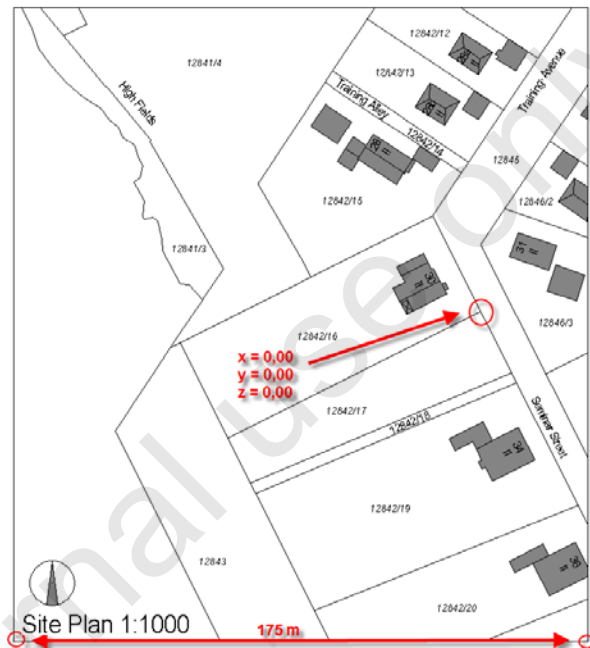
- 6 Close the preview by clicking **Preview** again.
- 7 Click **Open** in the **Import** dialog box.
- 8 You can change the configuration for the import in the **Import** dialog box. However, this is not necessary here. Therefore, click **OK** to confirm the **Import** dialog box.



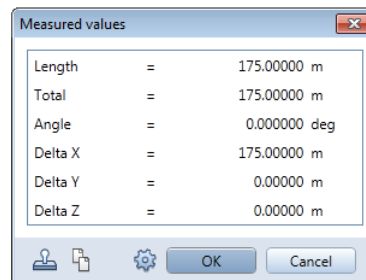
The site plan is imported and placed in the drawing file.

9 Check the following values:

- Width of site plan: 175.00 m
- Coordinates of selected point: X, Y, Z = 0.000

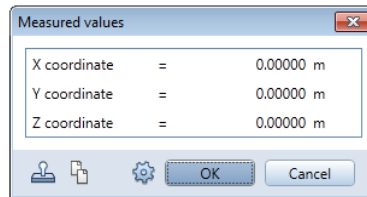


To do this, click  Measure Length (Default toolbar) and then the bottom left and right corners of the site plan.



10 Click OK to confirm and press ESC to quit the tool.

- 11 Now click  **Measure Coordinates** (Default toolbar) and then the point marked in the sketch.



- 12 Click **OK** to confirm and press ESC to quit the tool.

To copy and rotate the site plan

- ➡ Leave the settings as they are.

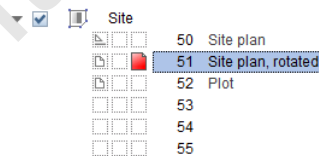
- 1 Select all the elements of the site plan imported.

All you need to do is press CTRL+A.

- 2 Click  **Copy** (Edit menu).

- 3 Switch to drawing file 51.

Double-click in an empty area of the workspace with left mouse button, close drawing file 50 and make drawing file 51 current.



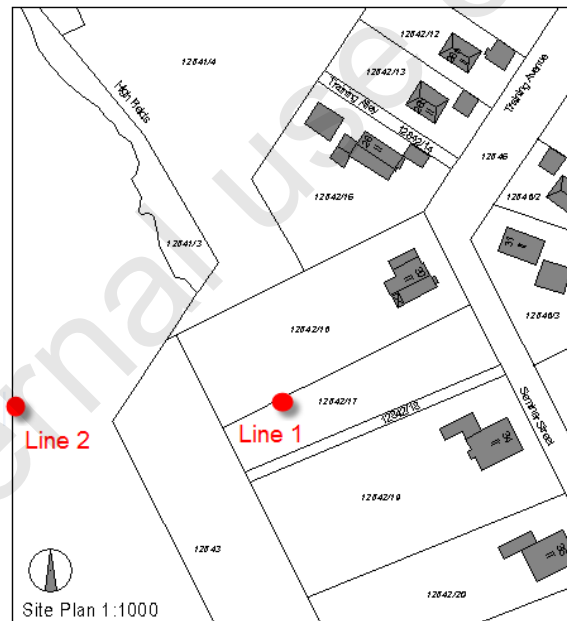
- 4 Close the **Open on a project-specific basis: drawing files from fileset/building structure** dialog box.

- 5 On the Edit menu, click  **Paste to Original Position**.

Or:

Press CTRL+ALT+V.

- 6 Click  Rotate (Edit toolbar).
- 7 *Select the element(s) you want to rotate*
Select all the elements of the site plan again.
- 8 Click base point of rotation
Click the point whose coordinates you just checked (X, Y, Z = 0.000).
- 9 *Start point, reference line or rotation angle*
Click the top boundary line of the plot where the house will be built (= A).



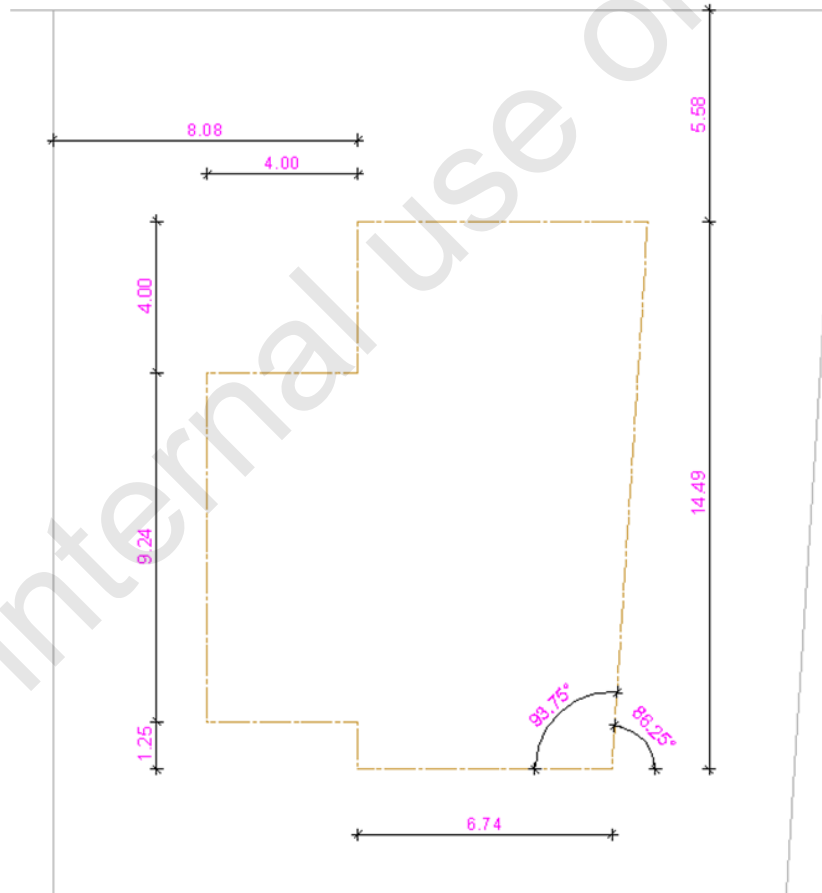
- 10 *Click direction line*
Click one of the vertical boundary lines of the site plan (B, for example).

The site plan is rotated so that three sides of the plot are now parallel to the vertical/horizontal.
- 11 Press ESC to quit the  Rotate tool.

Task 3: drawing the axes of the building

Using the copied and rotated site plan as a basis, you will now draw the axes of the building and thus define the outline of the building.

Draw the axes of the building on layer DE_GRID of the ARCHITECTURE layer structure. This layer combines all elements that can be regarded as axes in the broadest sense.



Use the following tool(s) to do this:

Function	How to activate it
 Open on a Project-Specific Basis	File menu or Default toolbar or shortcut menu
 Rectangle	Tools palette (Basic family - Draft module - Create area)
Select, Set Layers	Format toolbar
 Based on diagonal line	Rectangle Context toolbar
 Additional point for offset	Shortcut menu
 Delete	Edit toolbar or shortcut menu
 Line	Tools palette (Basic family - Draft module - Create area)
 Enter using cursor snap	Dialog line
 Intersect 2 Entities	Shortcut menu
 Delete Double Lines	Shortcut menu

Solution

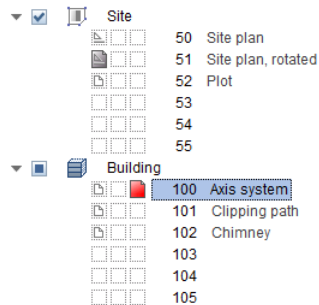
To draw the axes of the building

- Structural level(s): Site active
 - Drawing file setting: 51 current
 - Reference scale: 1:100
 - Unit of length: m
- 1 Switch to drawing file 100 and set drawing file 51 Site plan, rotated to reference mode.

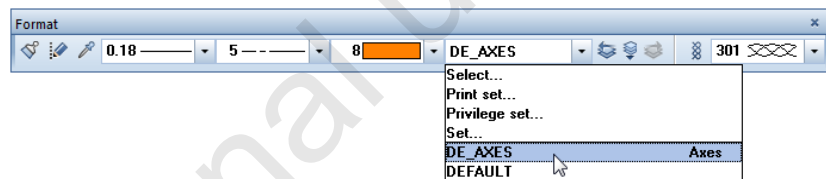
Tip: Of course, you can also double-click in the workspace with the left mouse button.

Click  **Open on a Project-Specific Basis** on the **Standard** toolbar and set drawing file 51 to reference mode. Press the CTRL KEY and activate the **Building** structural level in addition to the **Site** structural level. Make drawing file 100 **Axis system** current.

Tip: When you select a structural level in the building structure, Allplan automatically selects all the subordinate structural levels, too. To select a structural level without its subordinate levels, simply press and hold down the CTRL KEY while clicking.



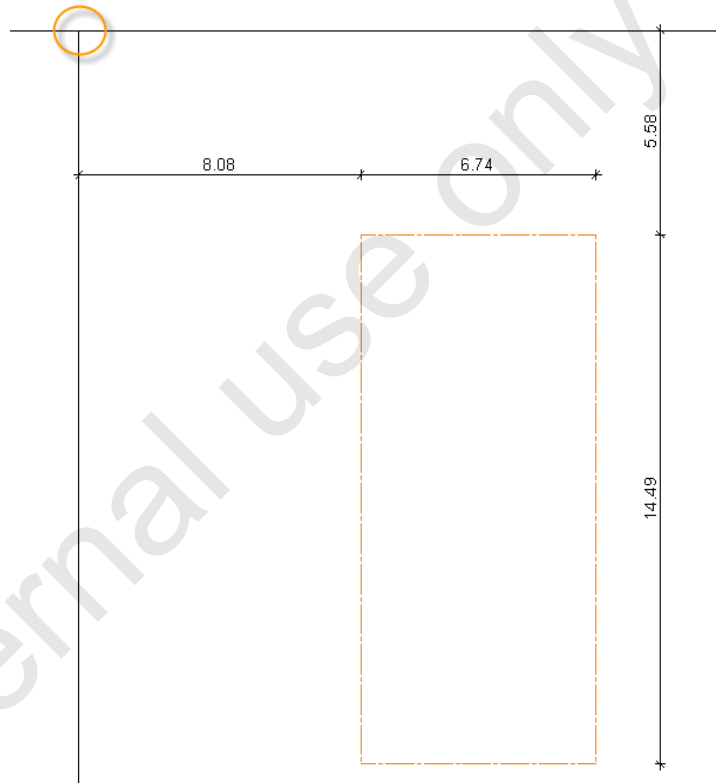
- 2 Close the **Open on a project-specific basis: drawing files from fileset/building structure** dialog box.
- 3 In the **Tools** palette, click  **Rectangle (Draft module)**.
- 4 Set the layer **DE_GRID** in the **Select, Set Layers** list box (**Format** toolbar).



- 5 Check that  **Based on diagonal line** is active on the **Rectangle** Context toolbar.

6 Start point

Point to the point marked in the sketch (= top left corner of the plot), open the shortcut menu and click  **Auxiliary point for entering offset.**



- 7 To specify the distance between the first point and this point in the X direction, enter **8.080** m for the  **X coordinate** (without pressing ENTER to confirm!). Then press the TAB key. This takes you to the  **Y coordinate**.
- 8 To specify the offset of the first point in the Y direction, enter **-5.580** m for the  **Y coordinate**. Now press ENTER to confirm.

This defines the first point.

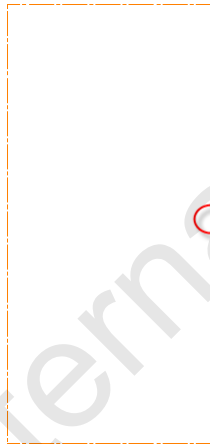
9 *Diagonal point*

To specify the offset of the diagonal point in the X direction, enter **6.740** m for the  **X coordinate** (*without* pressing ENTER to confirm!). Then press the TAB key. This takes you to the  **Y coordinate**.

10 To specify the offset of the diagonal point in the Y direction, enter **-14.490** m for the Y coordinate and press ENTER to confirm.

11 Press ESC to quit the  **Rectangle** tool.

12  **Delete** (Edit toolbar or shortcut menu) the right line of the rectangle and press ESC to quit the tool.



13 Double-click a line of the rectangle with the right mouse button.

This automatically selects the  **Line** tool.

14 Check the **Format** toolbar to see whether the layer **DE_GRID** is active.

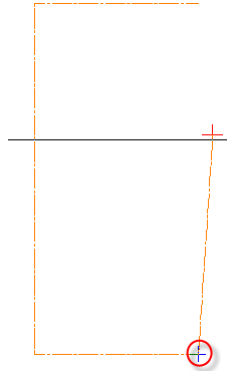
If it isn't, click **DE_GRID** in the **Select, Set Layers** list box.

15 *From point*

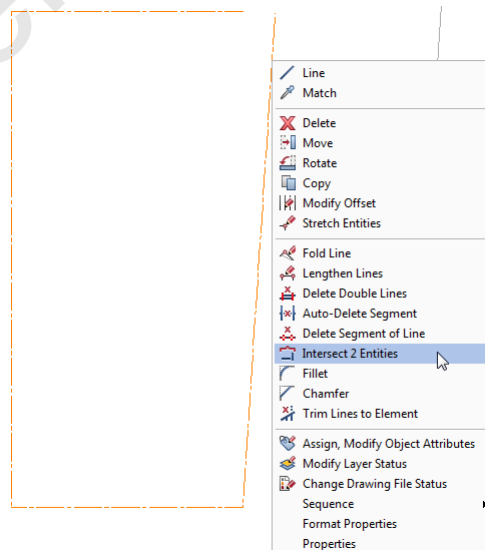
To define the first point, click the bottom right corner of the rectangle (see illustration below).

16 To point

Activate the  **Enter using cursor snap option in the dialog line and enter an Angle of 86.25°.**

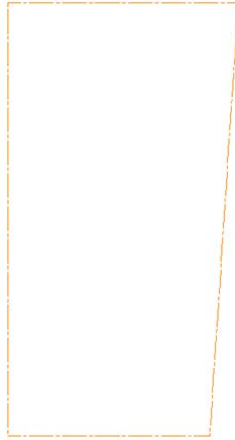
**17 To point or enter length**

Click the top right corner of the rectangle.

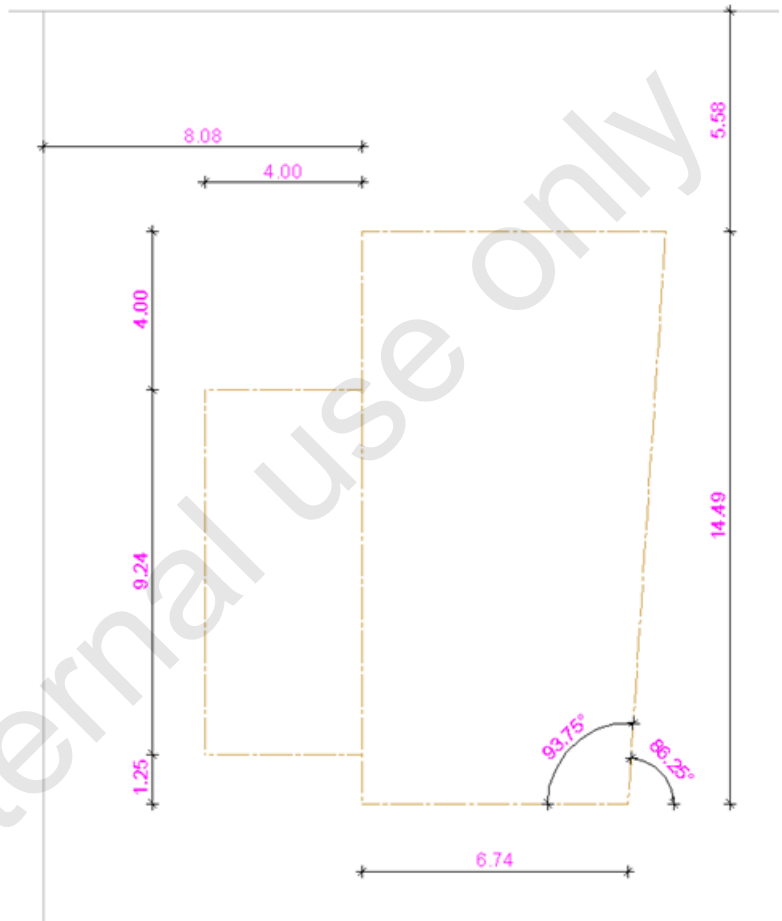
18 Press ESC twice to quit the tool.**19 Click the inclined line just created with the right mouse button and, on the shortcut menu, select the **Intersect 2 Entities** tool.**

20 Click 2nd element

Click the top line of the rectangle to intersect the two lines.

**21 Press ESC to quit the Intersect 2 Entities tool.**

Create a second rectangle using the values given in the following illustration:



Finally, delete the superimposed line segments of the two rectangles (Delete Doubled Line tool or shortcut menu).

Measure your drawing in order to check it.

Task 4: exterior walls

Introduction

In Allplan, creating walls is as easy as drawing lines. As opposed to lines, however, walls can be assigned a wide range of attributes and additional information like material, volume and dimensions. The same is true for all the other "architectural components" (e.g. columns, windows, chimneys etc.).

As a result, you can quickly and efficiently process quantity and quality details of a construction project and transfer these results to an application used for tendering, awarding and invoicing.

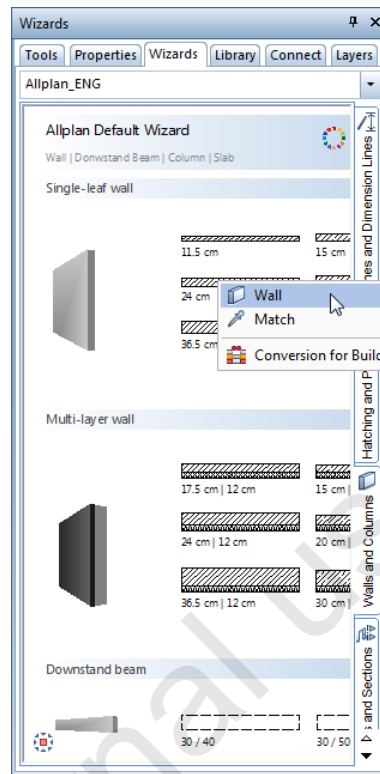
Tip: To avoid entering the same parameters and settings again and again, you can save frequently used settings or values for elements and components in special files known as "favorite files".

Detailed information is provided in the Allplan help; see the section entitled "Favorite files".

Allplan provides special, component-specific dialog boxes for defining the properties of components. You can do this at any time (i.e. before, during or after creation). The following approach has proven to be useful in practice: start by creating a legend including all walls and components you need and save this legend as a "wizard".

A wizard is a separate window (displayed in the Wizards palette) that includes a pictogram-like key representing all frequently used tools. *Clicking* an element with the *right* mouse button opens a shortcut menu with the following options:

- The tool that was used to create the element is displayed at the top of the shortcut menu. Allplan draws the element with the most recent properties; the parameters and attributes are not taken from the wizard.
-  **Match** opens the tool that was used to create the element and takes all the parameters and attributes from the wizard. This is equivalent to double-clicking the element with the right mouse button.
-  **Conversion for Building Alteration Work** is presented for most architectural elements. This matches the building alteration category set for the element clicked. If you have not assigned a building alteration category, new building is used automatically.

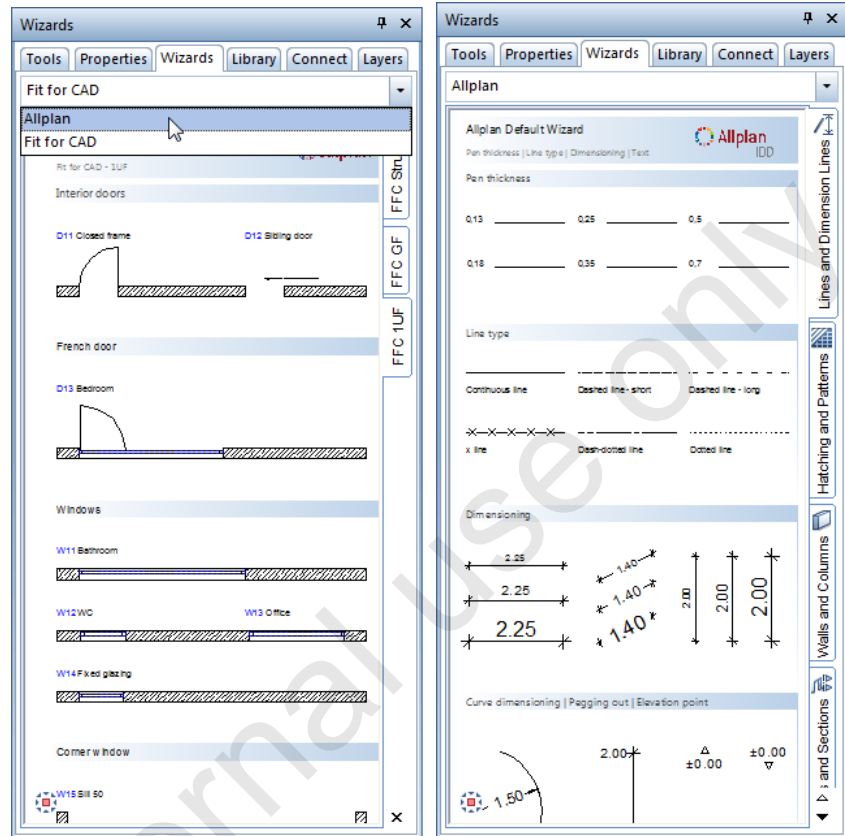


Double-clicking an element with the *right* mouse button adopts the parameters of the element clicked. The advantage of this is that you do not need to define the properties separately for each component. Instead, you can simply take all the properties from a legend you prepared in advance.

Tip: You will learn how to define your own wizards at the end of task 11.

Allplan comes with a number of predefined wizards, which you will find in the **Allplan** wizard group.

After having selected the **Allplan** group in the list box at the top of the Wizards palette, you can use the tabs on the right to switch between the different wizards in this group.



The wizards you will use over the course of this seminar are stored in the "Fit for CAD" group. Select this group in the Wizards palette.

If you cannot find this group, you need to copy the "Fit for CAD" group from the "Fit for CAD" CD (<cd>\Wizards folder) to a folder on your computer and load it from there.

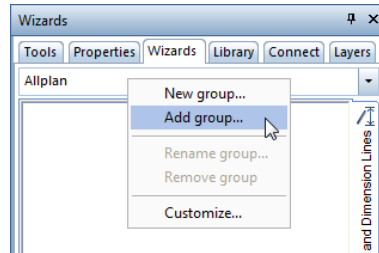
In this case, copy the contents of the <cd>\Wizards folder to an empty folder of your computer.

If you want to integrate these wizards into the office standard, you need to copy them to the central file storage folder in the ...Std\Wizard path.

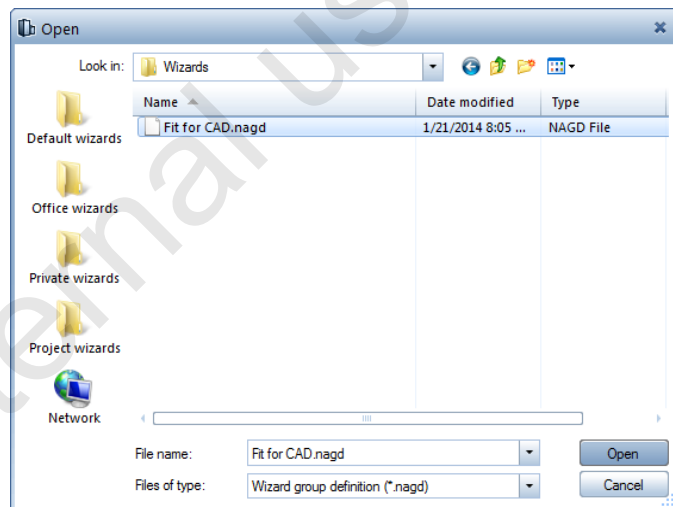
The *.nagd file contains the group definition, and the individual wizards are stored in the *.nas files.

Please make sure that you do not overwrite any existing data.

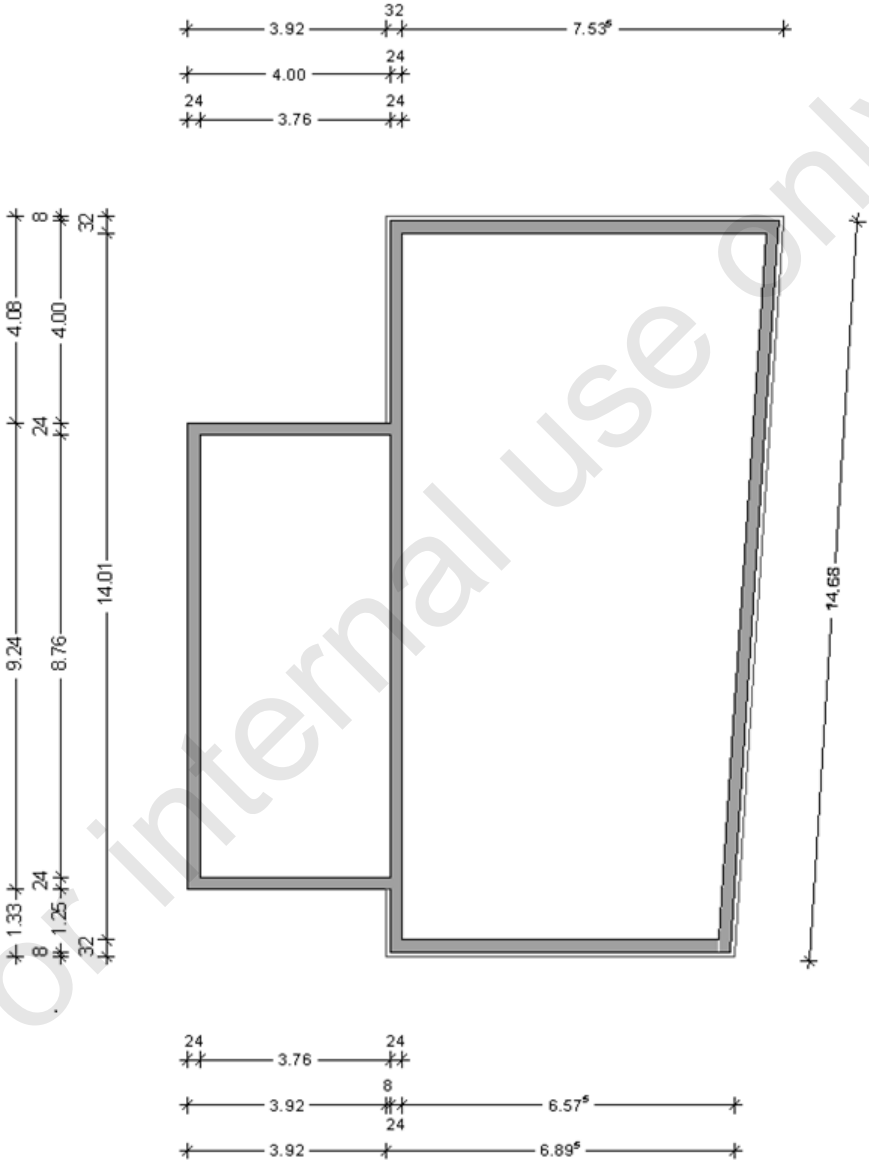
After you have copied the files to your computer, click with the right mouse button in the list box at the top of the Wizards palette and select **Add group....**



Navigate to the folder where you saved the data and select the **Fit for CAD.nagd** file to load the new wizards.



Overview



Use the following tool(s) to do this:

Function	How to activate it
 Open on a Project-Specific Basis...	File menu or Default toolbar
 Delete Section of Linear Component	Shortcut menu or Tools palette - Architecture family - Basic: Walls, Openings, Components module - Change area

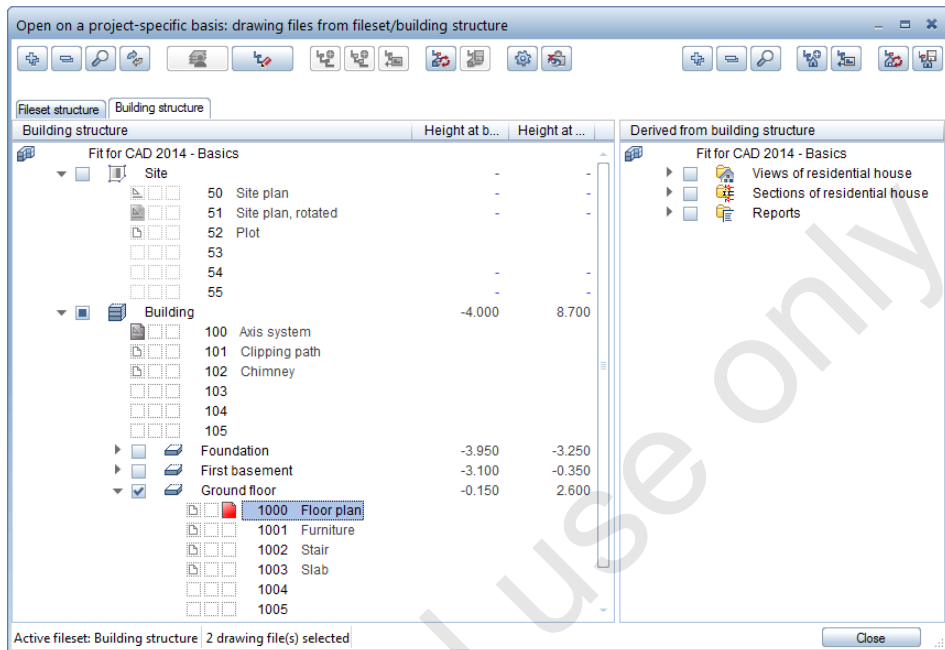
Solution

To draw the exterior walls of the house

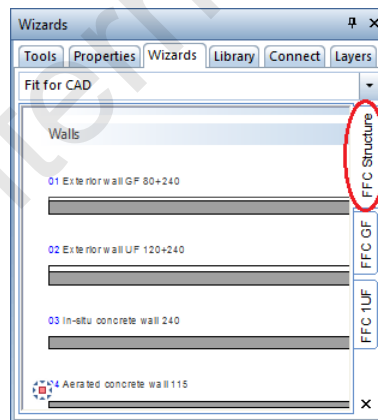
- Structural level(s): **Site** and **Building** active
- Drawing file setting: **100** current; **51** open in reference mode.
- Reference scale: **1:100**
- Unit of length: **m**
- Drawing type: select **Conceptual design drawing**.
- Show/Hide: deactivate **Color stands for pen**.

Tip: Of course, you can also double-click in the workspace with the left mouse button.

- 1 Click  **Open on a Project-Specific Basis** (File menu or **Standard** toolbar).
- 2 Select the  **Building structure** tab.
- 3 Deactivate the **Site** structural level.
- 4 Set drawing file **100** **Axis system** to reference mode.
- 5 Select the **Ground floor** structural level, make drawing file **1000** **Floor plan** current and confirm by clicking **Close**.

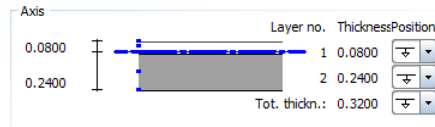


6 Select the FFC Structure wizard.

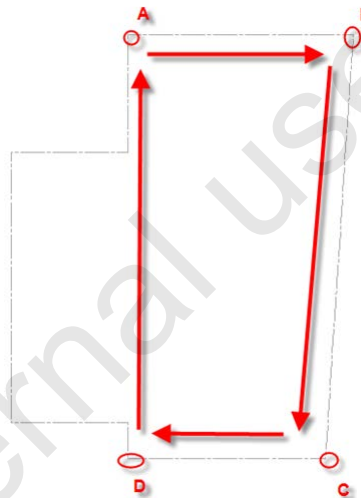


7 In the wizard, double-click wall type 01 Exterior wall GF 80+240 with the right mouse button.

- 8 Open the  **Properties** of the wall to check the position of the axis:



- 9 *Set properties, place start point*
Click point A (see illustration below).



Tip: The wall's offset direction is indicated by an arrow, which you can show and hide in the  **Point snap options, Point snap representation area.**

- 10 Move the crosshairs in the direction of point B and check the wall's offset direction: the axis of the wall is to rest exactly on the axis grid; the 0.08 m tier is to be at the top and the 0.24 m tier at the bottom. If this is not so, click  **Reverse** on the Wall Context toolbar.



11 *Set properties, to point*

Click point B and then points C, D and A.

12 Press ESC to finish entering these walls.

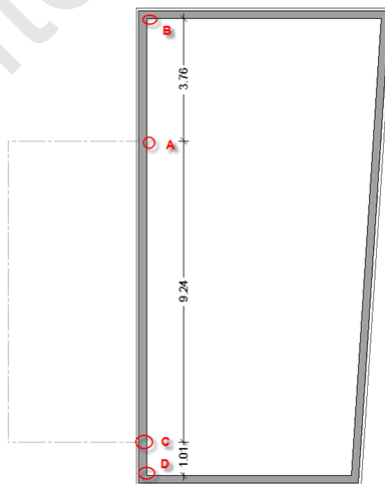
To delete wall sections

➡ Leave the settings as they are.

1 Click the exterior wall on the left with the right mouse button and select  **Delete Section of Linear Component** on the shortcut menu.

2 *From point*

Click the edge of the wall near point A.



3 *New reference point*

Check the arrow's position and direction: the tip of the arrow is to be positioned on point B and the arrow is to point downward. If this is not so, click point B to position the arrow on this point, enter the value **3.76** and press ENTER to confirm.

4 *To point*

Click the edge of the wall near point C.

5 *New reference point*

Check the position and direction of the arrow: the tip of the arrow is to be positioned on point D and the arrow is to point upward. If this is not so, click point D to position the arrow on this point, enter the value **1.01** and press ENTER to confirm.

6 *Select a linear component*

Press ESC as you do not want to delete more components.

Now use this method to create the exterior walls of the garage.

To create the exterior walls of the garage

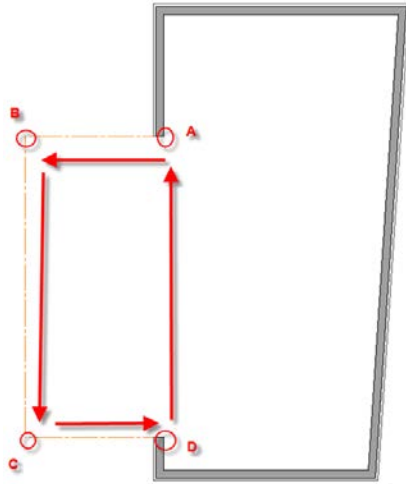
➡ Leave the settings as they are.

1 In the wizard, double-click wall type **03 In-situ concrete wall 240** with the right mouse button.

2 Open the  **Properties** of the wall to check the position of the axis.

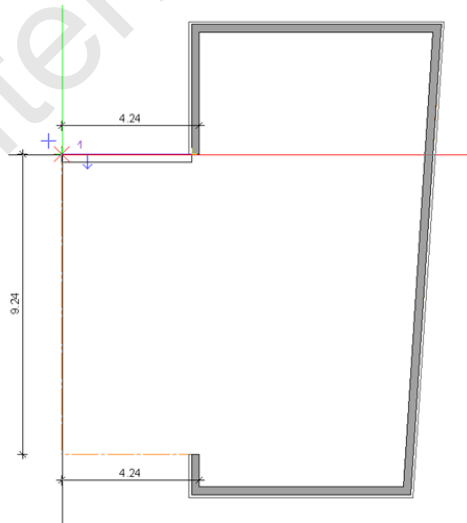
3 *Set properties, place start point*

Click point A (see illustration below).



4 *Set properties, to point*

Move the crosshairs in the direction of point B and check the wall's offset direction: the axis of the wall is to rest exactly on the axis grid, and the 0.24 m wall is to be at the bottom i.e. below the axis of the wall. Here, the blue arrow points downward. If this is not so, click  Reverse on the Wall Context toolbar.



5 *Set properties, to point*

Click point B and then points C, D or enter the relevant values for the length in the dialog line.

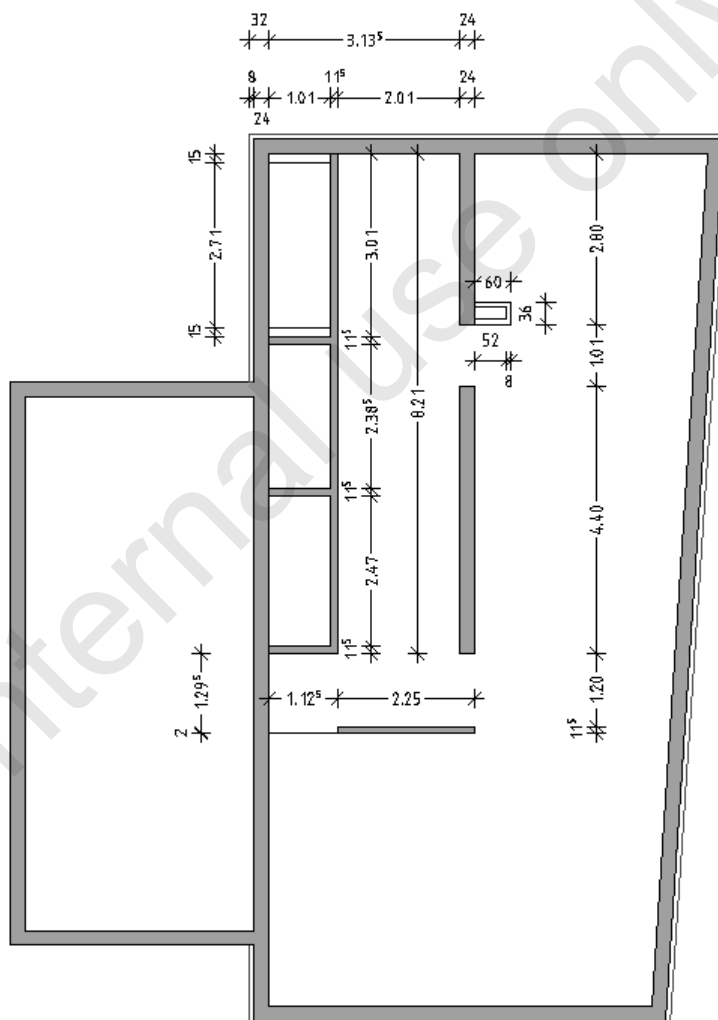
6 Now draw the wall between points D and A in the same way.

7 Press ESC to finish entering these walls.

8 Close drawing file 100.

Task 5: interior walls

Overview



Use the following tool(s) to do this:

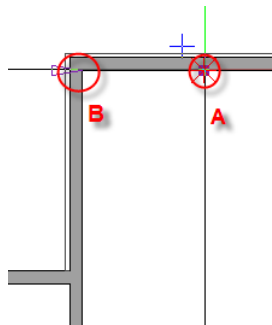
Function	How to activate it
 Delta point	Dialog line
 X coordinate	Dialog line
 Y coordinate	Dialog line

Solution

Next, you will design the interior walls for the ground floor.

To draw interior walls for WC, cloakroom and storeroom

- Structural level(s): **Building and Ground floor** active
 - Drawing file setting: 1000 current
 - Reference scale: 1:100
 - Unit of length: m
- 1 In the wizard, double-click wall type **04 Aerated concrete wall 115** with the right mouse button.
 - 2 *Set properties, place start point*
Click point A (see illustration below).



3 *New reference point*

Check the position of the reference point and the direction of the arrow. If necessary, change the position of the reference point by clicking point B.

4 Enter 1.01 for the offset to the reference point and press ENTER to confirm.

5 *Set properties, to point*

Activate  **Delta point** (if it isn't active) and  **Track line** in the dialog line and click  **Reverse** on the Wall Context toolbar.

6 Move the crosshairs downward in the direction of the 90.0-degree track line and check the wall's offset direction.

Now the blue arrow should point to the right. If this is not so, click  **Reverse** on the Wall Context toolbar.

7 *Set properties, to point*

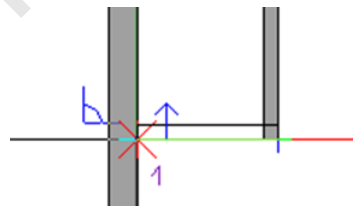
Enter 8.21 for  **Offset to reference point** in the dialog line and press ENTER to confirm.

The wall is drawn.

8 *Set properties, to point*

Click  **Reverse** again and point to the left in the direction of the 0.0-degree track line.

Now the blue arrow should point upward.



9 Click the interior line of the 0.24 m wall.

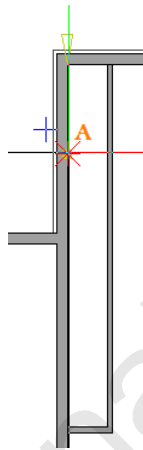
To draw partition walls between WC, cloakroom and storeroom

➤ Leave the settings as they are.

➤ Active tool:  Wall

1 *Set properties, place start point*

Click point A (see illustration below).

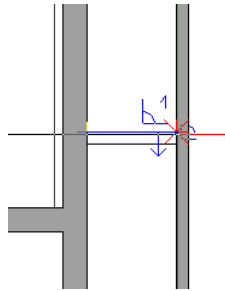


2 *New reference point or offset to reference point*

Check the position of the reference point and the direction of the arrow. If necessary, change the position of the reference point by clicking the point required. Enter 3.01 for the offset and press ENTER to confirm.

3 *Set properties, to point*

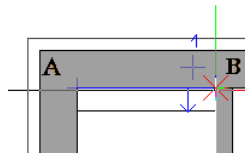
Point to the right in the direction of the interior wall. Check the wall's offset direction: the blue arrow should point downward. If this is not so, click  Reverse to change the wall's offset direction.



- 4 Click the line of the 11.5 cm interior wall.
- 5 *Set properties, place start point*
Now draw another partition wall below the one you just created. Use the dimensions given in the overview at the beginning of this task. Make sure that the wall's offset direction is correct.
- 6 Press ESC to finish.

To draw masonry for sanitary facilities

- ➡ Leave the settings as they are.
- 1 The masonry unit you will create at the exterior wall of the WC is to be half the height of the room. In the wizard, double-click wall type **07 Plumbing wall 150 HH** with the right mouse button.
Open the ☒ Properties of the wall. As you can see, the wall is 1.25 m high.
- 2 *Set properties, place start point*
Click point A (see illustration below).



3 *Set properties, to point*

Point to the right in the direction of the interior wall. Check the wall's offset direction: the blue arrow should point downward. If this is not so, click  **Reverse** to change the wall's offset direction.

4 Click the line of the 11.5 cm interior wall (= point B).

5 Press ESC twice to quit the tool.

6 Now draw a masonry unit at the opposite (interior) wall of the WC. This unit is to be as high as the room.

Use wall type **08 Plumbing wall 150 RH** in the wizard. Check the wall's offset direction.

To draw shaft walls and a partition wall for the kitchen

➡ Leave the settings as they are.

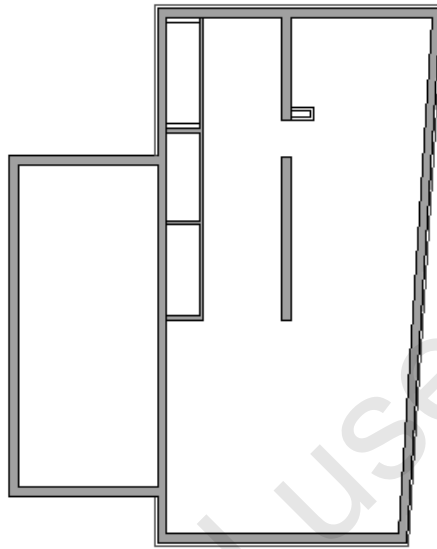
1 Start by creating the partition wall for the kitchen. In the wizard, double-click wall type **03 In-situ concrete wall 240** with the right mouse button.

2 Draw this wall using the same approach as for the other interior walls.

Use the values given in the illustration at the beginning of this task.

3 Next, draw the shaft walls. In the wizard, double-click wall type **05 Gypsum board wall 80** with the right mouse button.

Your drawing should now look like this:



To draw a wall for the open fireplace and a glass wall

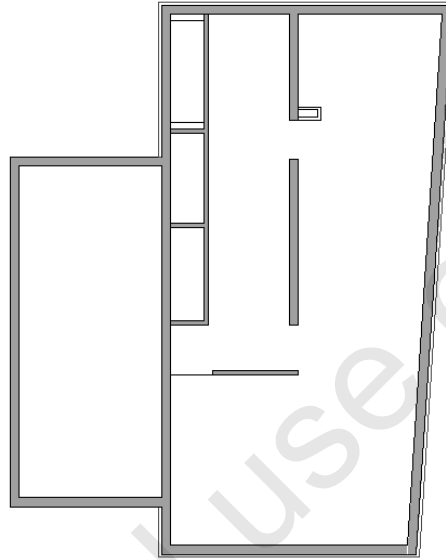
➡ Leave the settings as they are.

- 1 Start by creating the wall for the open fireplace.

In the wizard, double-click wall type **04 Aerated concrete wall 115** with the right mouse button. Use the values given in the illustration at the beginning of this task.

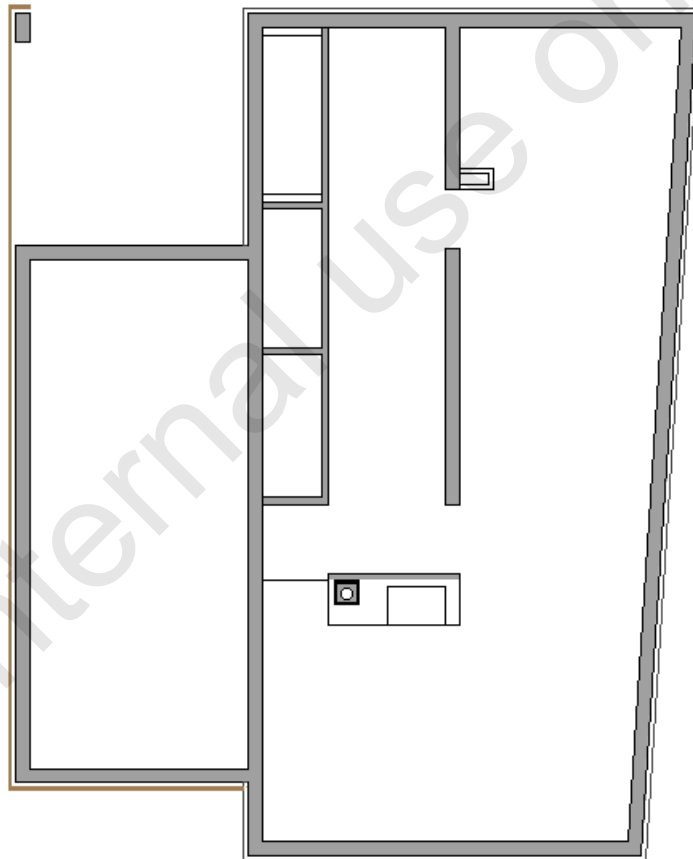
- 2 Finally, draw a wall made of glass in the area around the open fireplace. Use wall type **06 Glass wall 20**.

The drawing should now look like this:



Task 6: open fireplace, column, chimney and profile wall

Overview



Use the following tool(s) to do this:

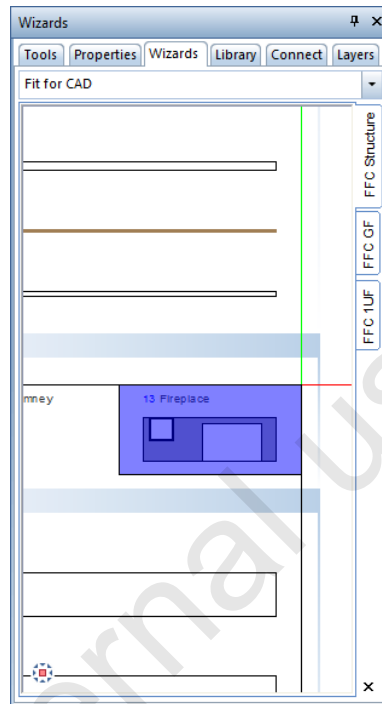
Function	How to activate it
 Point of intersection	Shortcut menu
 Offset Polyline	Basic family - Draft module - Create area
 Animation Window - Entire Model	Window menu or shortcut menu
 1 Viewport	Window menu
 2 + 1 Animation Window	Window menu
 Front Left, Southwest Isometric View	On the viewport toolbar at the bottom
 3D View	On the viewport toolbar at the bottom
Hidden/Wireframe	On the viewport toolbar at the bottom
 Zoom All	On the viewport toolbar at the bottom

Solution

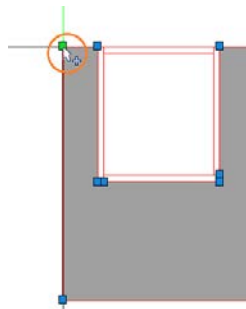
To place an open fireplace

- Structural level(s): Building and Ground floor active
- Drawing file setting: 1000 current
- Reference scale: 1:100
- Unit of length: m

- 1 In the wizard, select all elements of component 13 Fireplace by enclosing them in a selection rectangle using the left mouse button (from left to right).



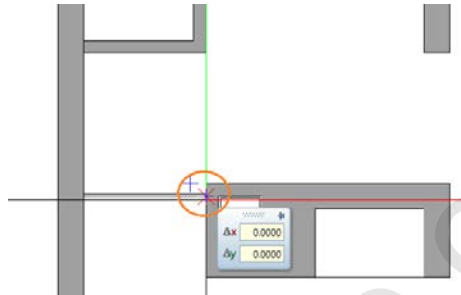
- 2 Click the top left corner of the fireplace with the left mouse button.



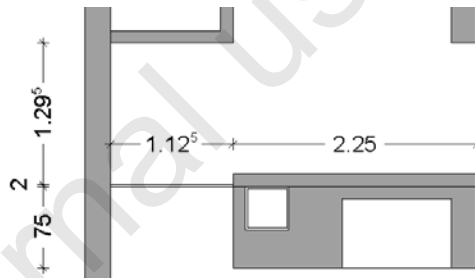
- 3 Move the cursor into the workspace.

4 *To point*

Click the bottom right corner of the glass wall (i.e. the bottom left corner of the wall you created for the fireplace).



5 Press ESC to finish.



This places the fireplace.

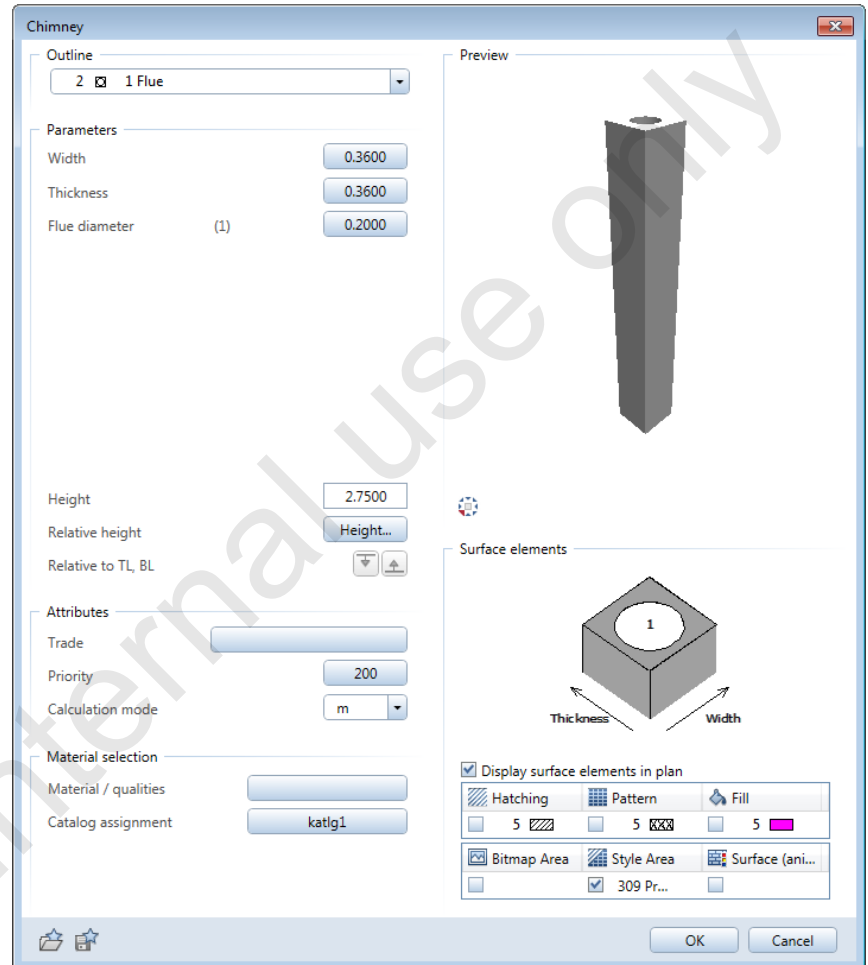
To place a column

➡ Leave the settings as they are.

- 1 In the wizard, double-click component 11 **Column** with the right mouse button.
- 2 *Set properties or place drop-in point*
On the **Column** Context toolbar, set the anchor point to top left.
- 3 Point to point A (corner of the 24 cm exterior walls) to snap it.

2 Set properties or place drop-in point

On the Chimney Context toolbar, click  **Properties** and check the following settings:



3 Click OK to close the dialog box.

Allplan automatically selects the AR_CHIMN layer. Check this on the **Format** toolbar.

4 *Set properties or place drop-in point*

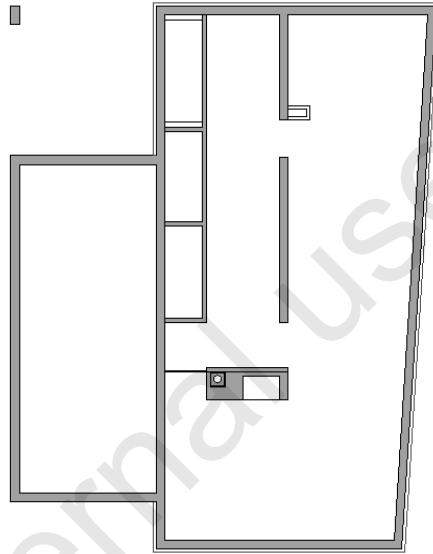
On the **Chimney** Context toolbar, set the anchor point to



bottom left and place the chimney as shown in the illustration.

5 Press ESC to finish.

Your drawing should now look like this:



To draw a profile wall

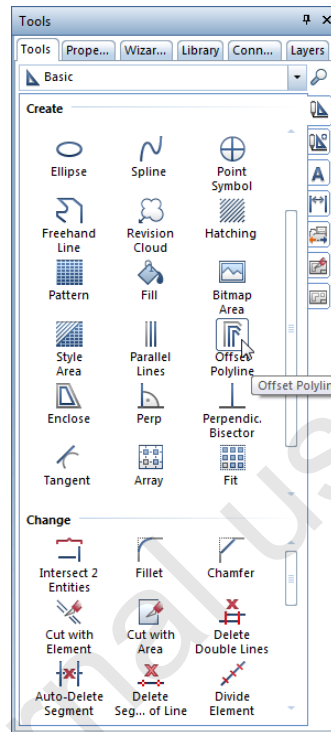
☞ Leave the settings as they are.

- 1 Start by drawing a construction line, which will help you design the profile wall.

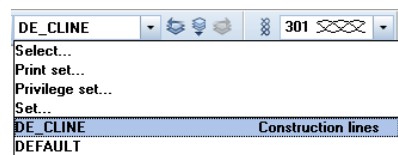
Switch to the **Tools** palette.

- 2 Select the **Draft** module (**Basic** family).

- 3 Select the  Offset Polyline tool in the Create area.



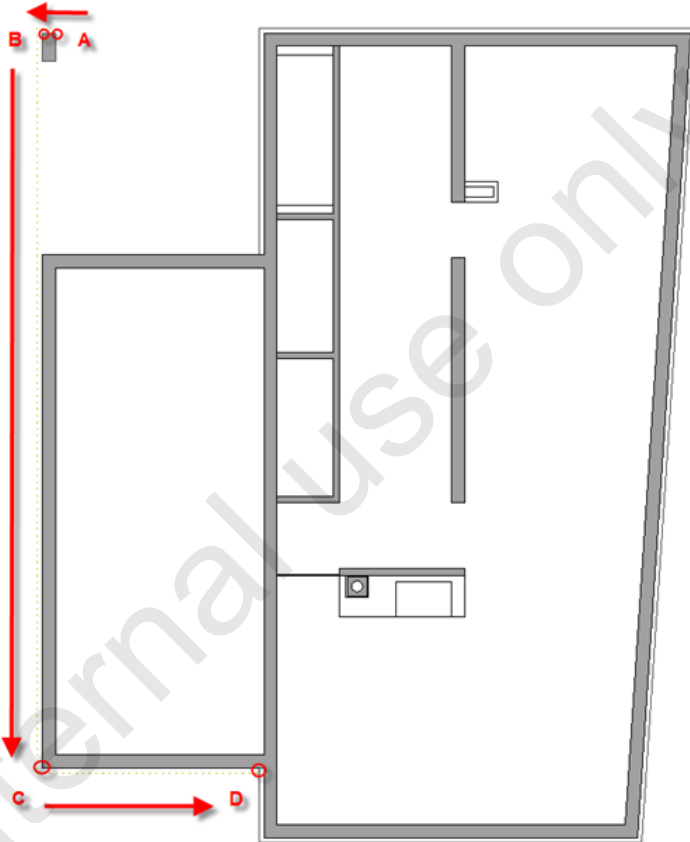
- 4 Activate the construction line layer DE_CLINE in the Select, Set Layers list box (Format toolbar).



- 5 *Number of parallel lines*
Enter 1 and press ENTER to confirm.
- 6 *Offset*
Enter 0.08 m and press ENTER to confirm.

7 *Polygon point 1 or offset*

Start at the top right corner of the column (= point A).



8 Click **right** in the Input options.

9 *Polygon point 2, 3, 4 or offset*

Click points B, C and D one after the other.

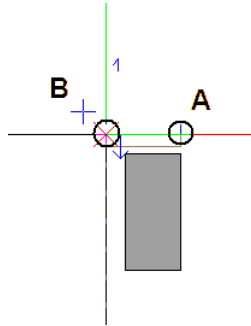
The construction line is drawn.

10 Press ESC twice to quit the tool.

11 To draw the profile wall, switch back to the Wizards palette and double-click wall type **09 Profile wall 50** with the right mouse button.

12 *Set properties, place start point*

To define the first point, click the top right end point of the construction line (= point A).



13 *Set properties, to point*

Point to the left in the direction of point B and check the wall's offset direction: the blue arrow points downward. If this is not so, click  **Reverse** to change the wall's offset direction.

14 Click the other corners of the construction line.

15 Press ESC to finish entering the profile wall.

A note on visual design checks

Allplan has automatically assigned height values to the individual components of the floor plan while you entered it. In other words, you have already worked in three dimensions without noticing it. To check and see how the building looks in three-dimensional space, it is best to view it in animation mode.

To open an animation window

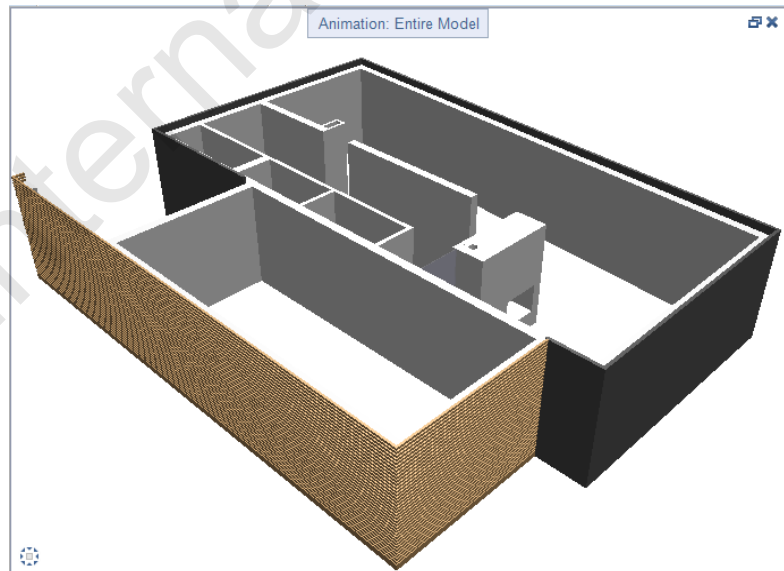
➡ Leave the settings as they are.

1 Press the F4 KEY.

Or:

Click in the workspace with the right mouse button and select  **Animation Window – Entire Model** on the shortcut menu.

The 3D model is displayed in color in a separate window – the animation window



2 Sphere mode is active by default. In **Sphere mode** (default setting), the camera is guided on an imaginary sphere around the

target point located at the center of the sphere by pressing and holding the left mouse button while dragging.

Note: It is the observer that moves, not the object!

- 3 Experiment with the three mouse buttons: press and hold down one of the three mouse buttons and drag.

The following movements are possible in sphere mode:

- Turn camera about object on the surface of an imaginary sphere: hold down the left mouse button (cursor shape: ).
- Move camera laterally/up/down hold down the middle mouse button (cursor shape: ).
- Move camera towards/away from object: hold down the right mouse button or use the mouse wheel (cursor shape: ).

Tip: You can use **Copy to Clipboard (View menu)** to quickly transfer the contents of the different viewports to other applications like Word, Excel, Powerpoint.

Tip: You can print the contents of the different viewports quickly using the print preview or you can save them as a PDF file.

- 4 The **Plan** viewport and the **Animation: Entire Model** window are displayed beside each other on screen. Save this arrangement.

On the **Window** menu, point to **Save, Load Arrangement**; on the submenu, click **Save, Load....** The **Save, Load Arrangement** dialog box is displayed. Click **New**, enter **Fit for CAD** for the name and **Close** the dialog box. Now you can retrieve this setting whenever you need.

- 5 Quit animation mode.

Close the animation window by clicking the X in the top right corner.

Or:

On the **Window** menu, click  1 Viewport.

- 6 Now is a good time to try out the other arrangements provided on the **Window** menu such as  2 + 1 Animation Window.

A note on perspective views and hidden line images

To check the 3D floor plan in perspective view, you can use the hidden line representation. All you need to do is display the floor plan in an isometric view and then make the hidden line image.

To create a hidden line image

- Leave the settings as they are.
- 1 Select  2 + 1 Animation Window (Window menu).
- 2 Use the tools in the bottom border of the viewport to set the view in the bottom left viewport as you need.

The following table from unit 1 should serve as a guideline:

Icon	Function	Use
	Standard Views flyout	You can choose between plan view and any of the standard views.
	Plan	Displays the drawing in plan view.
	Rear Left, Northwest Isometric View	Displays the drawing in rear left isometric view.
	Rear, North Elevation	Displays the drawing in rear elevation.
	Rear Right, Northeast Isometric View	Displays the drawing in rear right isometric view.
	Left, West Elevation	Displays the drawing in left elevation.
	Right, East Elevation	Displays the drawing in right elevation.
	Front Left, Southwest Isometric View	Displays the drawing in front left isometric view.
	Front, South Elevation	Displays the drawing in front elevation.
	Front Right, Southeast Isometric View	Displays the drawing in front right isometric view.

**Zoom All**

Sets the display scale so that all the elements in the visible documents (active, edit or reference) are all visible. But if you have loaded a view using  **Save, Load View**, only this view is displayed.

Press ESC to cancel the process.

Tip: You can also double-click the middle mouse button.

**Zoom Section**

Zooms a section of the workspace. Press and hold down the left mouse button and enclose the elements you want to zoom in a selection rectangle.

Note: If several viewports are open, the zoomed section is displayed in the viewport in which you clicked the button. The section itself, however, can be defined in any of the viewports. Requirements: you have not selected a perspective view and the same view is displayed in both viewports.

Tip: You can also use the right mouse button to define the section without activating the tool.

**Navigation Mode**

In a *viewport*: sets a perspective view. When dragging, the cursor behaves in the same way as in animation windows (sphere mode, camera mode).

In an *animation window*: when switched off, you can draw in animation windows as you would in isometric windows.

**Previous View**

Displays the previous view.

**Next View**

Displays the next view.

**Save, Load View**

Saves the current view or loads a view you have saved. Thus, you can set views you use frequently.

Note: As long as the  icon is active (pressed in), clicking  **Zoom All** does not display the entire drawing but just the saved view. To deactivate the icon, click it again.

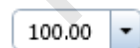
**3D View**

Opens the 3D View dialog box, where you can set views.

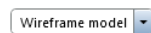
For more information, see "3D View".

**Section Display**

Displays an architectural section that you have defined with  **Clipping Path**. You can identify the section's clipping path by clicking, or by entering the section identifier.

**Display Scale**

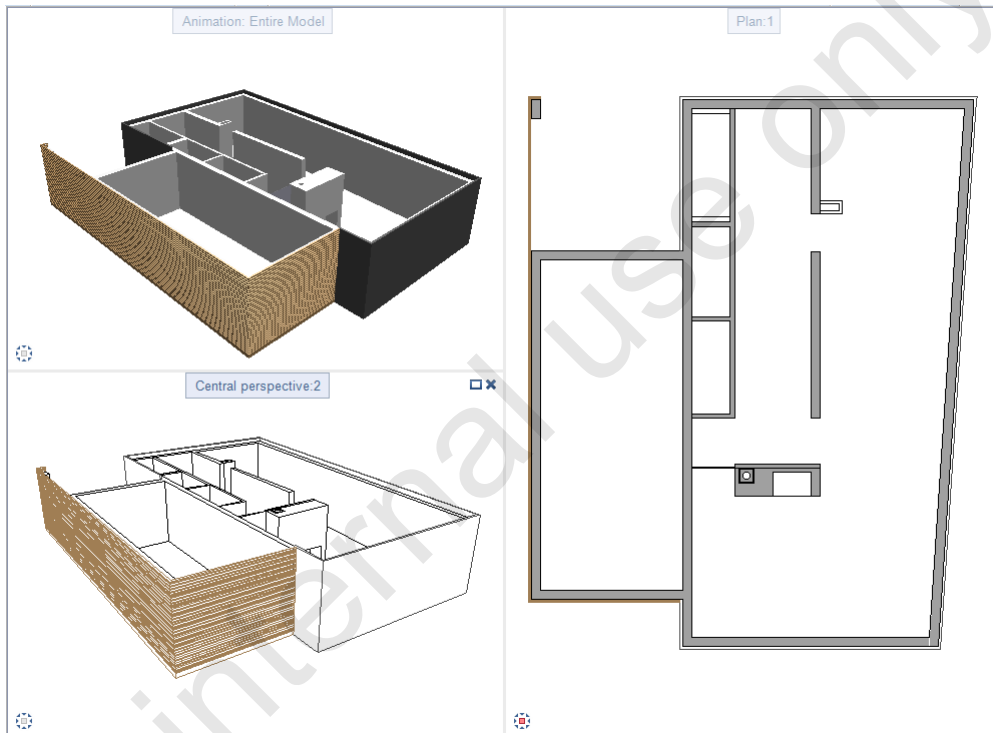
Sets the display scale. You can select from a list of default values or enter any value in the data entry box. Then press ENTER to confirm.

**View Type**

Displays the current contents of the viewport as a hidden line image (on/off).

- 3 In this exercise, select  **Front Left, Southwest Isometric View** or try out a  **3D View**.
- 4 Select the **Hidden line image** view type on the toolbar at bottom right of the viewport with the isometric view.

Allplan calculates the hidden line image.



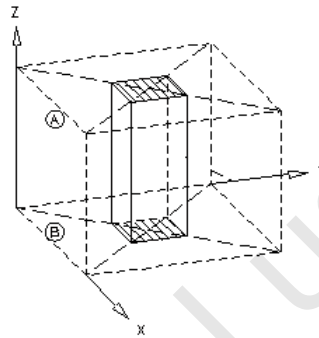
- 5 Finally, restore the original arrangement of viewports.

On the Window menu, point to **Save, Load Arrangement** and click **Fit for CAD** on the submenu.

Task 7: height setup

Introduction

The concept of reference planes in Allplan



(A) Upper default reference plane
(B) Lower default reference plane

The reference planes in Allplan are an important instrument enabling an efficient approach to three-dimensional design. Reference planes can be used to define the height and elevation of architectural elements, to create stories or model “roofscapes”.

In other words, you can use reference planes to delimit the top and bottom levels of components. In general, the default reference planes are used. You can also define your own custom reference planes or roof planes if necessary.

Let's start with Allplan's default reference planes.

Each document in Allplan (with the exception of layouts) has a pair of default reference planes. You can set the height of these planes, which apply to the entire document, separately for each document.

Imagine two horizontal planes in three-dimensional space, parallel to each other and at different height. By associating the height of a wall with the planes, Allplan will ‘stretch’ the wall so that its top and bottom levels are flush with the upper and lower planes, respectively. If you want, you can also enter an offset distance between the wall's top and bottom and the planes.

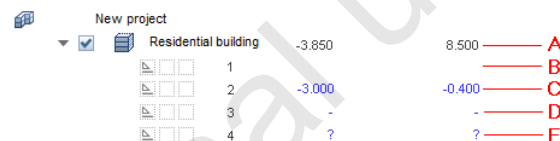
The advantage of this method is that with a change to the reference planes, all component heights that were defined as reference plane-dependent automatically change, too.

You can define and modify default reference planes separately for each document. These planes are regarded as default reference planes with custom height settings at top or bottom. The default reference planes can also be part of a plane model, which can be entered via the floor manager.

In this training project, you will use the planes of the plane model you created previously. These planes are already assigned to the individual documents (= drawing files) of the different stories.

Displaying the height of default reference planes

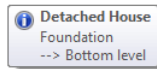
The height of the lower and upper default reference planes is displayed as follows in the dialog box:



- A: the height of the associated default reference planes is displayed beside the relevant structural level.
- B: when a drawing file adopts the height of the default reference planes from the superordinate structural level, nothing is displayed.
- C: when the height of the default reference planes in a drawing file differs from the height assigned to the superordinate structural level, the height is displayed in blue.
- D: when a drawing file does not adopt its default reference planes from the plane model, "-" is displayed.
- E: if the default reference planes assigned to a drawing file are not available, "?" is displayed (for example, when you delete the planes from the plane model later).

When you move the cursor over a height displayed, the ToolTip shows the name of the plane model, pair of reference planes and of the default reference plane.

-0.200 2.400



Defining the component height

When you create or change an architectural element (a wall, for example), you can define or modify its height. You can also attach the top and bottom levels of a component to the planes at an offset you specify.

Depending on the application at hand, you can define the height in a number of ways:

- As an absolute value (relative to the datum) with  
- Relative to the default reference plane with   or  
- Relative to a custom reference plane with   or  
- Relative to the top and bottom of an existing element with  
- In conjunction with inclined reference elements (for example, custom planes or existing elements), you can specify how the offset to these elements is to be interpreted:
 - Click  **Perpendicular offset** if the offset is to be interpreted as perpendicular to the reference.
 - Click  **Vertical offset** if the offset is to be interpreted as vertical.
- As a fixed component height with 
- As a maximum TL height with 
- Adaptation of the component's upper edge to the upper reference plane with   

In this example, the component height is taken from the wizard. The next step is to check and, if necessary, correct the height setup.

Overview

Use the following tool(s) to do this:

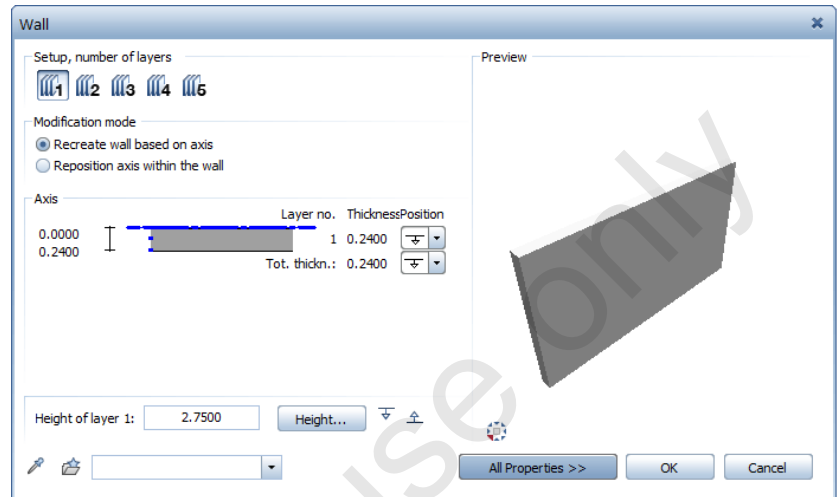
Function	How to activate it
 Change Archit. Properties	Tools palette - Architecture family - General: Roofs, Planes, Sections module - Change area
 Filter by Archit. Element Type	Filter Assistant toolbar
 Elevation Point	Shortcut menu

Solution

To check the height of the interior walls

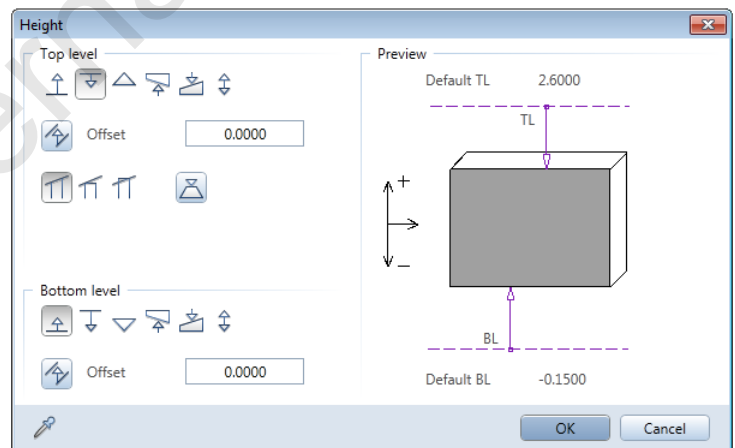
- Structural level(s): **Building** and **Ground floor** active
 - Drawing file setting: **1000** current
 - Reference scale: **1:100**
 - Unit of length: **m**
- 1 Double-click a 24 cm interior wall with the left mouse button.

The Wall dialog box opens.



2 Click the Height... button.

The Height dialog box opens.



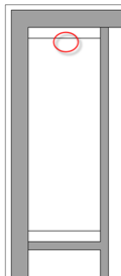
The top and bottom of the wall were associated with the upper and lower reference plane so that they are flush. In other words, the offset distance between the wall's top and bottom and the planes is 0.000.

As a result, the height of the default reference planes defines the height of the walls: default BL at -0.15 and default TL at 2.60.

- 3 Press ESC as you do not want to change the height of the walls.
-

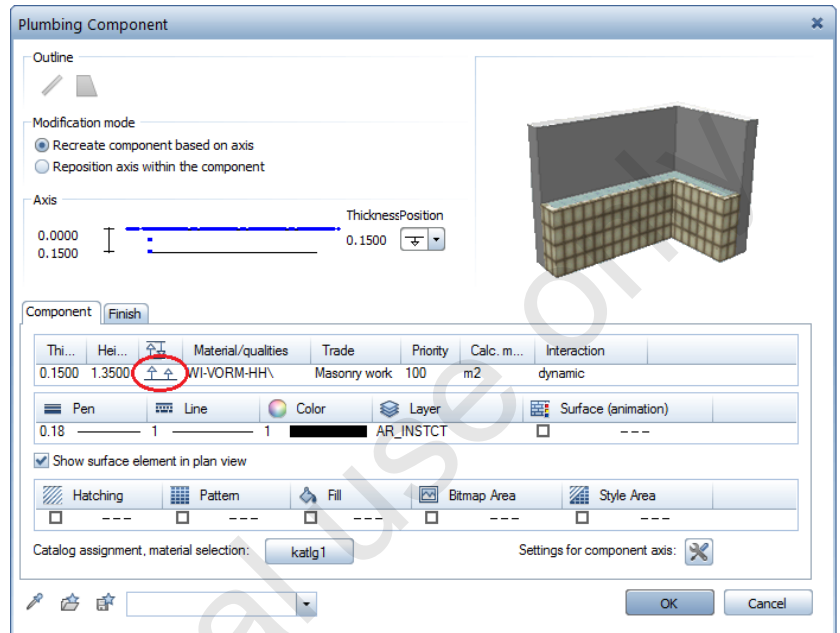
To check the height of the plumbing wall

- ➡ Leave the settings as they are.
- 1 Double-click the masonry unit at the exterior wall of the WC with the left mouse button.

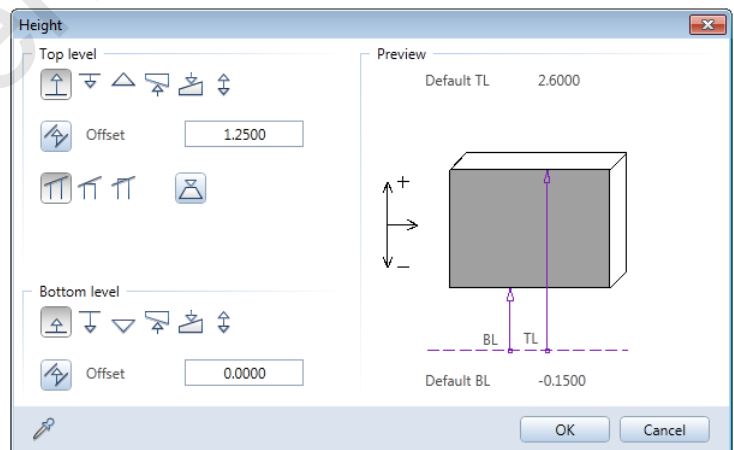


The **Plumbing Component** dialog box opens.

2 Click the icon beside the Height column.



The Height dialog box opens.

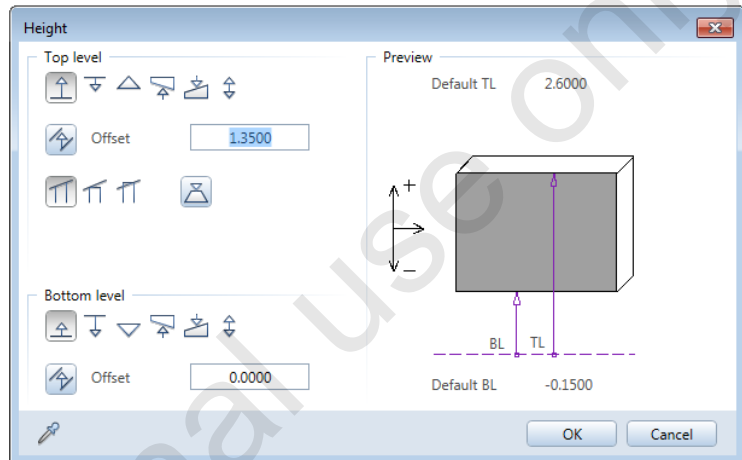


Different offset values were used to associate the top and bottom of the wall with the lower reference plane.

The height of the lower default reference plane (default BL at -0.15) defines the height of the wall.

- 3 To achieve a component height of 1.35 m, you will now change the top level of the plumbing component.

In the **Top level** area, enter 1.35 to specify the new offset to the lower reference plane.

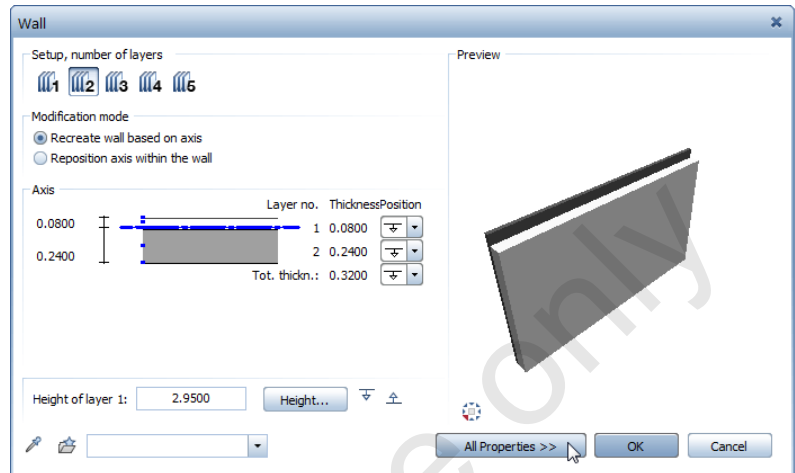


- 4 Click **OK** to confirm the dialog boxes.

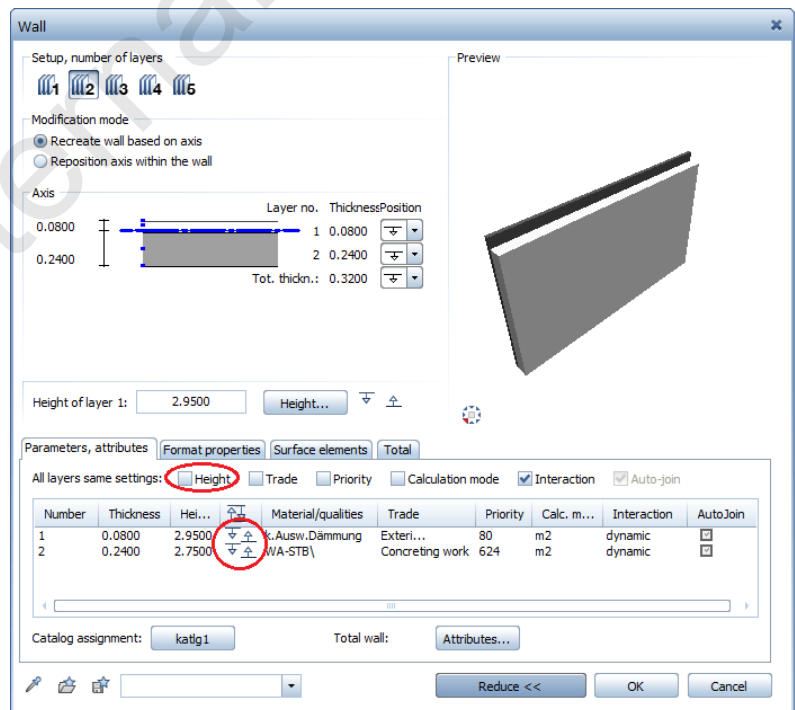
Allplan changes the top level of the plumbing wall.

To check the height of the two-tier exterior wall

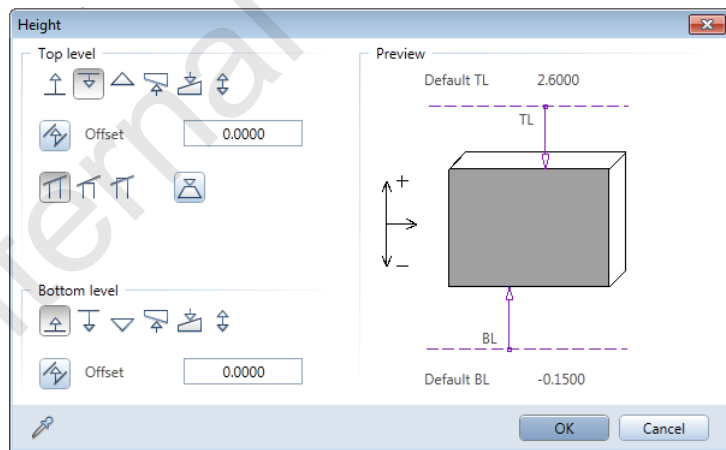
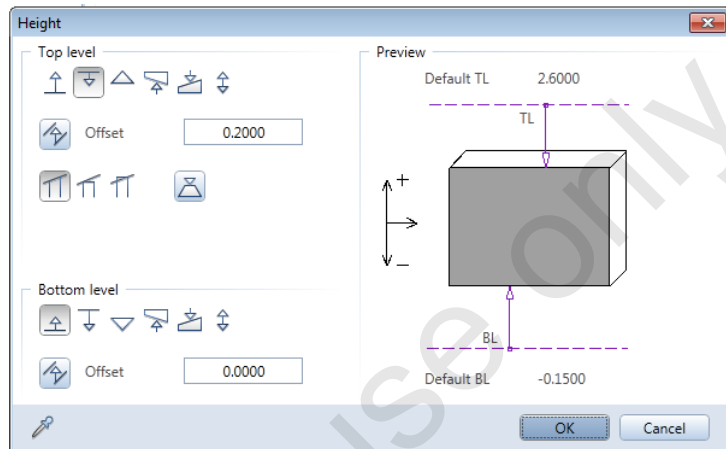
- ➡ Leave the settings as they are.
- 1 Double-click a two-tier exterior wall with the left mouse button.
The Wall dialog box opens.
- 2 If the Wall dialog box looks like this, click **All Properties >>**.



All the parameters of the wall are displayed. You can see that the **All layers same settings: Height** option is not active on the **Parameters, Attributes** tab. With this setting, you can define the height separately for each layer.



- 3 Click the height icons of the individual layers one after the other.
The **Height** dialog box opens for each layer clicked.



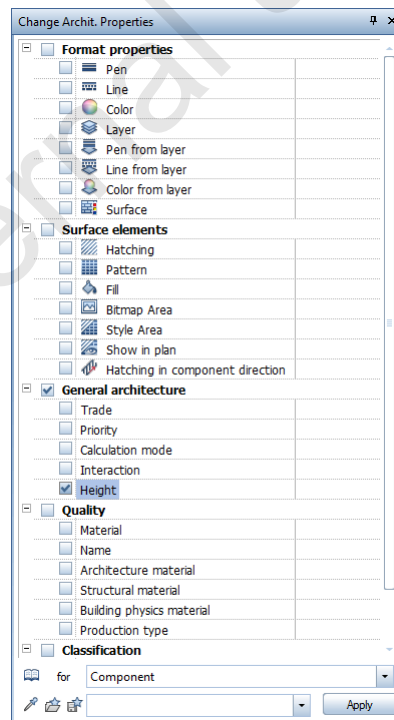
You can see that different offset values were used to associate the top levels of the two wall tiers with the upper reference plane whereas the bottom levels are identical. The height of the individual wall tiers is defined by the height of the default reference planes: default BL at -0.15 and default TL at 2.60.

- 4 Press ESC as you do not want to modify the height settings.

As the slab above the ground floor ($d = 20$ cm) is to rest on the inner tier of the exterior wall, the exterior walls already have an upstand of 20 cm. However, the insulation in the area around the chimney also needs to extend as far as the top level of the slab. Therefore you will now set the height accordingly.

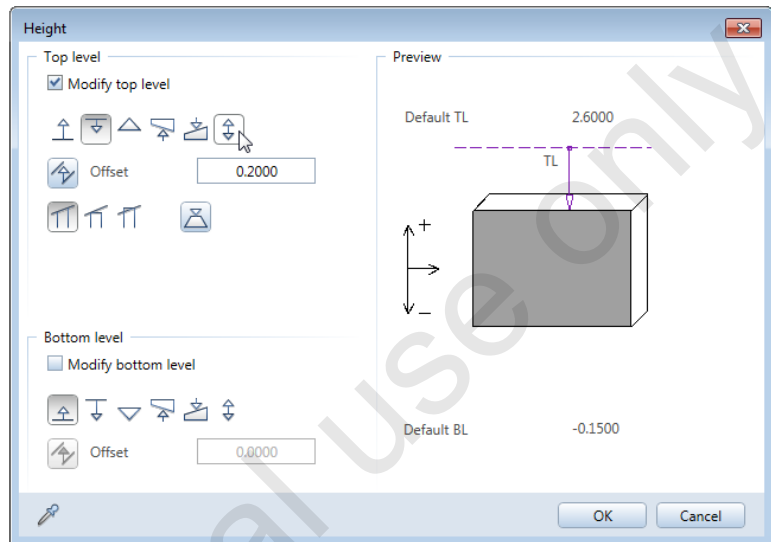
To correct the height of the insulation's top level in the area around the chimney

- Leave the settings as they are.
- 1 Switch to the Tools palette.
- 2 Click  **Change Archit. Properties** (Architecture family, General: Roofs, Planes, Sections module, Change area).
- 3 Scroll down to the **General architecture** area and select the **Height** check box.



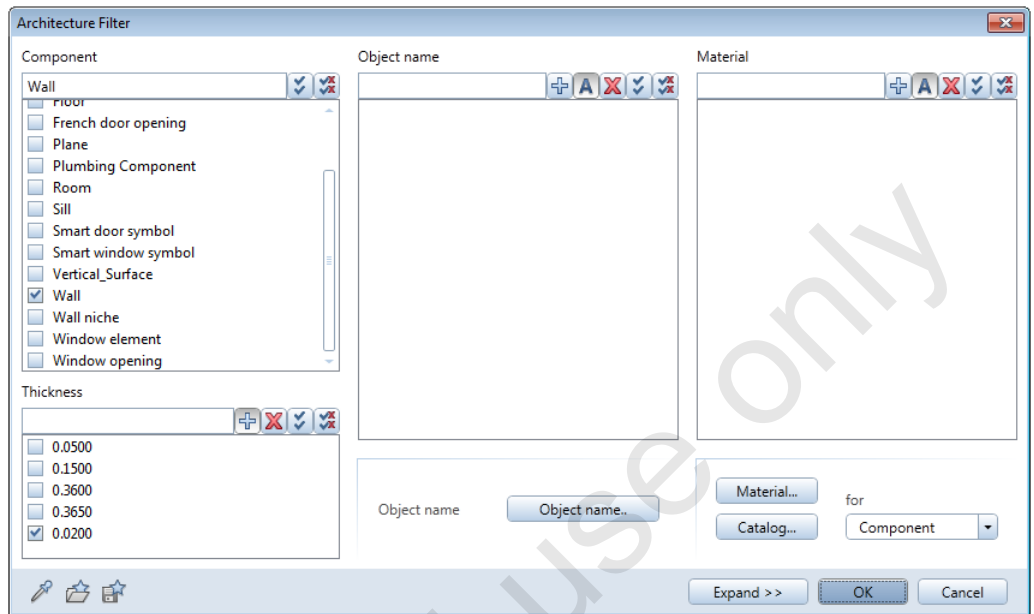
The **Height** dialog box opens automatically.

- 4 Select the **Modify top level** option, make the following settings and click **OK** to confirm.

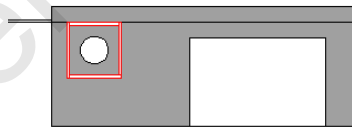


- 5 Set properties, select elements you want to modify
Click  **Filter by Archit. Element Type** (Filter Assistant toolbar).
- 6 The **Architecture Filter** dialog box opens. Select **Wall** in the **Component** area and **0.020** in the **Thickness** area. Then click **OK** to confirm.

Note: If you cannot find the thickness you require, click the + icon and type in the value you need to add it to the selection.



- 7 Set properties, select elements you want to modify <Wall 0.020>
Enclose the chimney and the fireplace in a selection rectangle
(from bottom left to top right).



Make sure that *only* the 2 cm layer of insulation applied to the chimney is displayed in the selection color.

Tip: When the dialog line prompts you to *confirm settings*, you can also do this by double-clicking in the workspace with the right mouse button.

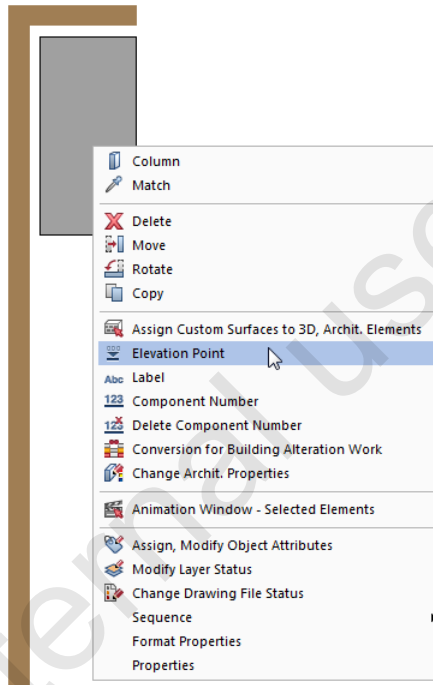
- 8 Click **Apply** in the **Change Archit. Properties** dialog box and press ESC to quit the tool.

As the slab above the parking space in front of the garage is 20 cm higher than the slab above the ground floor, you also need to correct the height of the column's top level. To see better what you are doing, you will start by placing elevation specifications for the column.

To correct the height of the column's top level

➡ Leave the settings as they are.

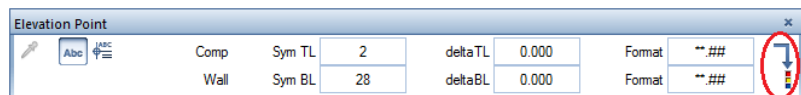
- 1 Click the column with the the right mouse button to open its shortcut menu and select  Elevation Spec.



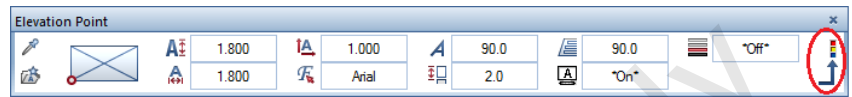
On the Elevation Point Context toolbar, you can select symbols for the component's top and bottom levels and specify the format.

- 2 First set the label's text height and font.

To do this, click  Toggle.

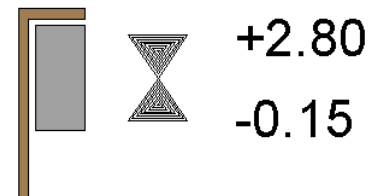
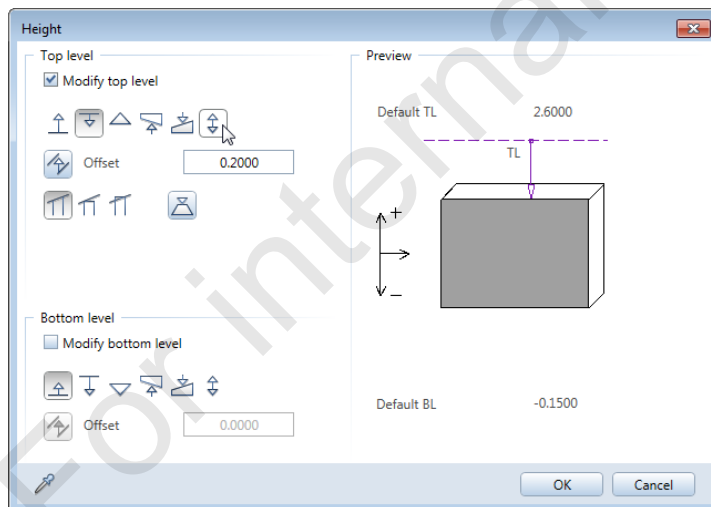


- 3 Enter the following values and then click  Toggle again. This takes you back to the previous Context toolbar.



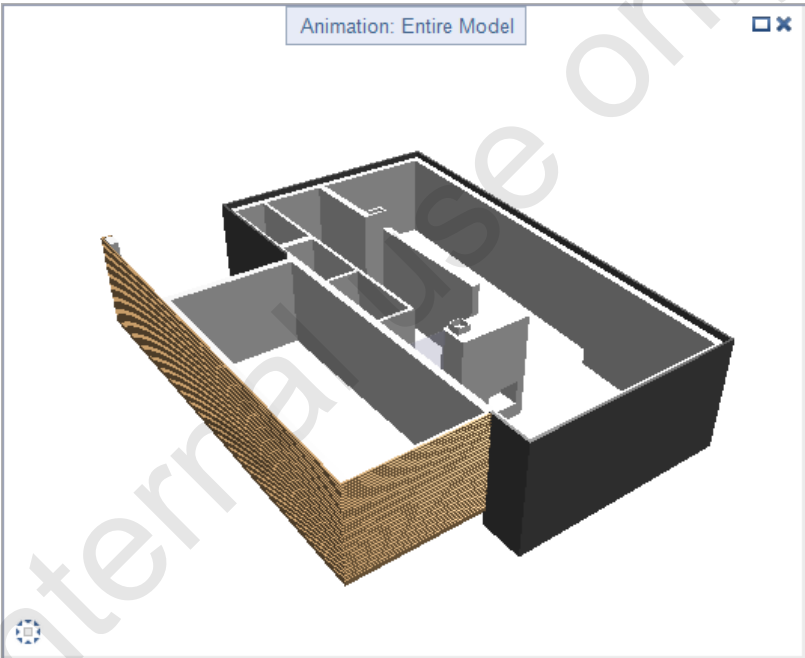
- 4 Check that the layer AR_ELEVA is active (Format toolbar), place the elevation specifications beside the column and press ESC to quit the tool.
- 5 Now you should be able to modify the height of the column's top level yourself. Use the  Change Archit. Properties tool (Architecture family - General: Roofs, Planes, Sections module - Change area).

When you have finished, use the elevation specifications to check the result.



Task 8: lowering an area of the story using custom planes

Overview



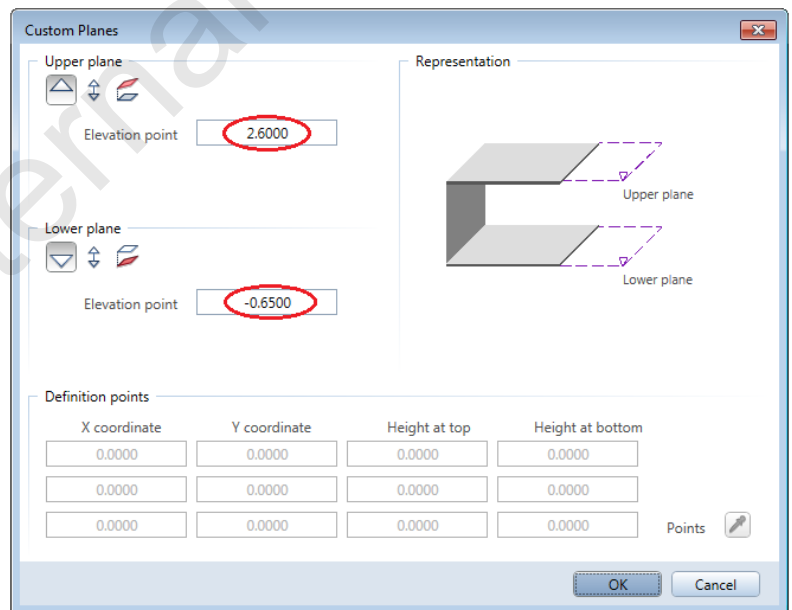
Use the following tool(s) to do this:

Function	How to activate it
 Custom Planes	Tools palette - Architecture family - General: Roofs, Planes, Sections module - Create area

Solution

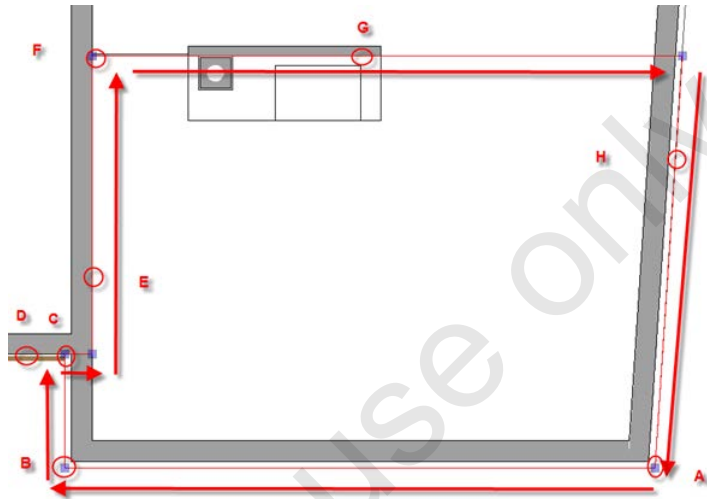
To lower an area of the story using custom planes

- Structural level(s): **Building and Ground floor** active
 - Drawing file setting: **1000** current
 - Reference scale: **1:100**
 - Unit of length: **m**
 - In the Tools palette: **Architecture family - General: Roofs, Planes, Sections** module
- 1 Select the  **Custom Planes** tool (Create area).
 - 2 Check that the layer **AR_PLANE** is active on the **Format** toolbar; if it isn't, select it.
 - 3 On the **Custom Planes** Context toolbar, click  **Properties** and make the following settings:



- 4 Click **OK** to close the dialog box.

- 5 *Set properties, place polygon point 1, element or offset*
Click point A and then points B and C.

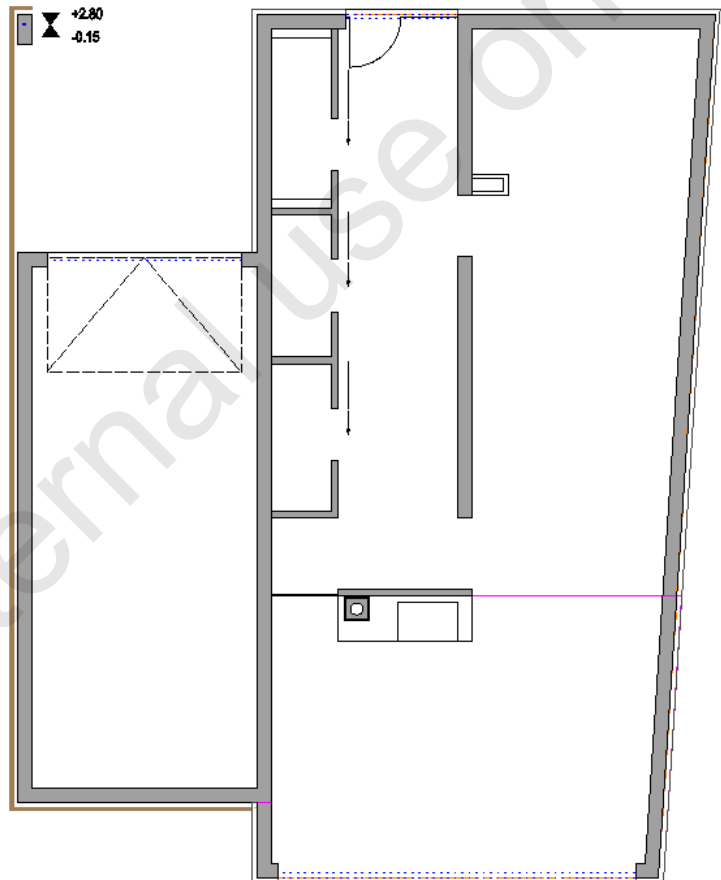


- 6 Next, click the point where lines D and E intersect (shortcut menu).
- 7 Click point F.
- 8 Next, click the point where lines G and H intersect (shortcut menu).
- 9 Press ESC twice to close the polyline and to quit the tool.

The walls in the area delimited by the pair of custom reference planes automatically adapt to the “new” envelope imposed by the new planes. Open an animation window to check this.

Task 9: door openings, garage door, French doors

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Door	Tools palette - Architecture family - Basic: Walls, Openings, Components module - Create area
 Apply Archit. Component Properties	Tools palette - Architecture family - Basic: Walls, Openings, Components module - Change area

Solution

First create two door openings with an opening symbol but without a door sill, smart symbol and reveal.

To create wall openings for interior doors

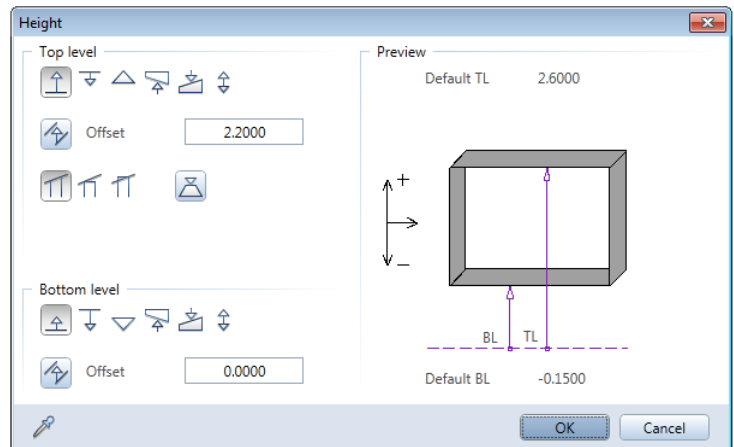
- Structural level(s): **Building** and **Ground floor** active
 - Drawing file setting: **1000** current
 - Reference scale: **1:100**
 - Unit of length: **m**
 - In the Tools palette: **Architecture family - Basic: Walls, Openings, Components** module
- 1 Select the  **Door** tool (Create area).
 - 2 *Set properties or click a line of an exterior wall*
Click  **Properties** and then the icon under **Opening** direc on the **Opening** tab.

- 3 The **Door swing symbols** dialog box appears. Make the following selection:

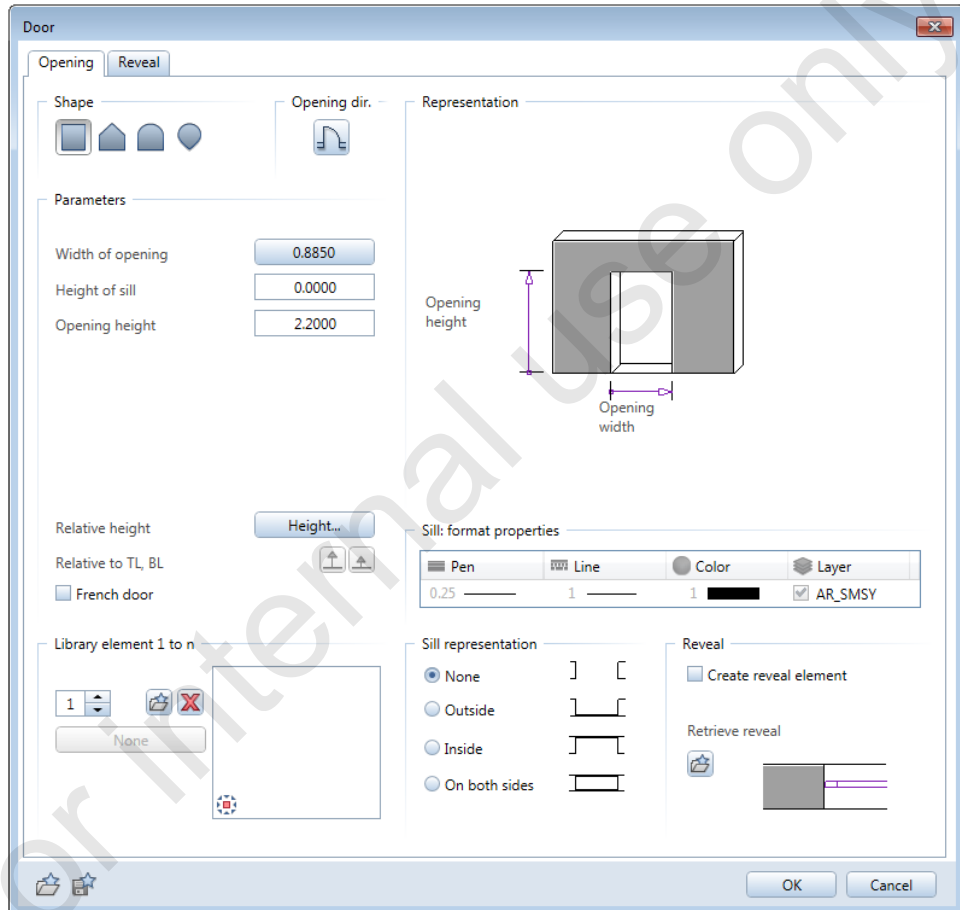


The selected symbol is displayed.

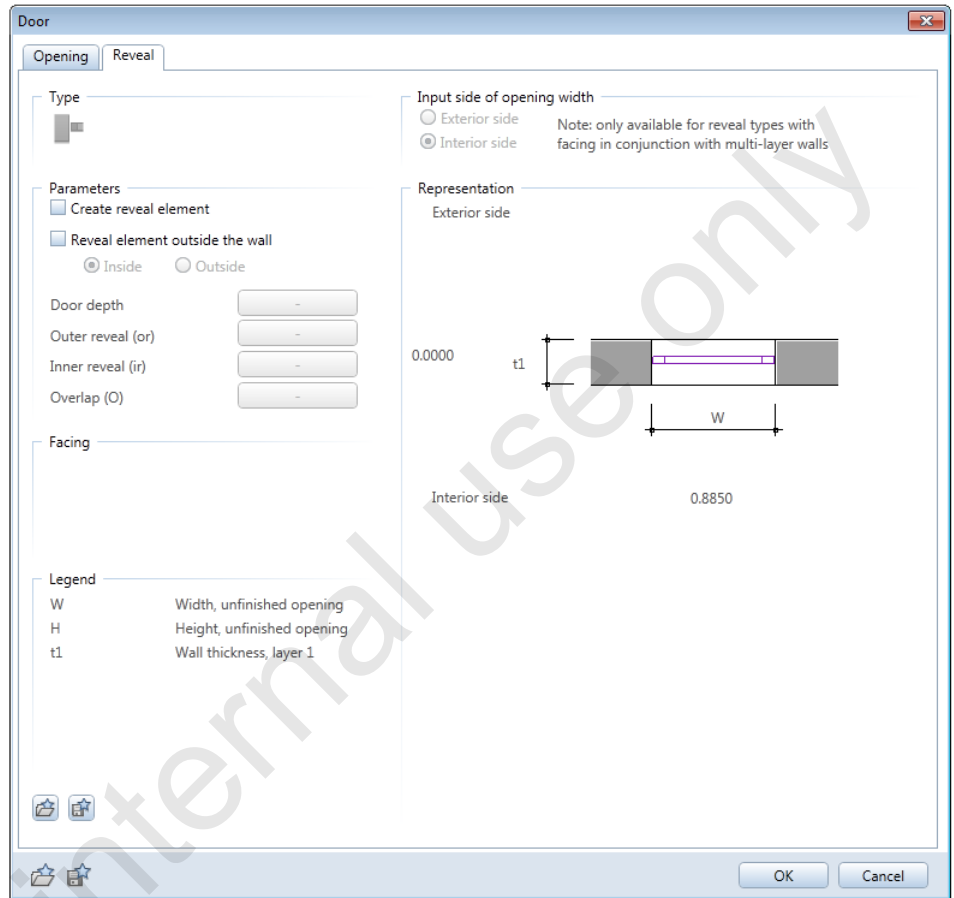
- 4 Set the **Opening width** to **0.885 m**.
- 5 Click the **Height...** button and enter the following values in the **Height** dialog box:
- **Top level:**  TL relative to the lower plane = **2.200 m**
 - **Bottom level:**  BL relative to the lower plane = **0.000 m**



- 6 Click OK to confirm the Height dialog box.
The values are entered in the Door dialog box.
- 7 In the Reveal area, clear the Create reveal element check box.
- 8 Set the Door sill to None.



9 Switch to the Reveal tab.

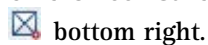


Parameters are not selected.

10 Click **OK** to confirm the settings in the **Door** dialog box.

11 *Set properties or click a line of an exterior wall*

On the **Door** Context toolbar, set the door's anchor point to

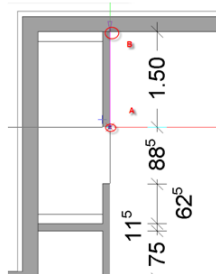


bottom right.

12 Make sure that the  **Enter offset directly on/off** option is switched off in the dialog line.

13 *Set properties or click a line of an exterior wall*

Move the crosshairs to the 11.5 cm wall near point A so that the position of the door opening is roughly correct, then click.



14 *New reference point or offset to reference point*

Check the position of the reference point

15 Specify the offset of the door to the wall (= reference point) by entering 1.50 m in the dialog line and confirm.

16 *Set properties, end point or offset to end of opening*

Confirm the opening width of 0.885 m displayed in the dialog line.

The first door opening is created.

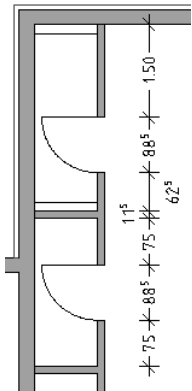
17 *Door swing*

Set the layer AR_DOOR in the Select, Set Layers list box (Format toolbar).

18 To place the symbol correctly, point to the top left corner of the door opening, then click.

19 Use the same approach to create the opening for the cloakroom door. Use the dimensions given in the illustration.

20 Press ESC to quit the tool.

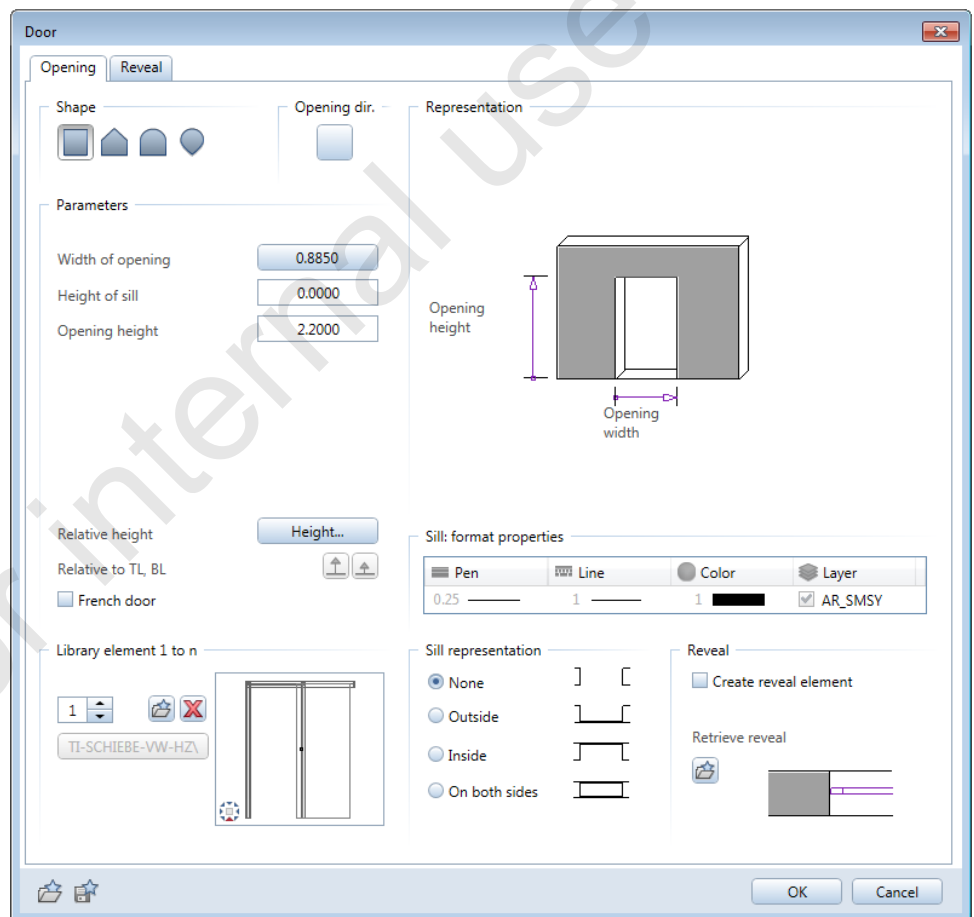


Next, create another opening for an interior door and the garage door. Use the Fit for CAD - FFC GF wizard.

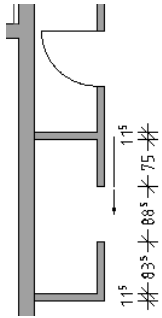
To create an interior door and the garage door

➡ Leave the settings as they are.

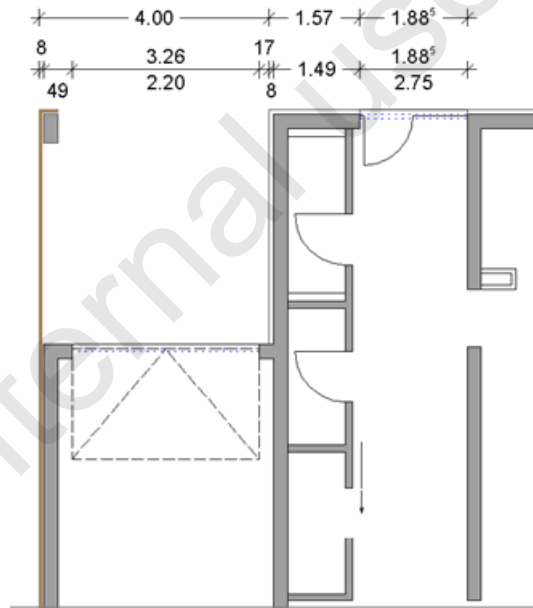
- 1 Switch to the Wizards palette and select wizard FFC GF.
- 2 Double-click D02 Sliding door with the right mouse button. Make sure that you select the door opening. Do not click the wall.
- 3 *Set properties or click a line of an exterior wall*
Check the door's ☒ Properties:



All the properties of the component clicked have been transferred to the dialog box and are now displayed. As you can see, a predefined smart door symbol is available.



- 4 Enter the door using the same approach as for the other doors. Instead of creating a symbol representing the door swing, you indicate the opening direction of the smart door symbol.
- 5 *Place new reference point for smart symbol or confirm*
Click the right mouse button or press ESC to confirm.
- 6 Press ESC to quit the tool.
- 7 Draw the entry door and the garage door in the same way. Use the predefined components in the wizard.

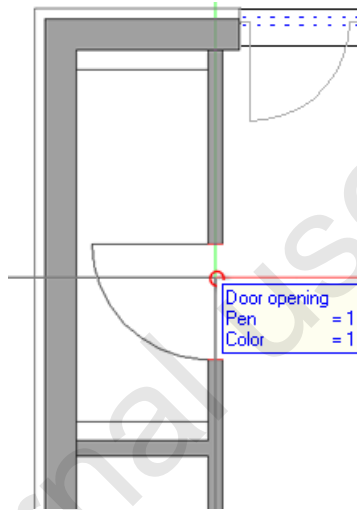


The next step is to modify the WC door and the cloakroom door.

To modify doors

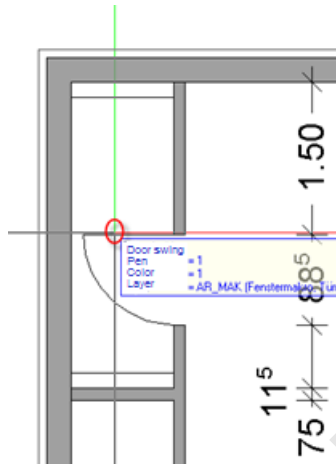
➡ Leave the settings as they are.

- 1 Double-click in the opening you created for the WC door with the left mouse button.



The **Door** dialog box opens. All the properties of the selected door are displayed and can be modified. As the door does not need to be modified, click **OK** to close the dialog box again.

- 2 Double-click the door swing of the WC door with the left mouse button.

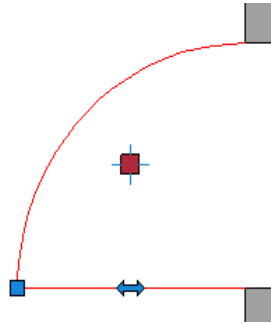


- 3 The Door swing symbols dialog box opens. Now you can select a different symbol.



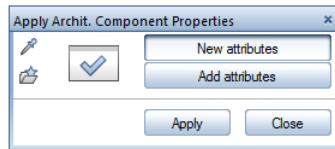
- 4 Click Close.
- 5 The opening direction of the symbol as well as the layer, pen and color can be specified again. Allplan creates the symbol accordingly.

- 6 When you select the symbol by clicking it with the left mouse button, you can use handles to change the opening direction and angle. Try out a number of different settings. Then press ESC.

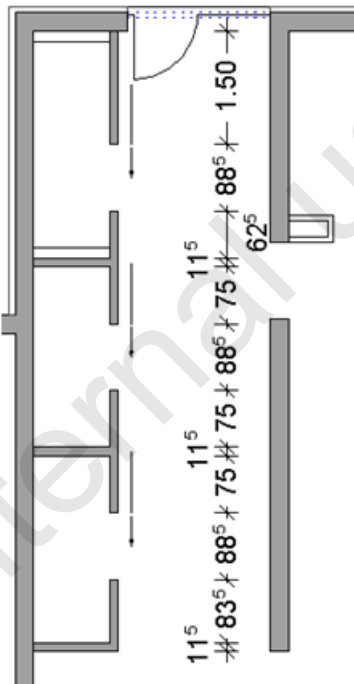


- 7 Switch to the Tools palette and click  **Apply Archi.**
Component Properties (Architecture family - Basic: Walls, Openings, Components module - Change area).
- 8 *Click the element whose settings you want to match*
Click the lowest door opening where you have placed a smart symbol (= sliding door).
- 9 The **Door** dialog box displays the properties of the door. Click **OK** to confirm.
- 10 *Select components, set properties, confirm*
Select the two doors above, which have not been given smart symbols.

- 11 Click **Apply** to confirm the **Apply Archit. Component Properties** Context toolbar.



The two doors change accordingly.



- 12 Press **ESC** to quit the tool and open an animation window to check the result.

Now design a sliding door in the living area at the south front of the building.

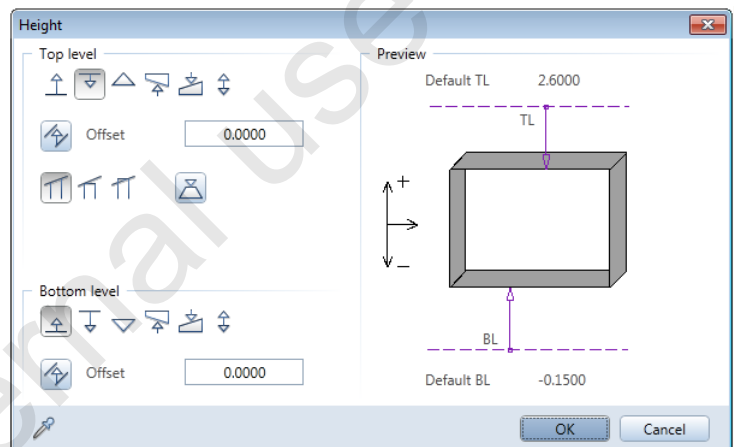
To create a sliding door in the south facade

☞ Leave the settings as they are.

- 1 Select the  Door tool (Create area).
- 2 *Set properties or click a line of an exterior wall*

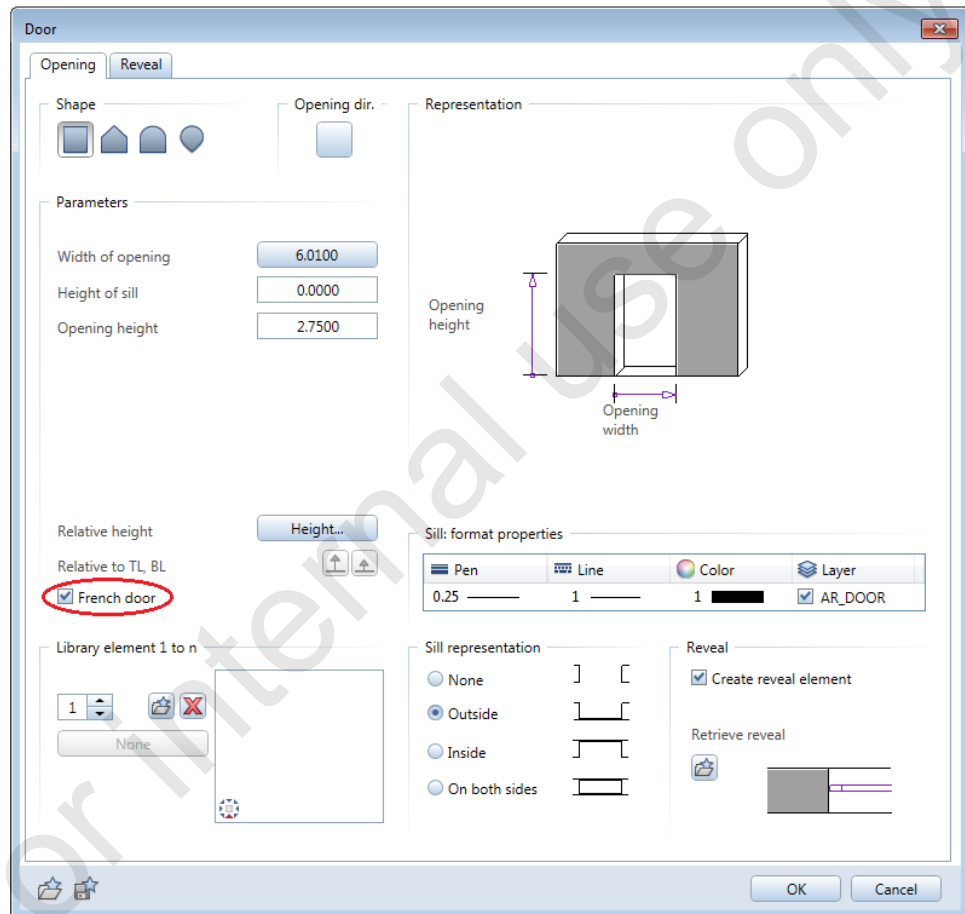
Click  Properties and define the height.

Click the **Height...** button, enter the following values and click **OK** to confirm.



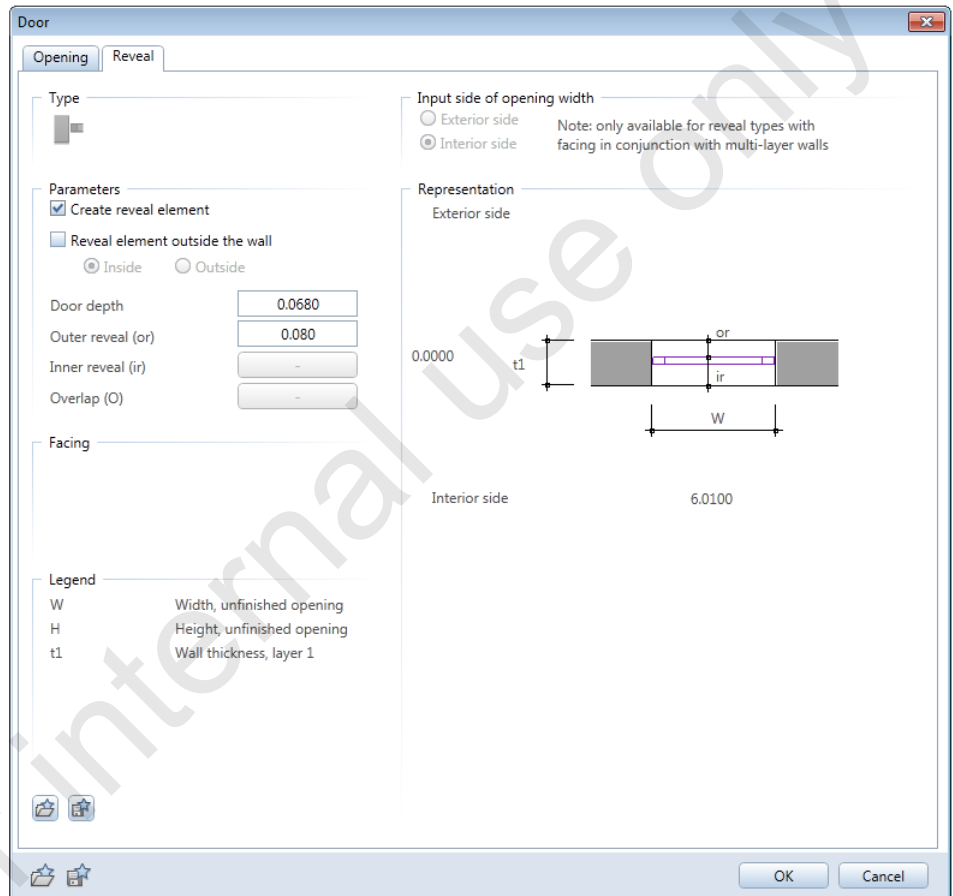
- 3 In addition, make the following settings. In particular, make sure that you activate the **French door** option.

As the door is to be created without a smart symbol, click  Delete if a smart symbol is proposed in the Library element 1 to n area.



4 Switch to the **Reveal** tab and enter the following values in the **Parameters** area:

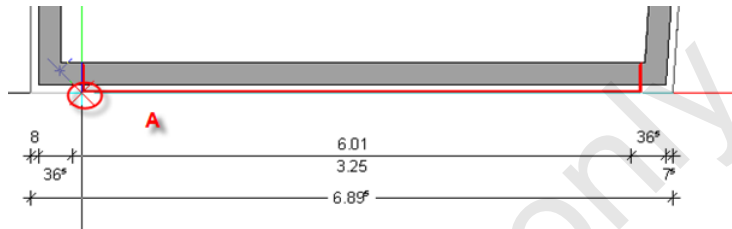
- Door depth: 0.068 m
- Outer reveal (or): 0.080 m



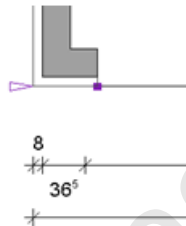
5 Click **OK** to close the Door dialog box.

6 Set the anchor point to  bottom left.

- 7 Click the edge of the exterior wall near point A. Check that the reference point is placed on the outside corner of the exterior wall on the left.



- 8 Enter $0.365 + 0.08$ for the offset to the reference point and press ENTER to confirm.



- 9 Press ENTER to confirm the offset to the end point of the opening: **6.010 m**.

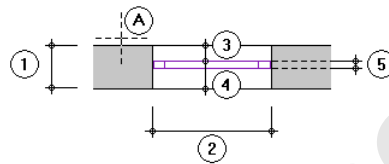
The opening is created. The dashed lines within the opening represent the reveal. In the next step, you will create a smart symbol for this opening.

- 10 Press ESC to quit the tool.

A note on reveal

The reveal defines the depth of the reveal on the inside and outside of the opening, and consequently the position of the window in the opening.

Defining these values precisely is not only significant from a graphics standpoint: the reveal depths are also taken into account in subsequent quantity takeoff operations.



- A wall line clicked = exterior side of opening
- 1 thickness of wall
- 2 width of opening
- 3 outer depth of reveal
- 4 inner depth of reveal
- 5 depth of opening element (e.g. window, door)

The **outer reveal**, **inner reveal** and **window depth** or **door depth** parameters define the exact position of the actual opening element (e.g. smart opening symbol).

The **outer reveal** plus **inner reveal** produces the **thickness of the wall**.

The **window depth** or **door depth** parameter defines the depth of an opening element, which represents the position of the actual opening. The **inner reveal** parameter includes the **window depth** or **door depth** value.

When you use smart opening symbols, the depth of the smart symbol should be the same as the depth of the opening element. (Note, however, that there are some exceptions such as reveals that are outside a wall.)

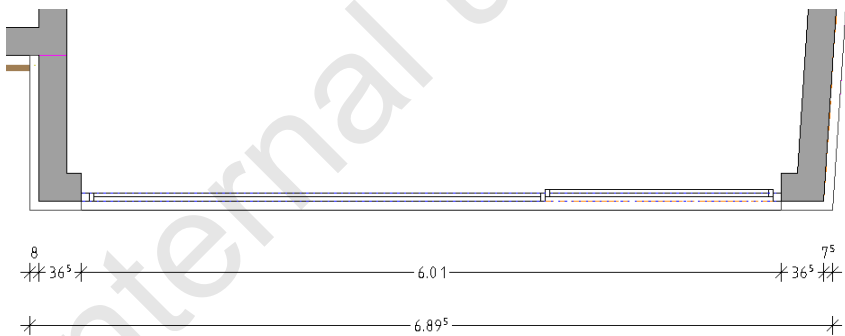
Task 10: creating a smart door symbol

Introduction

A smart symbol is an intelligent symbol whose appearance can change dynamically with the drawing type or reference scale. In the following task you will create a representation for different scale ranges.

The door leaves of the smart symbol you will create should only be visible at a reference scale of 1:50 or at scales that display the smart symbol in greater detail; however, it is essential that the leaves are placed correctly right from the start.

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Smart Window and Door Symbols	Tools palette - Architecture family - Basic: Walls, Openings, Components module - Create area
Select, Set Layers	Format toolbar
List entire layer hierarchy	Layers palette
 New group	Library palette - Smart symbols folder
 Save	Library palette - Smart symbols folder

Solution

To create your own smart door symbol

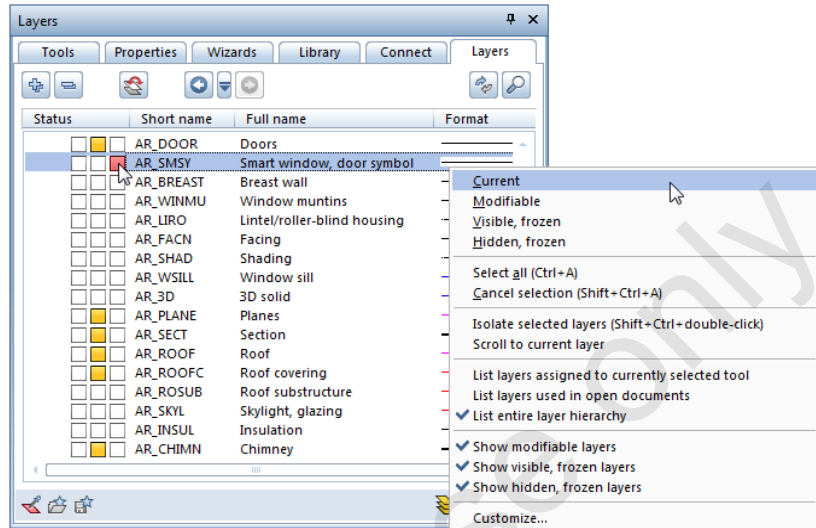
- Structural level(s): **Building and Ground floor** active
 - Drawing file setting: **1000** current
 - Reference scale: **1:100**
 - Unit of length: **m**
 - In the **Tools** palette: **Architecture family - Basic: Walls, Openings, Components** module
- 1 Set the reference scale indicator in the status bar to **1:50**.
 - 2 Click  **Smart Window and Door Symbols (Create area)**.
 - 3 Define the **AR_SMSY** layer as the current one.

Note: If the list does *not* offer the **AR_SMSY** layer, click in the **Layers** palette with the right mouse button and select **List entire layer hierarchy** on the shortcut menu.

Switch to the **Layers** palette, click the **AR_SMSY** layer with the right mouse button and select **Current** on the shortcut menu.

Or:

Switch to the **Layers** palette and select the right check box for the **AR_SMSY** layer. A red marker appears, indicating that this layer is now the current one. You are familiar with this concept from drawing file selection.

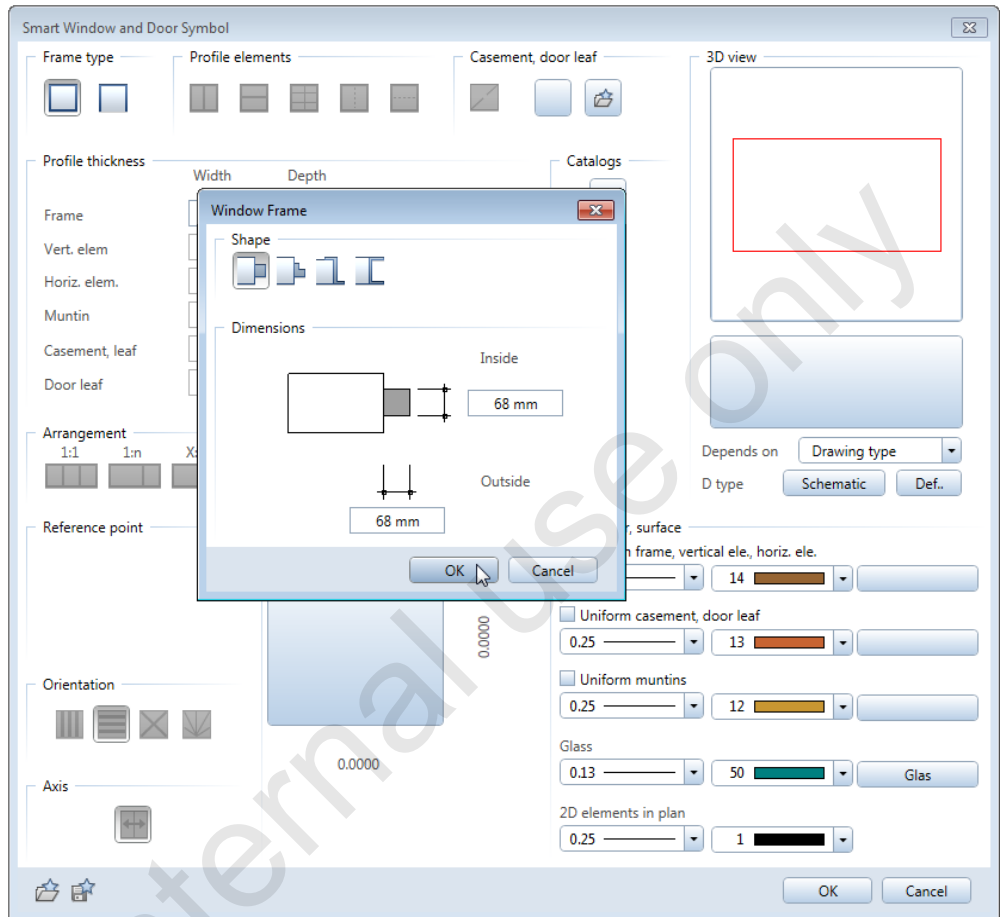


4 Select opening

Click the opening you just created for the sliding door. Make sure that you click between the lines representing the reveal.

The Smart Window and Door Symbol and Window Frame dialog boxes open.

5 Enter the following values in the Window Frame dialog box and click OK to confirm.



- 6 In the Pen, color, surface area, select the Uniform frame, vertical ele., horiz. ele. check box and select pen 0.18 and color 20 for the frame.

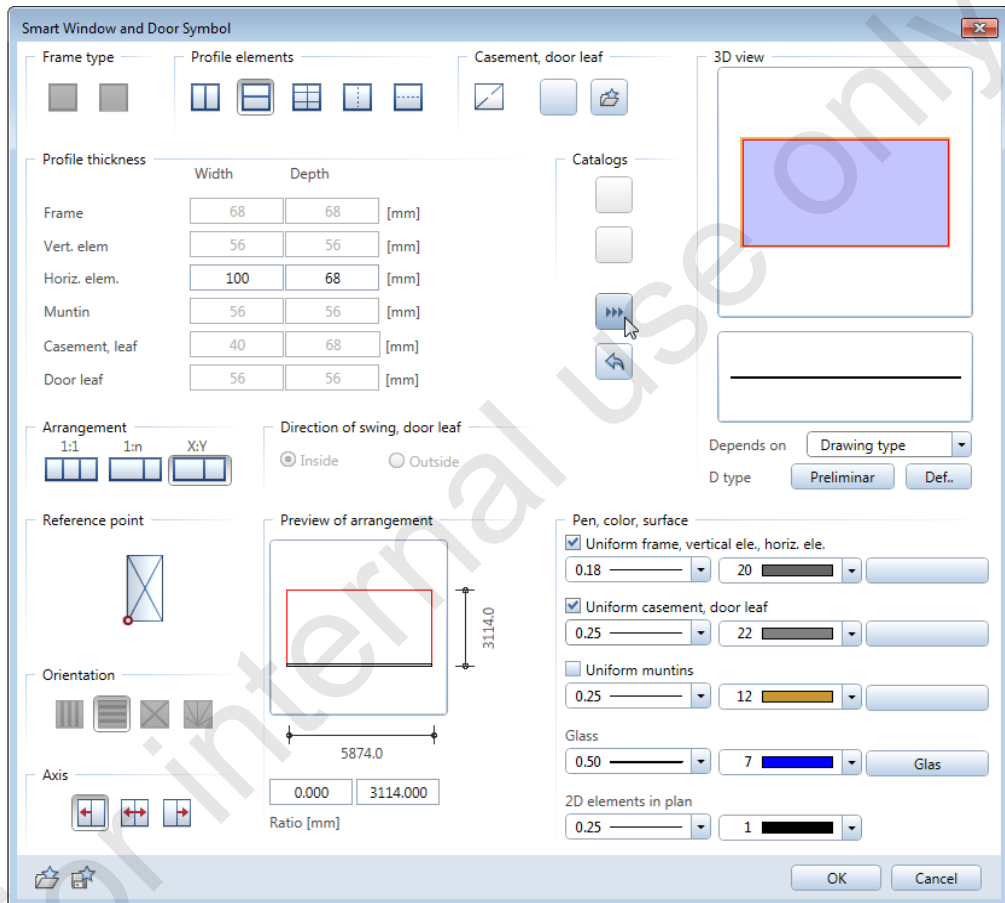
Note: Using the Uniform ... check boxes, you can control the effects of pen, color and surface settings on elements: When you select the Uniform ... check box for an element type (default setting), this setting applies to *all parts* of the element. Otherwise, the setting *applies only to the part* you are currently defining and creating with .

- 7 In the Smart Window and Door Symbol dialog box, click  to transfer the frame to the 3D view area.

The frame is created.

- 8 Increase the width of the lower part of the frame.

Select the horizontal division in the **Profile elements** area and make the following settings:

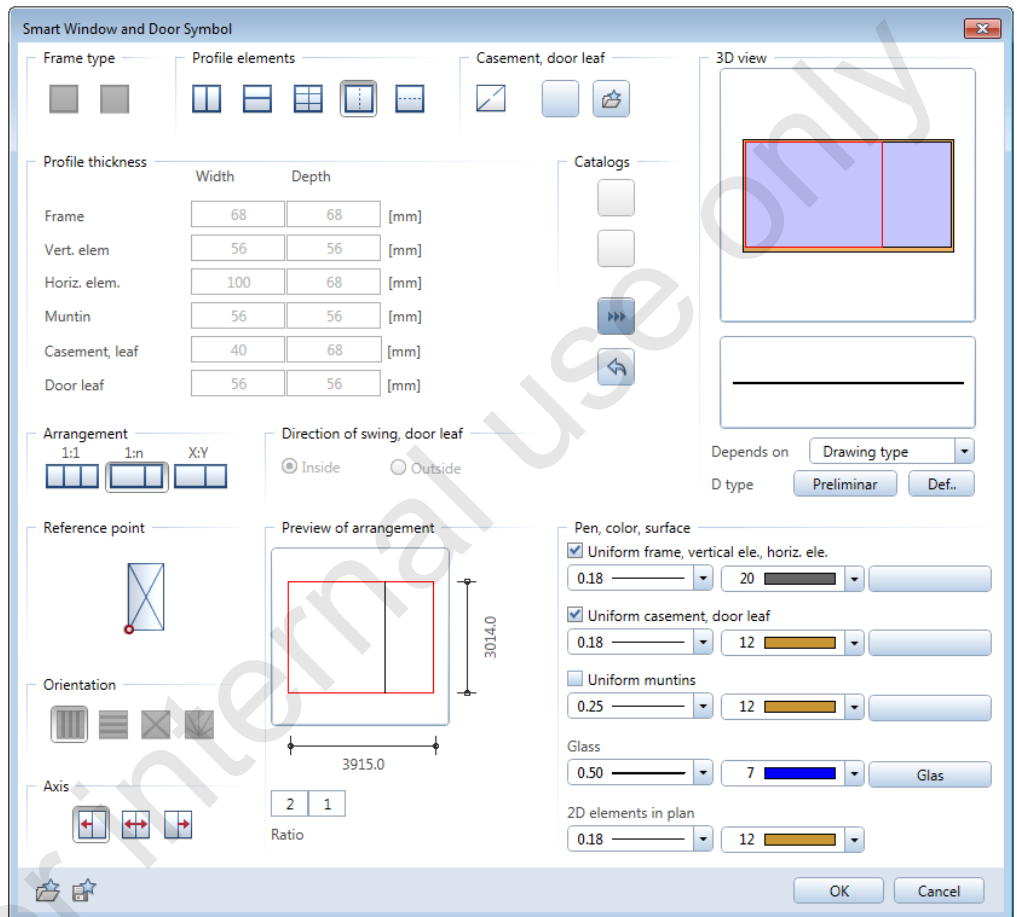


- 9 Click  again to transfer the settings to the 3D view area.

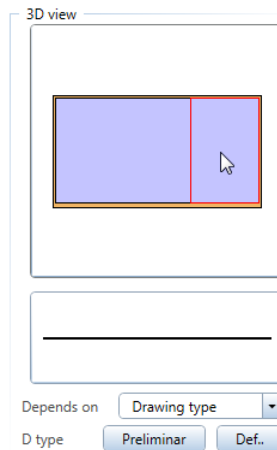
The horizontal element is created.

10 Divide the window pane into two asymmetrical parts.

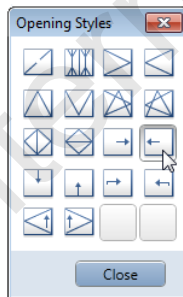
Make the following settings and select a pen, color and, if necessary, surface for the glass. Then click  again.



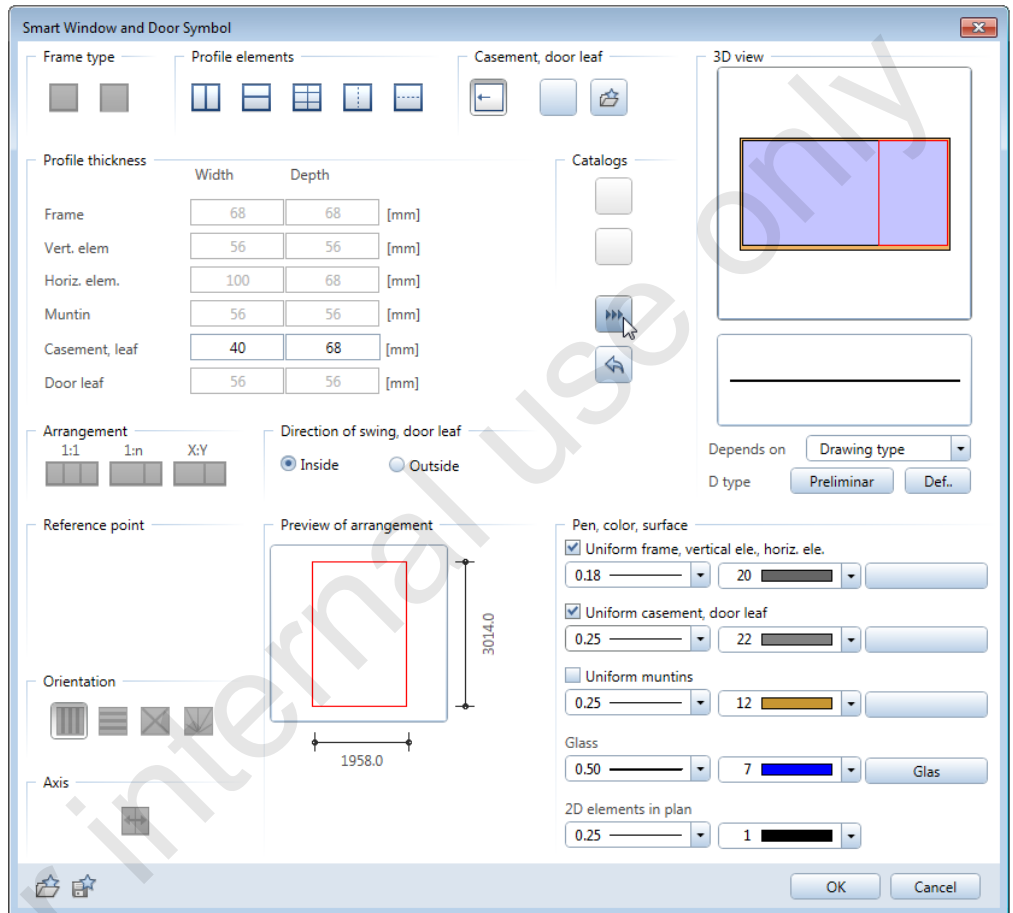
- 11 In the **3D view** area, click within the right part of the window pane in order to select it.



- 12 Click the icon on the left in the **Casement, door leaf** area. The **Opening Styles** dialog box is displayed. Select the symbol for the sliding door that opens to the left.

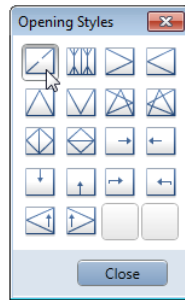


- 13 Enter the size of the door leaf and check the settings for the pen and color. Then click  again to transfer the settings to the 3D view area.

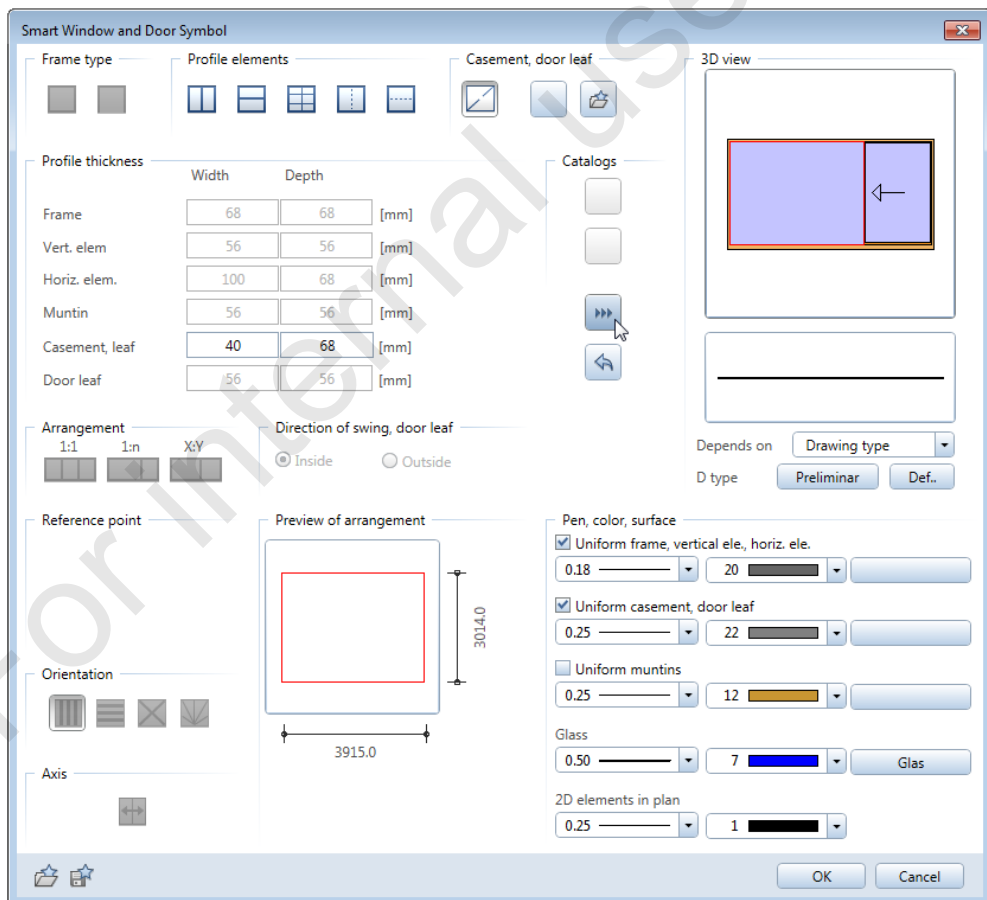


The leaf is added to the 3D view.

- 14 Next, select the left part of the window pane in the 3D view area.
- 15 Click the icon on the left in the **Casement, door leaf** area. The **Opening Styles** dialog box is displayed. Select the symbol for the fixed glazing.

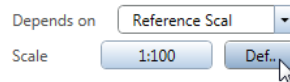


- 16 Enter the size of the second leaf and check the settings for the pen and color. Then click  again to transfer the settings to the 3D view area.

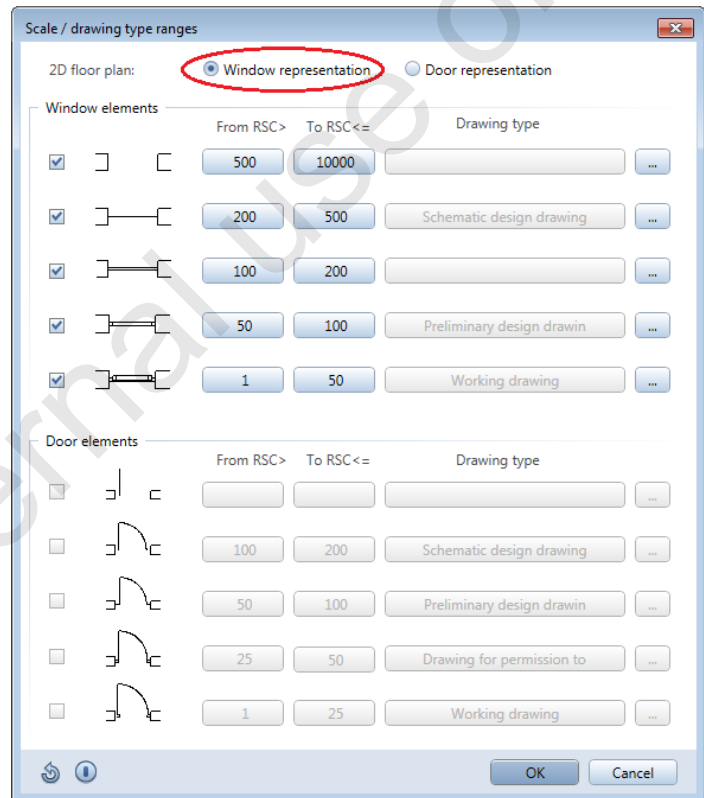


The leaf is added to the 3D view.

- 17 Check the settings in the 3D view area and then click Def.



- 18 The **Scale/ drawing type ranges** dialog box opens. Make settings for the different scale ranges and click OK to confirm.



- 19 Click OK to confirm the **Smart Window and Door Symbol** dialog box.

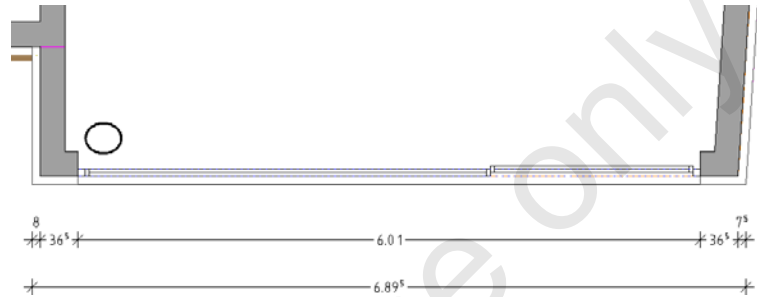
The smart window symbol is created and inserted in the opening.

Tip: Select  3 Viewports on the **Window** menu to check the position of the smart symbol in isometric view.

20 Place new reference point for smart symbol

You can now change the reference point and thus define how the smart symbol is placed by clicking a corner of the wall opening.

Position the smart symbol as you need.



21 Click in the workspace with the right mouse button to confirm.

The Smart symbols dialog box is displayed.

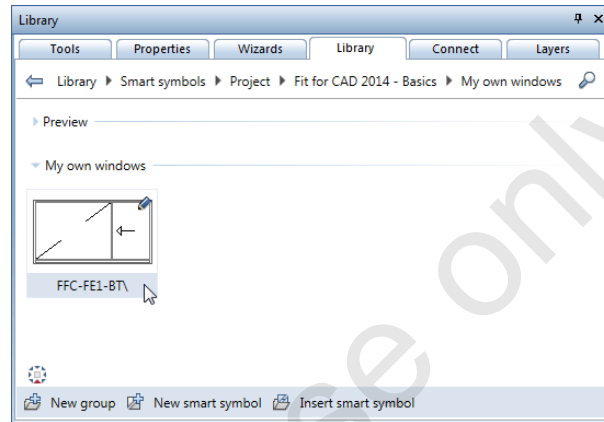
22 Open the Project and the Fit for CAD 2014 - Basics folders.

23 Click  New group, enter My own windows for the group name and press ENTER to confirm.

24 Open the new My own windows folder.

25 Click  Save, enter FFC-FE1-BT\ for the smart symbol name and press ENTER to confirm again.

You have now saved the smart symbol in the library from which you can retrieve it whenever you need using the **Library** palette.



26 Select opening

Press ESC to quit the  **Smart Window and Door Symbols** tool.

A note on asymmetrical smart symbols

When it comes to placing asymmetrical smart symbols, the *Place new reference point* prompt in the dialog line is particularly interesting.

To define the reference point for asymmetrical smart symbols

- 1 Before confirming the position of a smart symbol, you should check its appearance at a larger scale.
Set the reference **Scale** in the status bar to 1:25, for example.
- 2 You can turn the smart symbol in any direction by clicking. Select  **3 Viewports** to check the position of the smart symbol in isometric view.

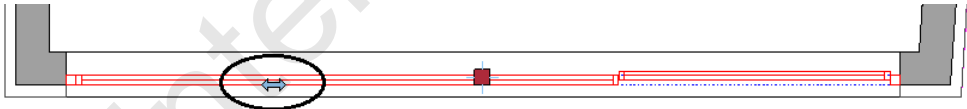
A note on turning smart symbols

There are times when you will find that the position of a smart symbol is not correct (e.g. a door opens to the wrong side). In this case, you do not need to delete the smart symbol and start from scratch. You can quickly and easily change the position of smart symbols you have already inserted in wall openings (windows, doors, niches, recesses etc.)

To turn a smart symbol

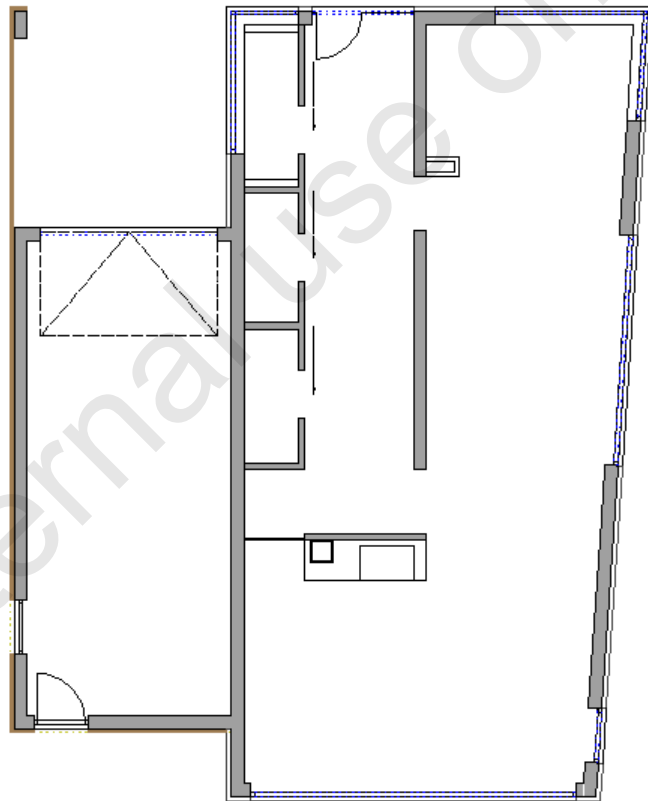
- 1 Click  **Flip Smart Opening Symbol** (Tools palette - Architecture family - Basic: Walls, Openings, Components module - Change area).
 - 2 *Select smart opening symbol to flip*
Click the relevant smart symbol and specify the new reference point by clicking a corner of the wall opening.
 - 3 Position the smart symbol as you need and confirm by clicking in the workspace with the right mouse button.
-

Tip: You can also use handles to turn existing smart symbols:



Task 11: creating a sliding door in the east facade and windows

Overview

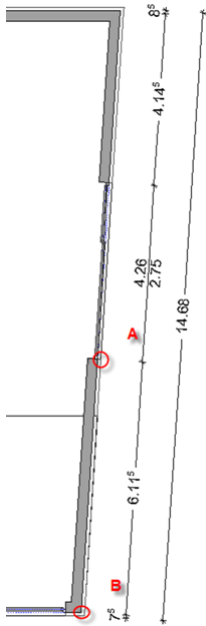


Use the following tool(s) to do this:

Function	How to activate it
Door	Tools palette - Architecture family - Basic: Walls, Openings, Components module - Create area

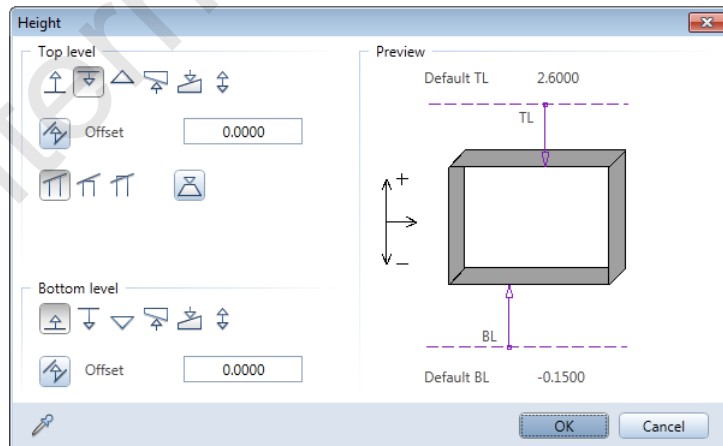


Solution



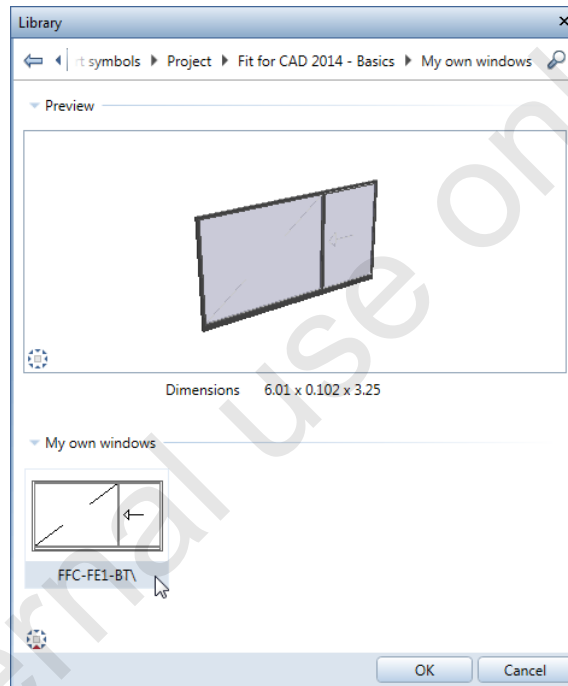
To create a sliding door in the east facade

- Structural level(s): Building and Ground floor active
 - Drawing file setting: 1000 current
 - Reference scale: 1:50
 - Unit of length: m
 - In the Tools palette: Architecture family - Basic: Walls, Openings, Components module
- 1 Click Door (Create area).
 - 2 Set the anchor point to bottom left.
 - 3 *Set properties or click a line of an exterior wall*
Click the edge of the exterior wall near point A.
 - 4 Click Properties.
 - 5 Click Height... in the Door dialog box and set the height as follows:

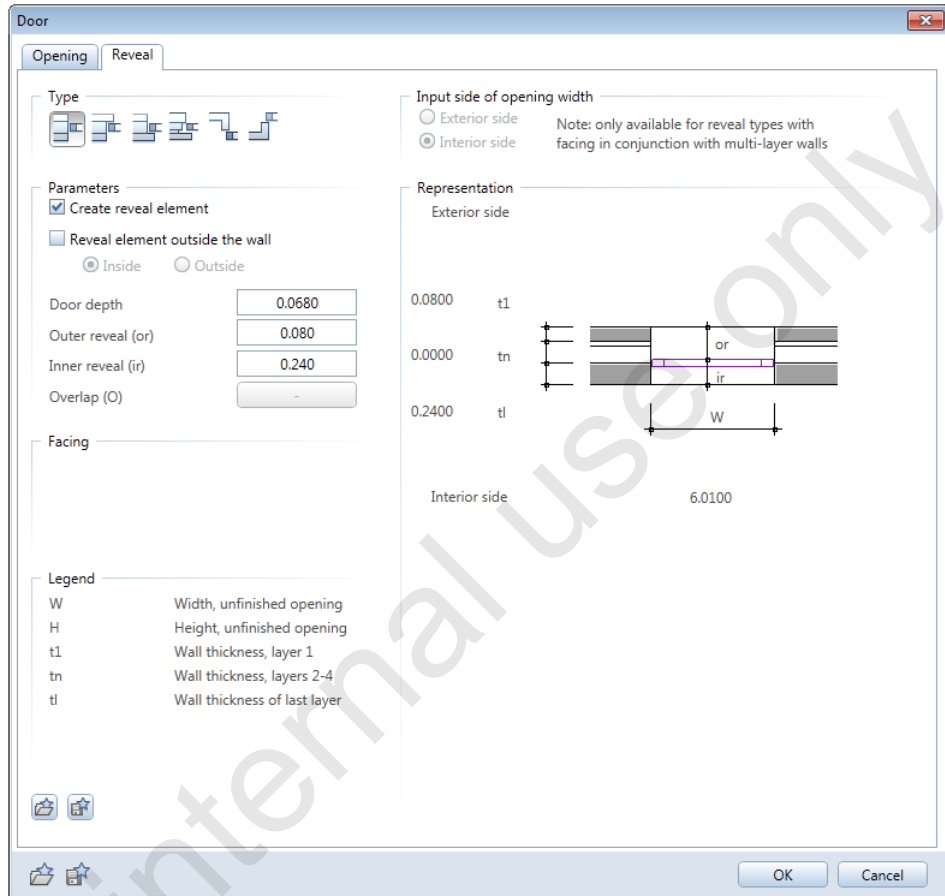


- 6 Click OK to close the Height dialog box.

- 7 In the Library element 1 to n area, click  Open. In the Library palette, open the Smart Symbols - Project - Fit for CAD 2014 - Basics - My own windows folders and select the FFC-FE1-BT\ smart symbol.



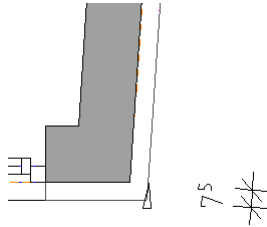
8 Open the Reveal tab and check the following settings:



9 Click OK to confirm the Door dialog box.

10 New reference point or offset to reference point

Check the position of the reference point and the direction of the arrow, enter **6.115** for the offset to the reference point and press ENTER to confirm this value.

**11 Set properties, end point or offset to end of opening**

Enter **4.26** to specify the offset to the end point of the opening and press ENTER to confirm this value.

12 Place new reference point for smart symbol or confirm

You can now change the reference point and thus define how the smart symbol is placed by clicking a corner of the wall opening.

13 Confirm the position of the smart symbol by clicking in the workspace with the right mouse button.**14 Press ESC to quit the Door tool.**

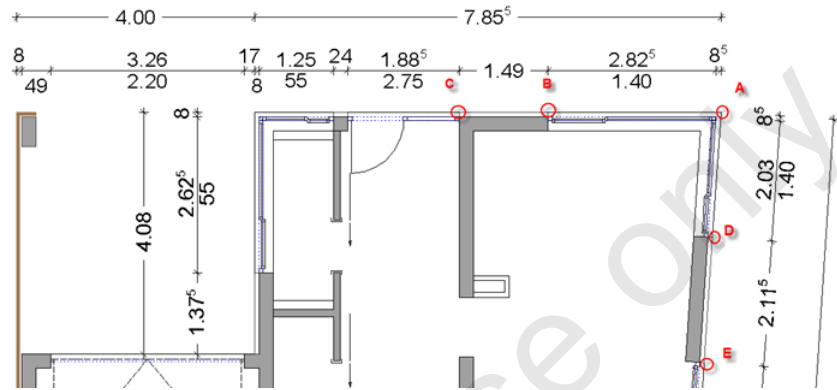
To create a corner window in the cooking area

➡ Leave the settings as they are.

- 1 Switch to the Wizards palette and select wizard FFC GF.
- 2 In the wizard, double-click the Corner window W04 sill 135 with the right mouse button.

3 Corner (exterior side of wall)

Click point A.



4 End point of first opening

Click near point B.

5 New reference point or enter width of 2nd opening

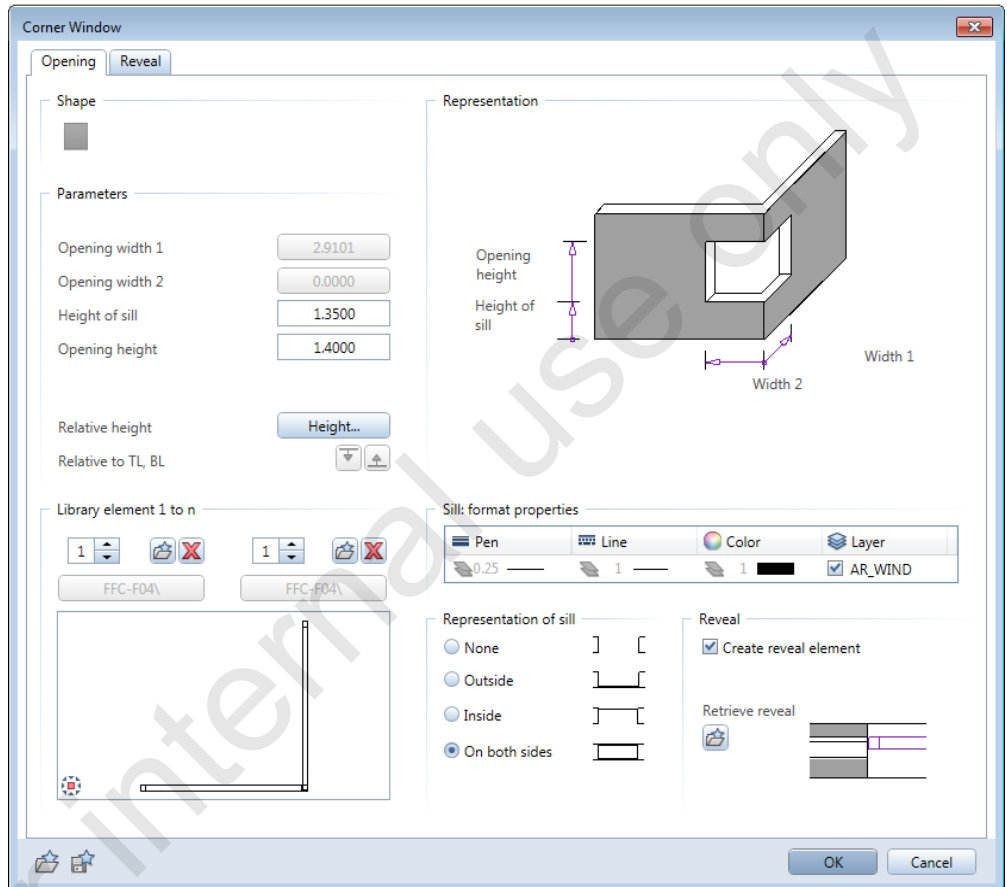
Click point C.

6 New reference point or offset to reference point

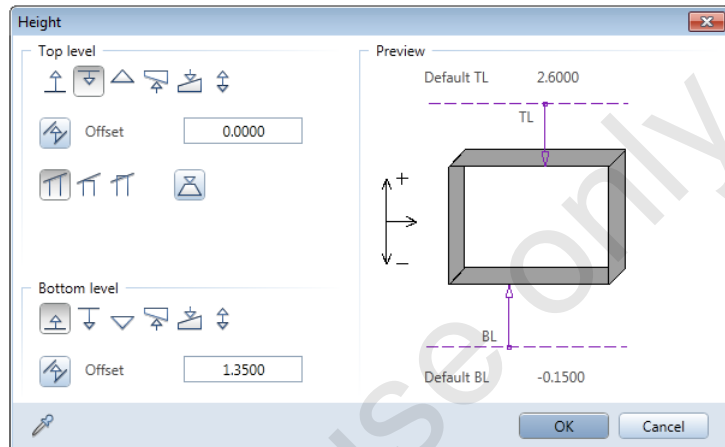
Enter 1.49 and press ENTER to confirm.

7 Set properties, specify end point of 2nd opening

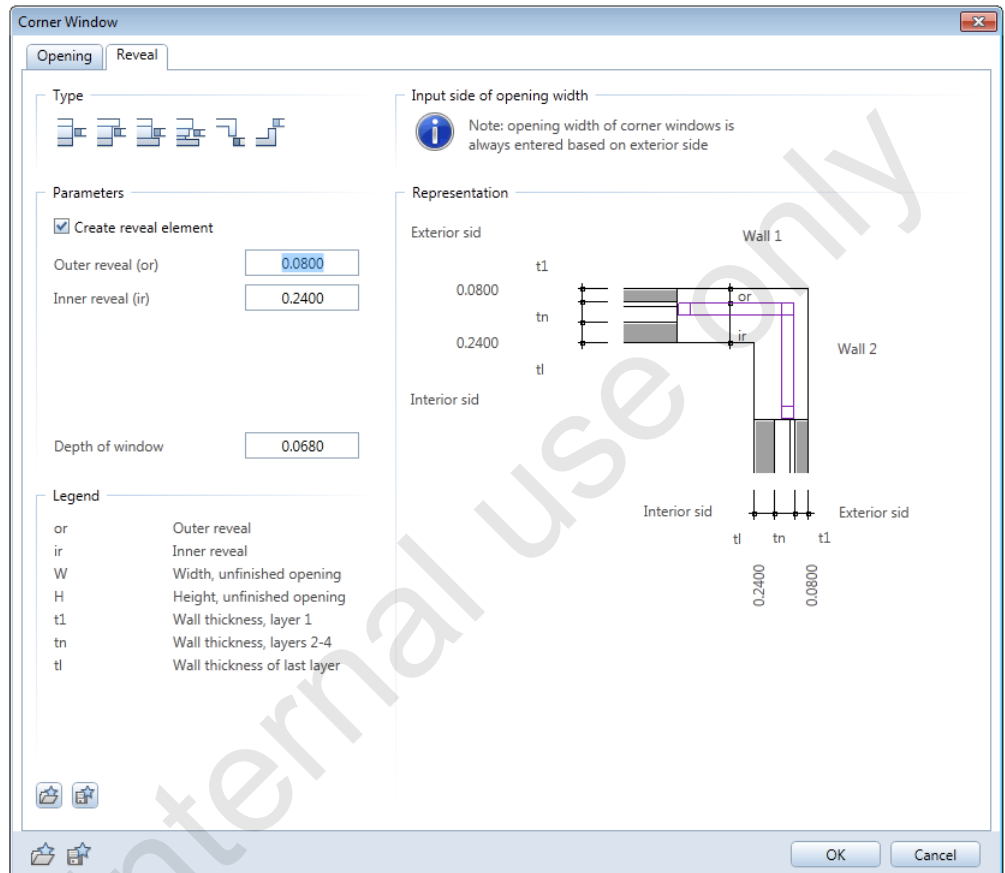
On the Corner Window Context toolbar, click  Properties and check the settings:



- 8 Click **Height...** in the **Corner Window** dialog box, check the following settings and click **OK** to confirm the **Height** dialog box.



9 Open the Reveal tab and check the following settings:



10 Click **OK** to confirm the **Corner Window** dialog box.

11 *Set properties, specify end point of 2nd opening*
Click near point D.

12 *New reference point or enter width of 2nd opening*
Click point E, enter 2.115 for the offset and press ENTER to confirm.

13 *Place new reference point for smart symbol or confirm*
Click the left mouse button to specify the position of the smart symbol inserted in the first opening. Click the right mouse button to confirm the position.

14 *Place new reference point for smart symbol or confirm*

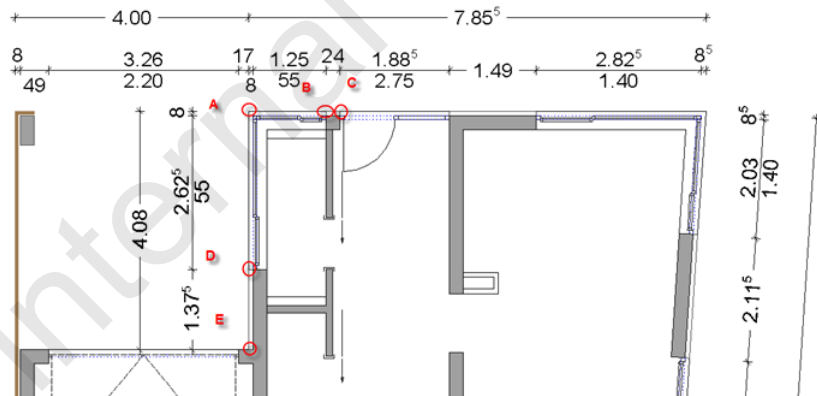
Click the left mouse button to specify the position of the smart symbol inserted in the second opening. Click the right mouse button to confirm the position.

15 Press ESC to quit the tool.

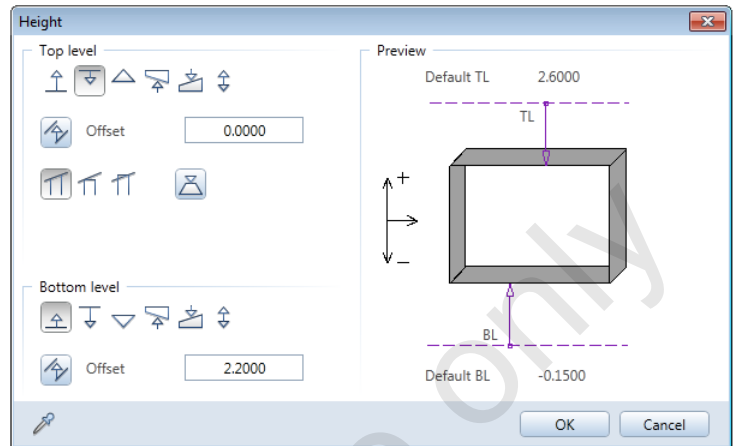
To create a corner window for the WC

➤ Leave the settings as they are.

- 1 In the wizard, double-click the Corner window W03 sill 220 with the right mouse button.
- 2 Using the same approach as for the first corner window, create the corner window for the WC yourself.



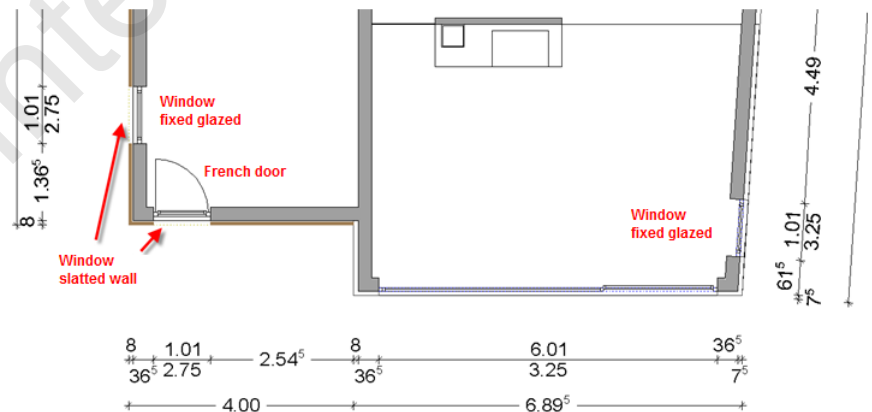
- 3 Please note that the height settings differ from those of the first corner window:



- 4 Press ESC to quit the tool.
- 5 Use the wizard to create the other windows and the French door.

First insert the window **W01 Fixed glazed (=A)** and the French door **D05 Tilt and turn (=B)** in the concrete wall in the garage and then insert the window **W02 Slatted wall (=C)** twice in the slatted wall. Make sure that the positions of the windows in the slatted wall and the concrete wall are exactly the same.

Insert the window **W01 Fixed glazed** in the exterior wall on the right (=D).



Note: The opening height of 3.25 m specified in the drawing is the result of task 8. Remember: you lowered this part of the story using a pair of custom reference planes.

- 6 Set the reference scale to 1:100.
 - 7 On the Window menu, click  1 Viewport.
-

Your drawing should now look like the illustration at the beginning of task 11.

A note on creating your own wizard

You have already used components provided by the wizards that come with the program. You can also create your own wizards. All you need to do is save a drawing file or an NDW file as a wizard file in .nas format.

To create your own wizard

- 1 Open a drawing file or NDW file.
- 2 Draw the elements you want to include in the wizard.
- 3 On the File menu, select **Save Copy As** and set the type to **Wizard (*.nas)**.
- 4 Add the new wizard to the wizard group.

Note: You cannot change the Allplan wizard group. Create a new group, if necessary.

A note on adding wizards to the palette

To add a wizard to the palette

- 1 Open the Wizards palette and select the group to which you want to add the new wizard in the list box at the top.

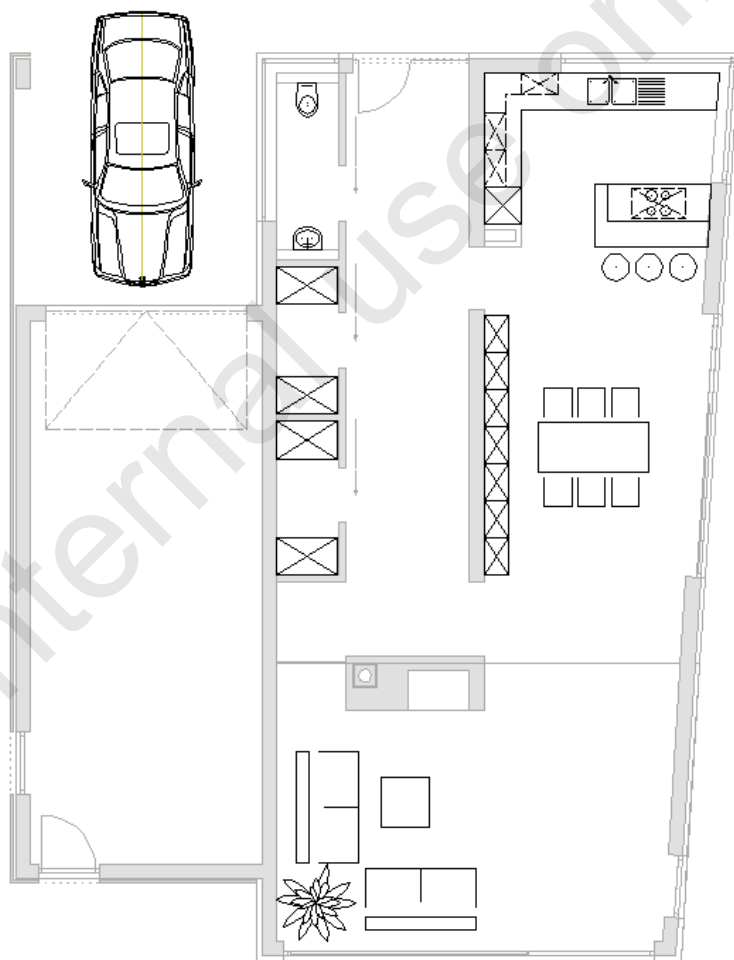
Note: You cannot change the wizard groups that are shipped with Allplan. But you can create a new group.

- 2 Right-click in the Wizard palette and choose **Open Wizard ...** on the shortcut menu.
- 3 Choose the wizard file you want to use and click **OK** to confirm.

The selected wizard file is loaded and displayed as a new tab in the Wizards palette.

Task 12: symbols for sanitary facilities and furniture

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Open on a Project-Specific Basis	File menu or Default toolbar or shortcut menu
 Modify Format Properties	Library palette, Symbols folder
 Modify Layer Status	Edit toolbar
 Options	Shortcut menu
	Default toolbar

Solution

To place symbols

- Structural level(s): **Building and Ground floor** active
- Drawing file setting: **1000** current
- Reference scale: **1:100**
- Unit of length: **m**

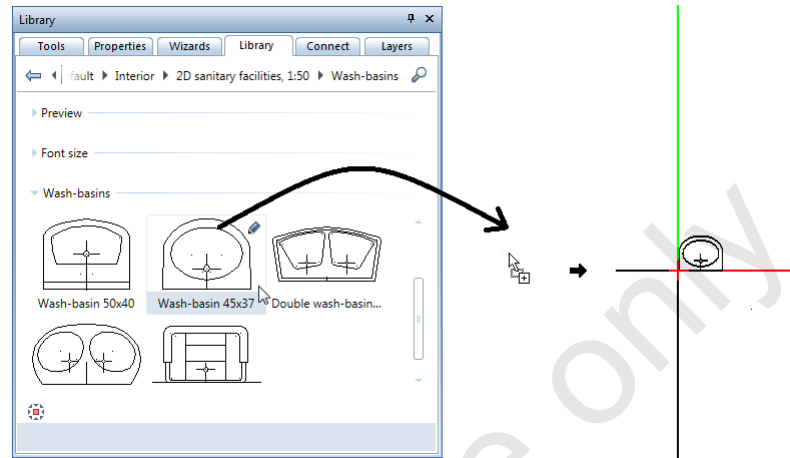
- 1 Click  **Open on a Project-Specific Basis** (File menu or Default toolbar), make drawing file **1001 Furniture** current and set drawing file **1000** to reference mode.
- 2 Select the **Library** palette, open the **Symbols - Default - Interior - 2D sanitary facilities, 1:50 - Wash-basins** folders.
- 3 Double-click the **Wash-basin 45x37** symbol.

Or:

Drag the **Wash-basin 45x37** symbol into the workspace.

The symbol is attached to the crosshairs at its base point.

Tip: If necessary, go back to the first page of the **Library** palette.



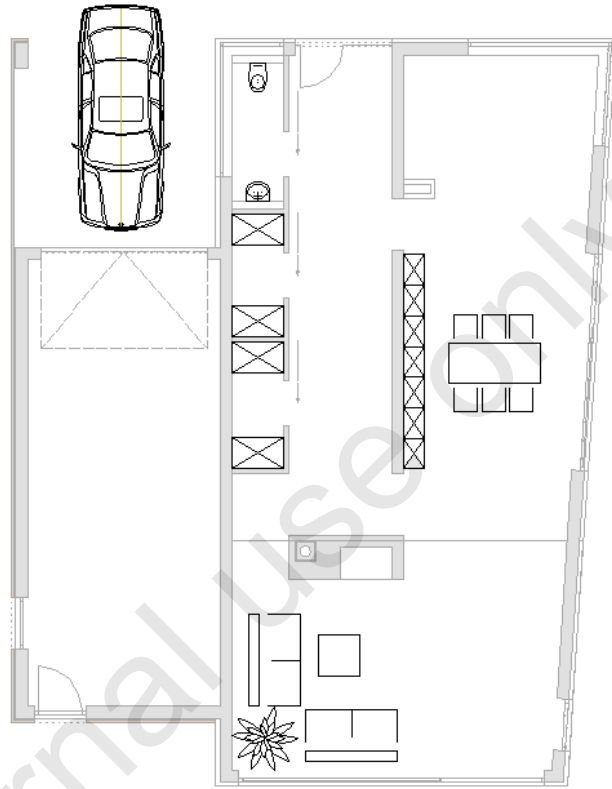
- 4 Place the symbol as shown in the illustration at the beginning of this task.

Make use of the tools you can find in the **Input Options** and in the dialog line.

- 5 Furnish the floor plan as shown.

For example, you can use the following symbols:

- WC 35x57 symbol
(Interior -> 2D sanitary facilities, 1:50 -> WC, bidet, urinal folders)
- 6 chairs, 180-80 A symbol
(Interior -> 2D dining, 1:200 -> Tables, rectangular folders)
- Shelf 40x60 and Shelf 100x60 symbols
(Interior -> 2D storing -> Shelf, cupboard, wardrobe folders)
- 2-person sofa 180x100 B 1:100 symbol
(Interior -> 2D seats -> Seating arrangement folders)
- Rectangular table 80x80
(Interior -> 2D dining, 1:100 -> Tables folders)
- A plant of your choice
(Interior -> Living accessories -> 2D folders)
- A car of your choice
(Exterior -> 2D vehicles folders)

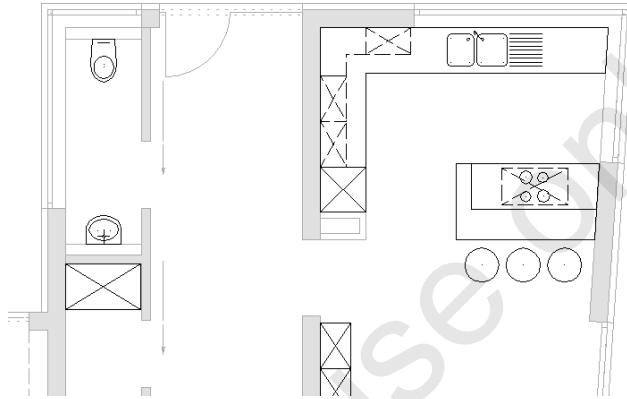


To import the symbol file with kitchen furnishings from CD

- Leave the settings as they are.
 - "Fit for CAD" CD inserted in the drive
- 1 Open Windows Explorer.
 - 2 Select the drive with the "Fit for CAD" CD and open the Symbols folder on the CD.
 - 3 Select the **Kitchen furnishings.sym** file.
 - 4 Drag the symbol file into the Allplan workspace.

The symbol is attached to the crosshairs.

- 5 In the **Input Options**, set the drop-in point to  top left and place the symbol as shown.



To modify layers

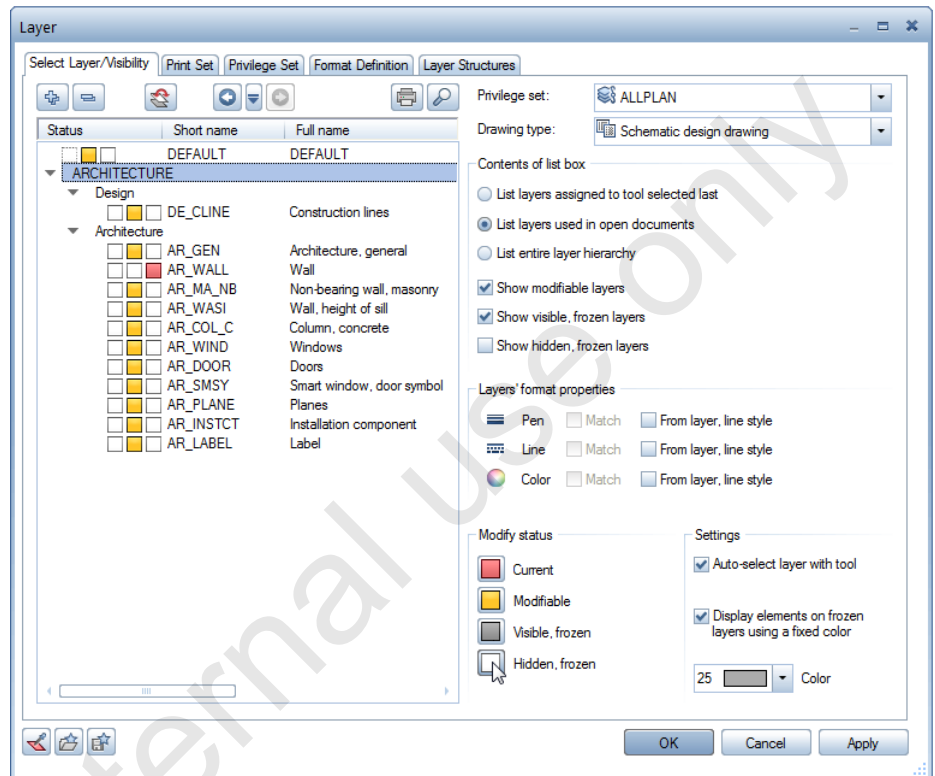
- Leave the settings as they are.

- 1 Click **Set...** in the **Select, Set Layers** list box (**Format** toolbar).

The **Layer** dialog box is displayed.

- 2 Select the **List layers used in open documents** option in the **List box contents** area of the **Select Layer/Visibility** tab.

- 3 Select the ARCHITECTURE category in the layer structure and click **Hidden, frozen** in the **Modify status** area.



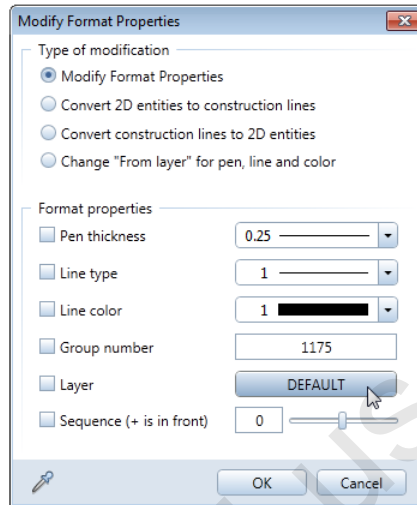
- 4 Click **OK**.

As all layers are set to **Hidden, frozen**, only the elements on the **DEFAULT** layer are visible.

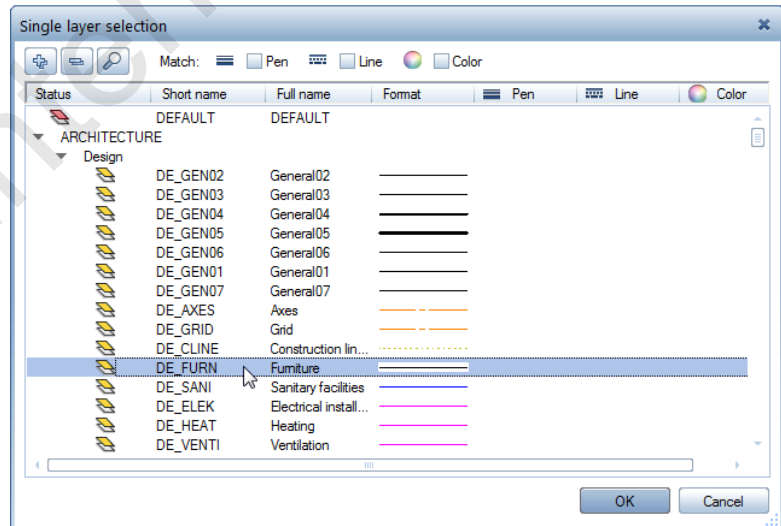
- 5 Now change the layer assigned to the symbols you have just placed.

Click  **Modify Format Properties (Edit toolbar)**.

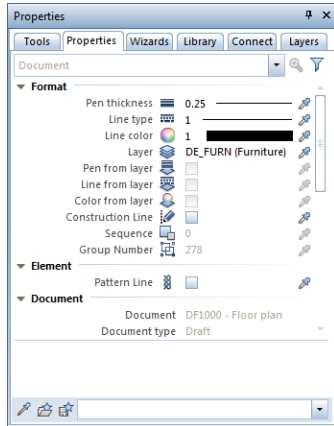
- 6 Click the layer button in the **Modify Format Properties** dialog box.



- 7 In the **Single layer selection** dialog box, open the shortcut menu and select the **List entire layer hierarchy** option. After this, double-click the layer **DE_FURN** with the left mouse button.

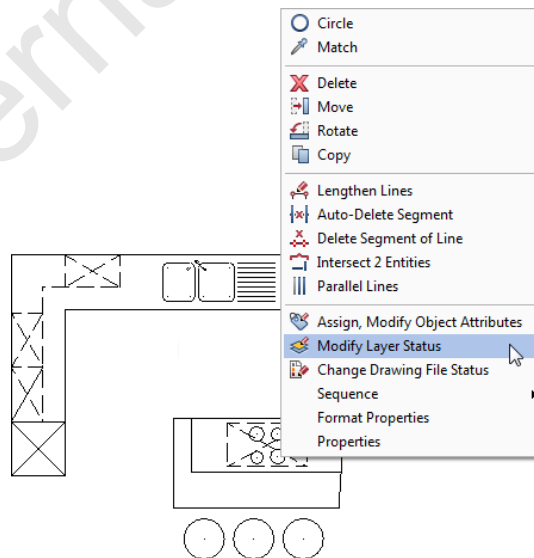


Tip: You can also use the **Properties** palette to modify the layers assigned to elements.

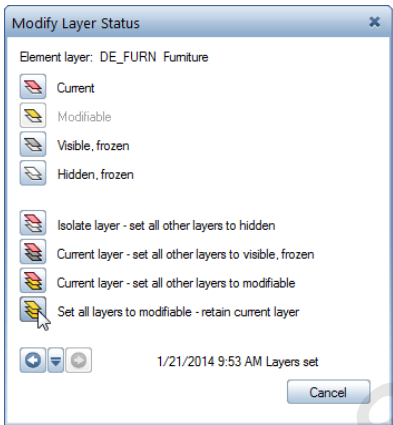


Allplan closes the **Single layer selection** dialog box and automatically selects the **Layer** option and enters the **DE_FURN** layer in the **Modify Format Properties** dialog box.

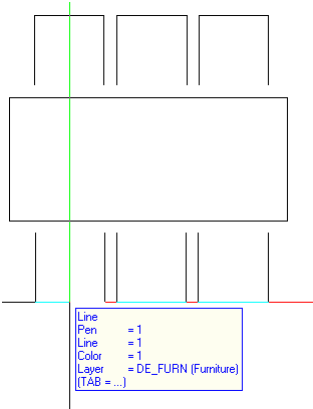
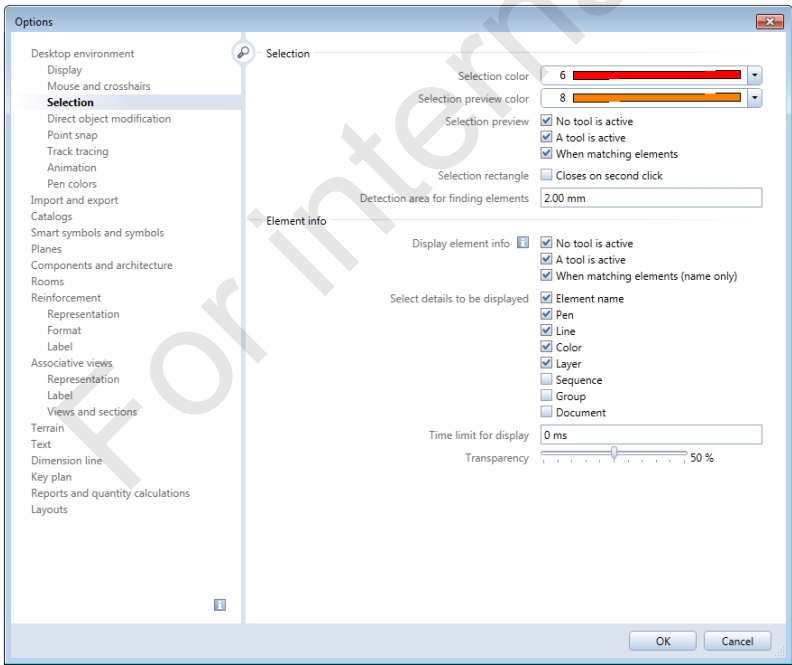
- 8 Click **OK** to close the **Modify Format Properties** dialog box.
- 9 *Select element(s) you want to modify*
Select all the furniture symbols (including the sanitary facilities) by enclosing them in a selection rectangle using the left mouse button.
- 10 Then modify the layer assigned to the sanitary facilities in the same way; use the layer **DE_SANI**.
- 11 Open the **Layer** dialog box again and change the status of the layers **DE_FURN** and **DE_SANI** from **Modifiable** to **Hidden**, **frozen** and vice versa. Change the status for each layer separately and check the result of the different settings by clicking **Apply** each time. When you have finished, click **OK**.
- 12 To quickly make all the layers modifiable again, click a symbol in the floor plan with the right mouse button and select  **Modify Layer Status** on the shortcut menu.



13 The **Modify Layer Status** dialog box opens. Select **All layers to modifiable**.



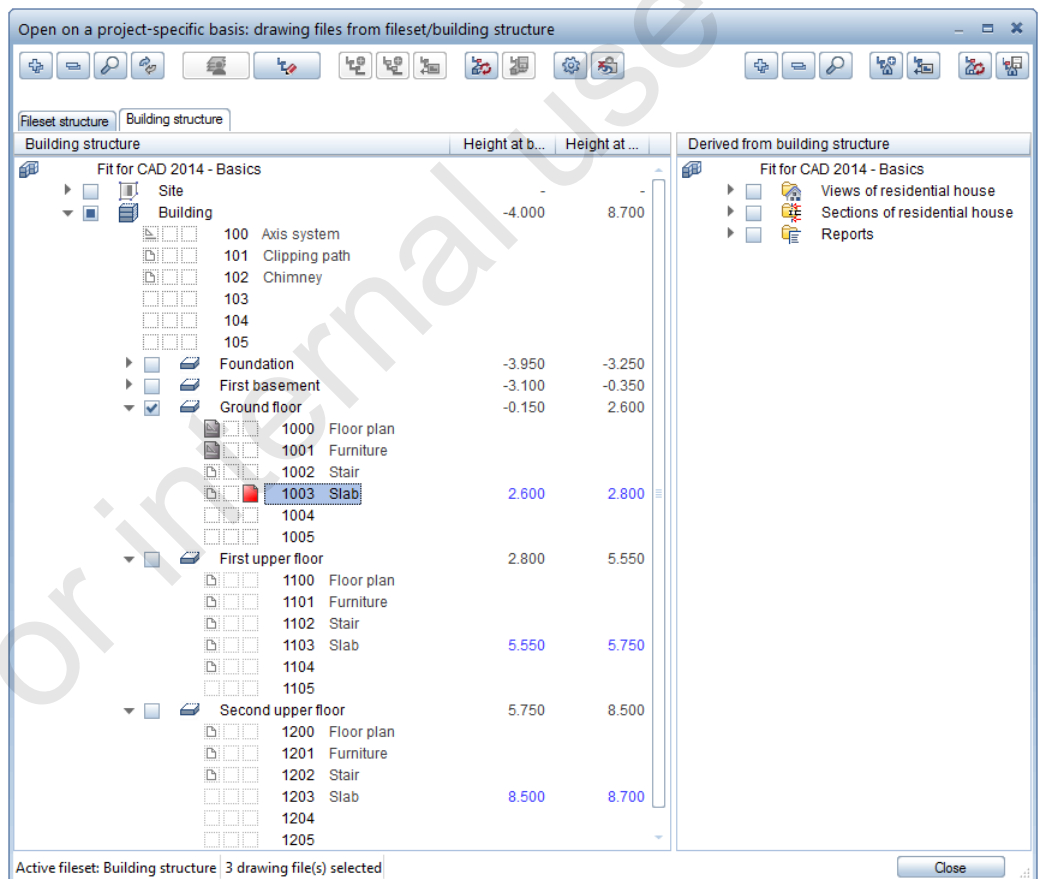
Note: Using the  **Options** (Default toolbar), you can specify the contents of element info:



Task 13: assigning planes to slab drawing files

Overview

In the task that follows, you will design the slabs. As the planes required for the slab drawing files differ from those you have defined for the individual structural levels in the building structure, you first need to change the planes assigned to the relevant drawing files.



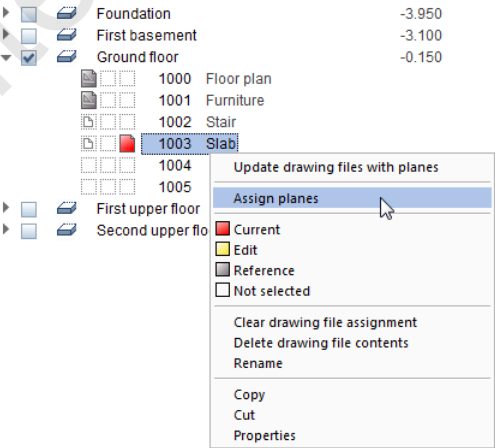
Use the following tool(s) to do this:

Function	How to activate it
 Open on a Project-Specific Basis...	File menu or Standard toolbar

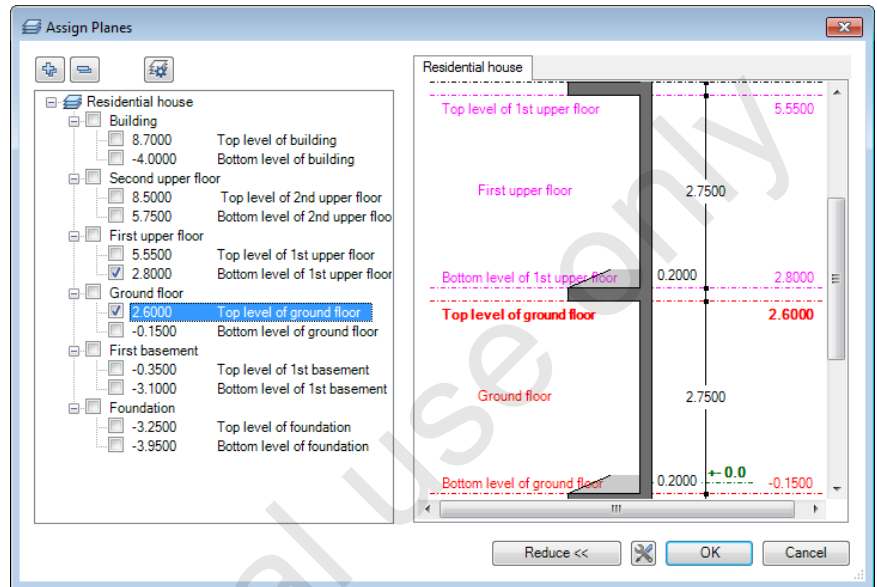
Solution

To assign planes to slab drawing files

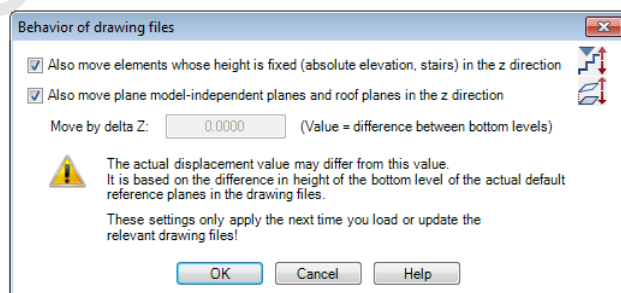
- Structural level(s): Building and Ground floor active
 - Drawing file setting: 1001 current; 1000 open in reference mode.
 - Reference scale: 1:100
 - Unit of length: m
- 1 Click  Open on a Project-Specific Basis (File menu or Standard toolbar), set drawing file 1001 Furniture to reference mode and make drawing file 1000 Floor plan current. Check that drawing file 1003 Slab is still open in reference mode.
 - 2 Click drawing file 1003 Slab with the right mouse button and, on the shortcut menu, select Assign planes.



- 3 In the **Assign planes** dialog box, select the following settings for drawing file 1003 Slab:

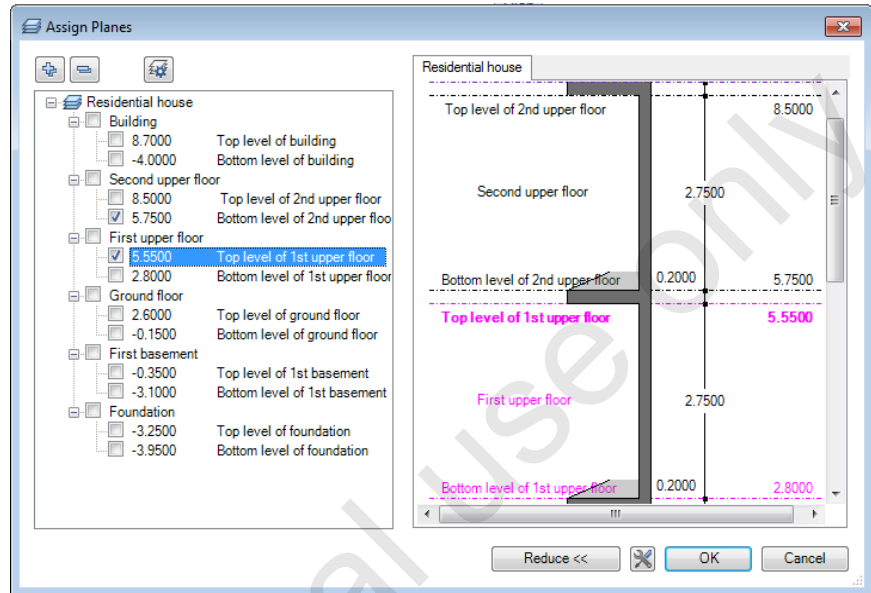


- 4 Click **OK** to confirm the **Assign planes** dialog box.
- 5 In the **Behavior of drawing files** dialog box, select the following settings:

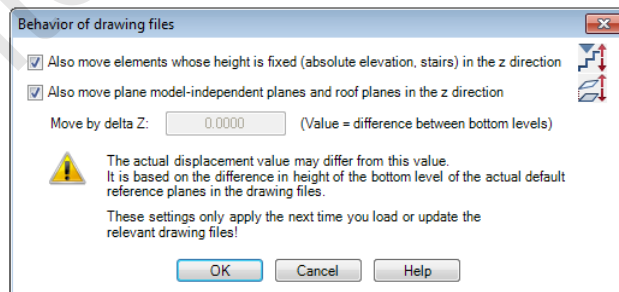


- 6 Click **OK** to confirm the **Behavior of drawing files** dialog box.
- 7 Click drawing file 1103 Slab with the right mouse button and, on the shortcut menu, select **Assign planes** again.

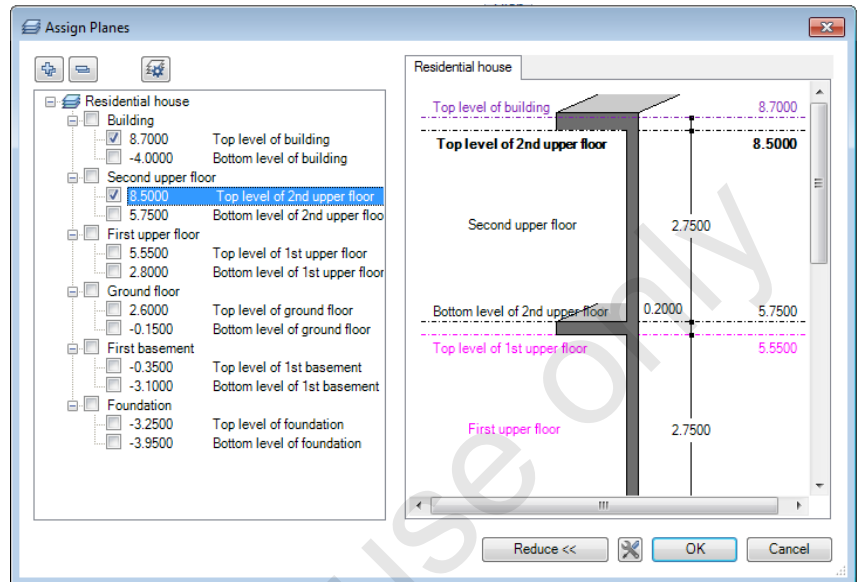
- 8 In the **Assign planes** dialog box, select the following settings for drawing file 1103 Slab:



- 9 Click **OK** to confirm the **Assign planes** dialog box.
- 10 In the **Behavior of drawing files** dialog box, click **OK** to confirm the following settings:

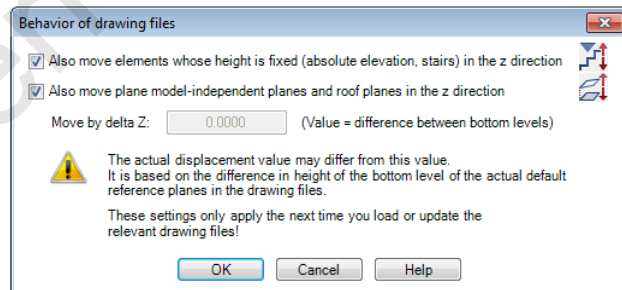


- 11 Click drawing file 1203 Slab with the right mouse button and, on the shortcut menu, select **Assign planes**.
- 12 In the **Assign planes** dialog box, select the following settings for drawing file 1203 Slab:



13 Click OK to confirm the Assign planes dialog box.

14 In the Behavior of drawing files dialog box, click OK to confirm the following settings:

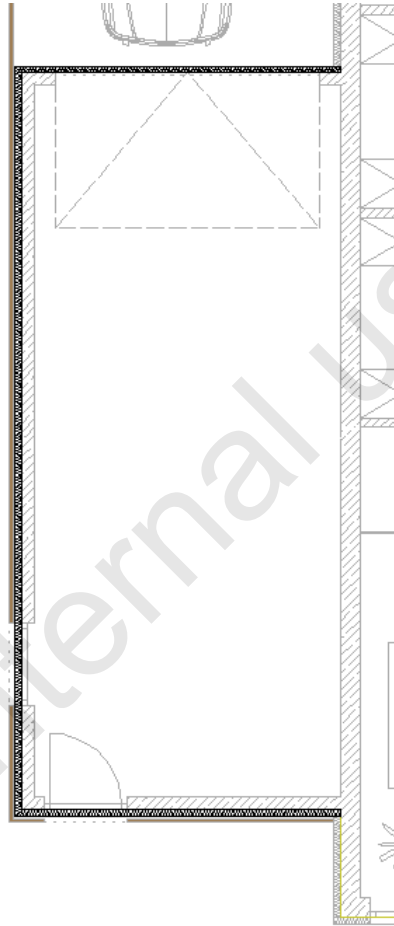


In the Open on a project-specific basis: drawing files from fileset/building structure dialog box, the heights of the new planes assigned are displayed in blue in the Height at bottom and Height at top columns to the right of the drawing file names (see illustration at the beginning of task 13).

15 Close the Open on a project-specific basis: drawing files from fileset/building structure dialog box.

Task 14: insulation for garage wall

Overview



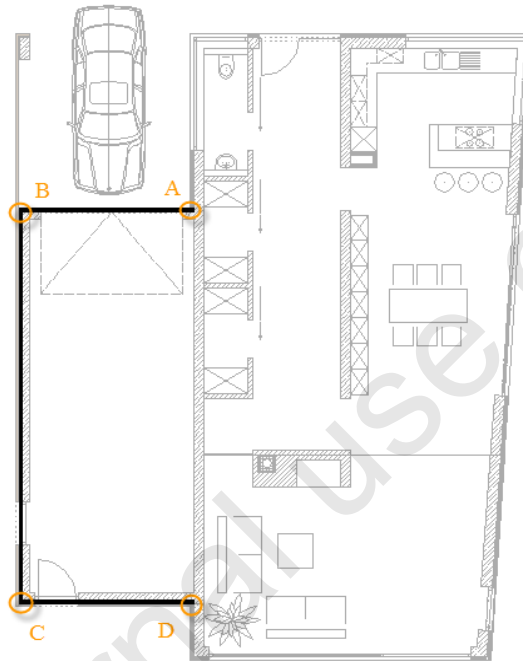
Solution

To place insulation over the garage wall

- Structural level(s): **Building** and **Ground floor** active
 - Drawing file setting: **1003** current; **1000** and **1001** open in reference mode.
 - Reference scale: **1:100**
 - Unit of length: **m**
 - Wizard FFC GF is open in the Wizards palette.
- 1 Select the FFC **Structure** wizard in the Wizards palette.
 - 2 In the status bar, set the drawing type to **Working drawing**. This facilitates the process of entering insulation.
 - 3 In the wizard, double-click wall type **10 Insulation 80** with the right mouse button.

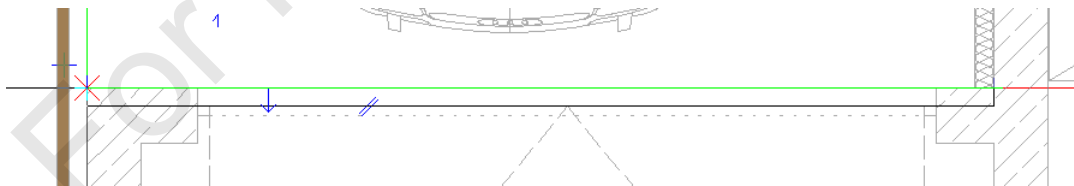
4 *Set properties, place start point*

Click the outside corner of the garage wall (= point A)



5 The insulation is to be flush with the outside edge of the garage wall.

Point to the left in the direction of point B and, if necessary, correct the wall's offset direction by clicking  Reverse.

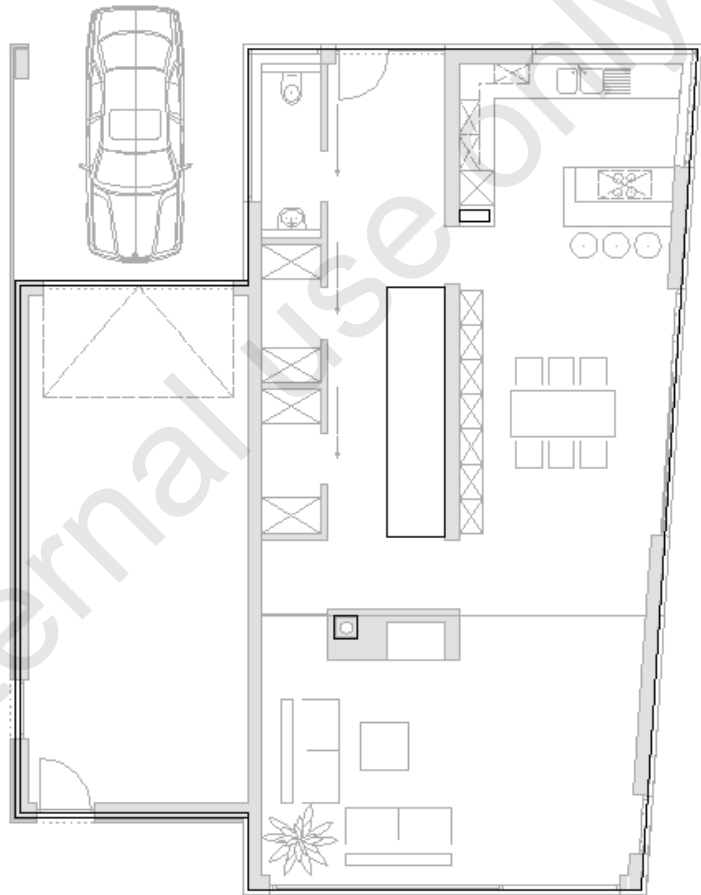


6 Click point B and then points C and D.

7 Press ESC twice to finish entering insulation.

Task 15: slab above ground floor

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Rectangle	Create menu - Draft module
 Recess, Opening in Slab	Tools palette - Architecture family - Basic: Walls, Openings, Components module - Create area
 Area detection on/off	Input options

Solution

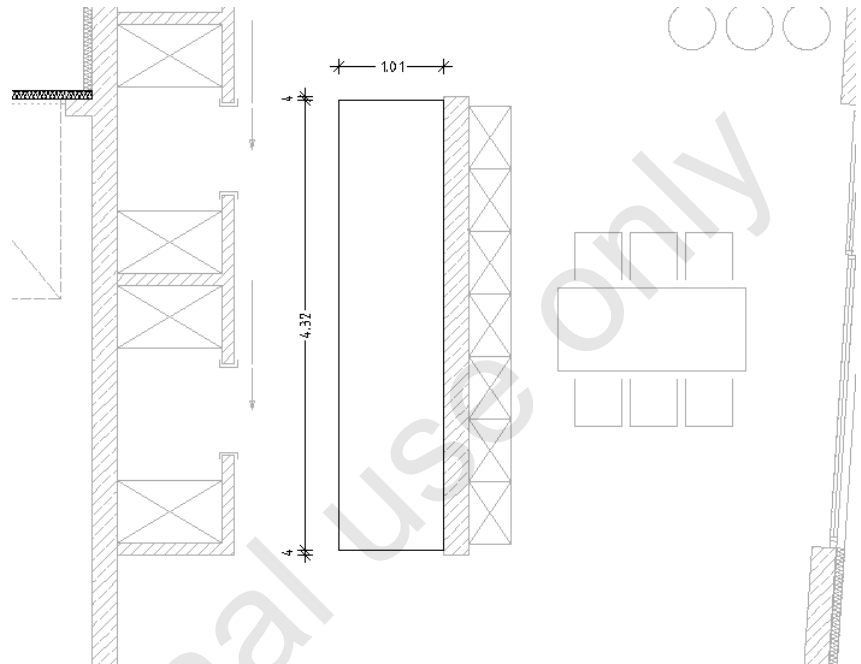
You will start by drawing the outline of the stair in construction line format as you will need it later to design the slab opening.

To draw the stair outline in construction line format

- Structural level(s): **Building and Ground floor** active
- Drawing file setting: 1003 current; 1000 and 1001 open in reference mode.
- Wizard FFC Structure is open in the Wizards palette.
- Drawing type: **Working drawing**
- Reference scale: **1:100**
- Unit of length: **m**
- 1 On the **Create** menu, point to **Draft** and click  **Rectangle** on the submenu.

Check that the layer **DE_CLINE** is current.

2 Draw the outline of the stair using the following values:



3 Press ESC to quit the  Rectangle tool.

To create the slab

➡ Leave the settings as they are.

- 1 Press F4 to open the animation window and then click **Side by Side** on the **Window** menu.

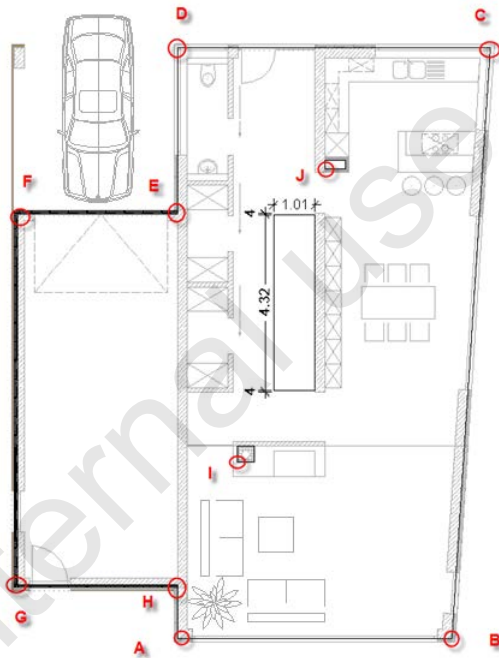
Or:

On the **Window** menu, point **Save, Load Arrangement** and select **Fit for CAD**.

- 2 In the wizard, double-click component **14 Slab RC** with the right mouse button.

- 3 Select  **Single**: enter a single closed area in the Input Options.
- 4 *Set properties, place polygon point 1, element or offset*
As the slab is to rest on the wall (not on the insulation!), click the corners on the inside edges of the insulation.

Start with point A and then click points B, C, D, E, F, G, H one after the other.

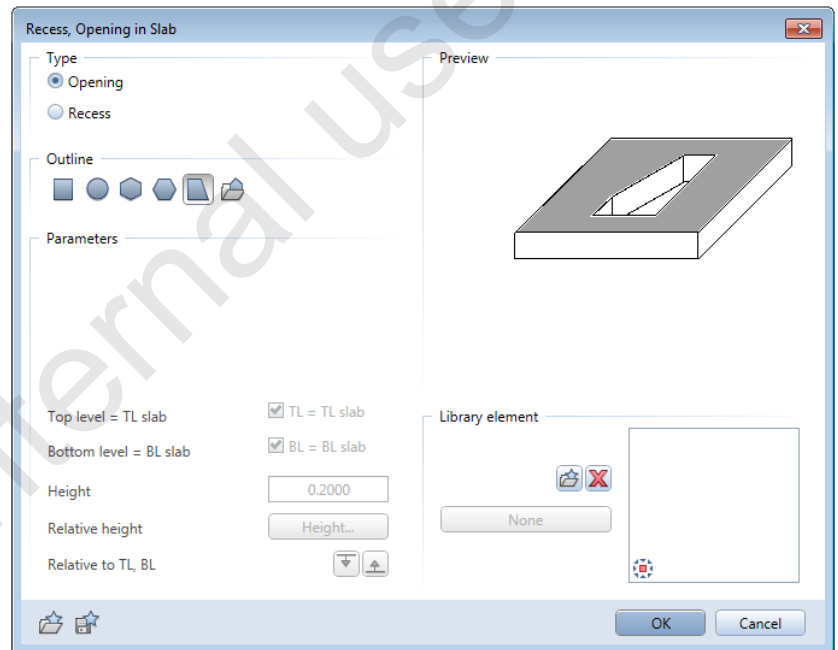


- 5 Press ESC twice to close the outline and to quit the tool.

To create a slab opening for the stair

➡ Leave the settings as they are.

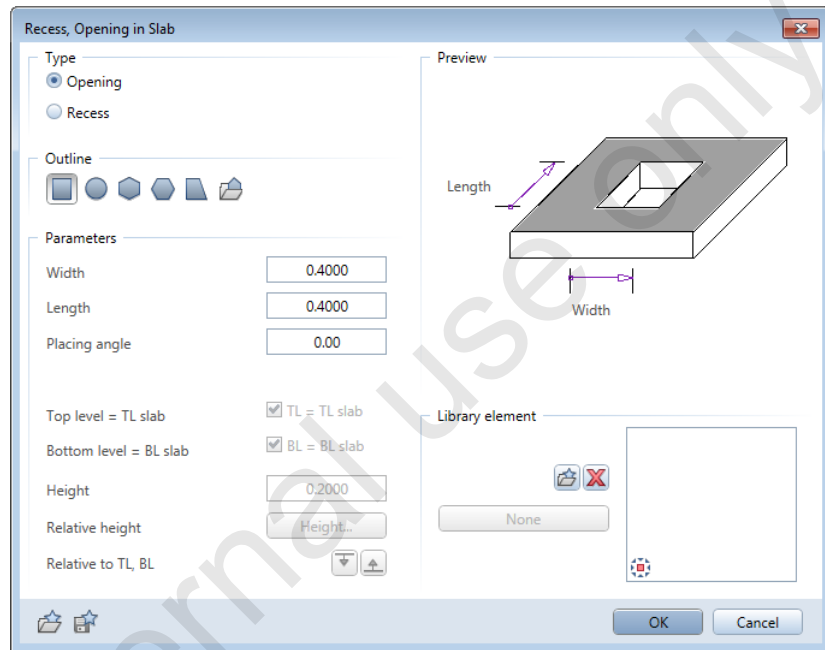
- 1 Switch to the Tools palette and click  **Recess, Opening in Slab** (Architecture family - Basic: Walls, Openings, Components module - Create area).
- 2 *Select slab*
Click within the slab.
- 3 *Set properties, place polygon point 1, element or offset*
Click  **Properties** and set the following parameters in the Recess, Opening in Slab dialog box:



- 4 Click **OK** to confirm the settings.
- 5 *Set properties, place polygon point 1, element or offset*
Select  **Area detection** in the input options (if it isn't active) and click within the outline of the stair you created in construction line format.

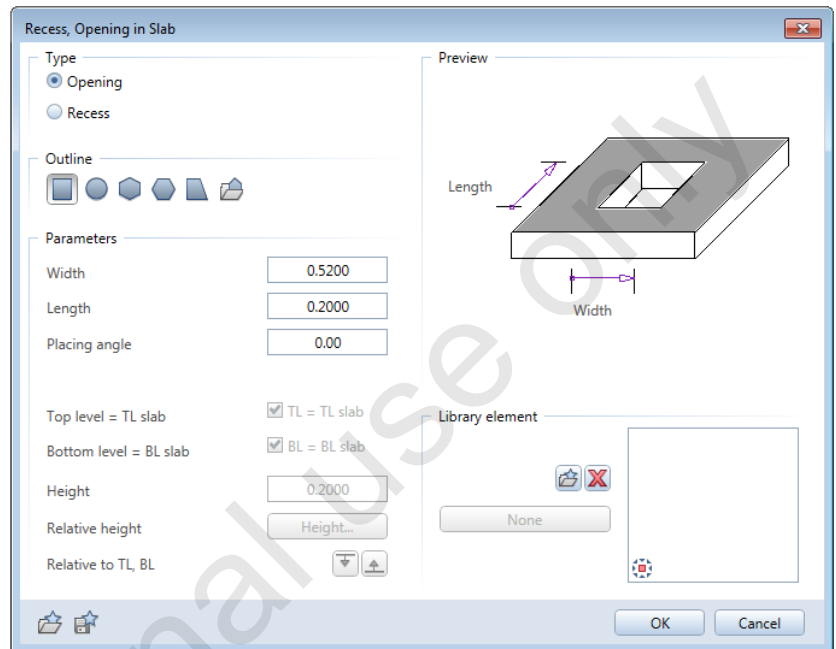
You can see how the slab opening is created in the animation window.

- 6 Click  **Properties** and set the following parameters in the **Recess, Opening in Slab** dialog box:



- 7 Click **OK** to confirm the settings.
- 8 Set the anchor point to  **bottom left**.
- 9 Place the opening for the chimney at point I (see illustration in the section entitled "To create the slab", step 5).

- 10 Click  **Properties** again and change the settings in the **Recess, Opening in Slab** dialog box as follows:



- 11 Click **OK** to confirm the settings.
- 12 Make sure that the anchor point is set to  **bottom left**.
- 13 Place the opening for the chimney at point **J** in the cooking area (see illustration in the section entitled "To create the slab", step 5).
- 14 Press **ESC** to quit the tool.

Task 16: modifying the height of the chimney

Overview

The chimney is a component that is to extend across all four stories in this training project: its bottom level is at the height of the bottom level of the first basement and its top level is to be above the roof. You can use the building structure to design components that extend across several stories in a comfortable and easy manner.

In "task 6: open fireplace, column, chimney and profile wall" you created the chimney in the same drawing file as the other components of the floor plan (drawing file 1000). Consequently, the default reference planes of this drawing file delimit the height of the chimney.

To change this, you need to move the chimney to a separate drawing file with appropriate height settings.



Use the following tool(s) to do this:

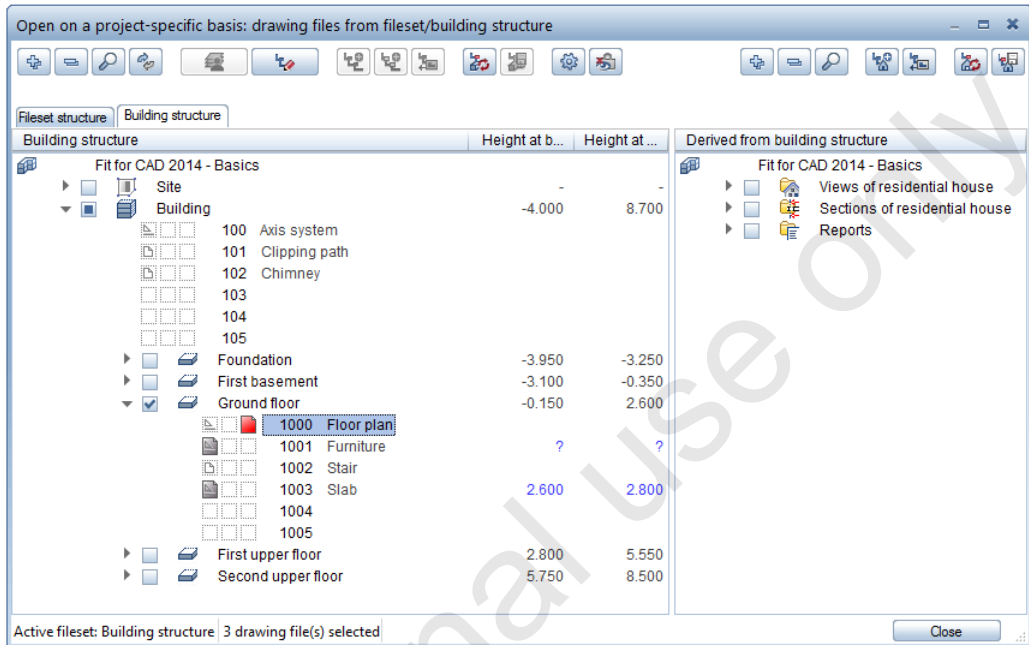
Function	How to activate it
 Open on a Project-Specific Basis...	File menu or Default toolbar
 Cut	Edit menu
 Paste to Original Position	Edit menu

Solution

To modify the height of the chimney

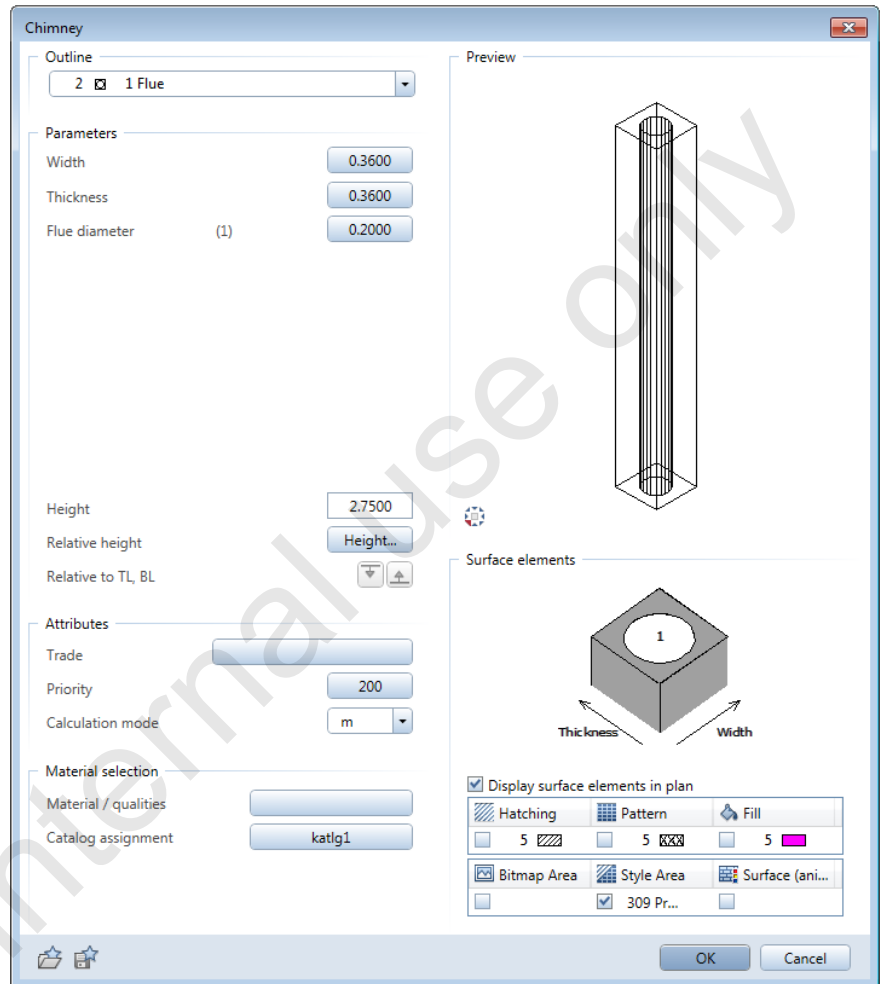
- Structural level(s): **Building** and **Ground floor** active
 - Drawing file setting: **1003** current; **1000** and **1001** open in reference mode.
 - In the Tools palette: Architecture family - Basic: Walls, Openings, Components module
 - Drawing type: **Working drawing**
 - Reference scale: **1:100**
 - Unit of length: **m**
- 1 Click  **Open on a Project-Specific Basis** (File menu or Default toolbar).

- 2 Make drawing file **1000 Floor plan** current and open drawing files **1001 Furniture** and **1003 Slab** in reference mode.

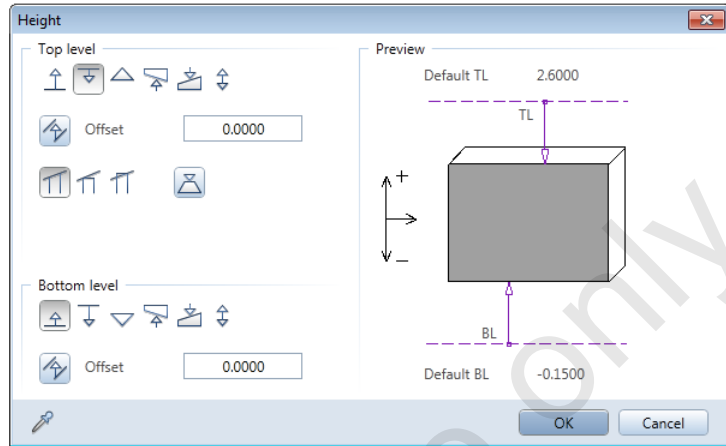


- 3 Close the dialog box.
- 4 Open the **Chimney** dialog box by double-clicking the chimney with the left mouse button.

The height displayed is 2.75 m.

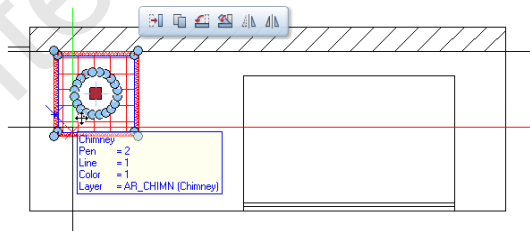


- 5 Click the Height... button to check the height settings.



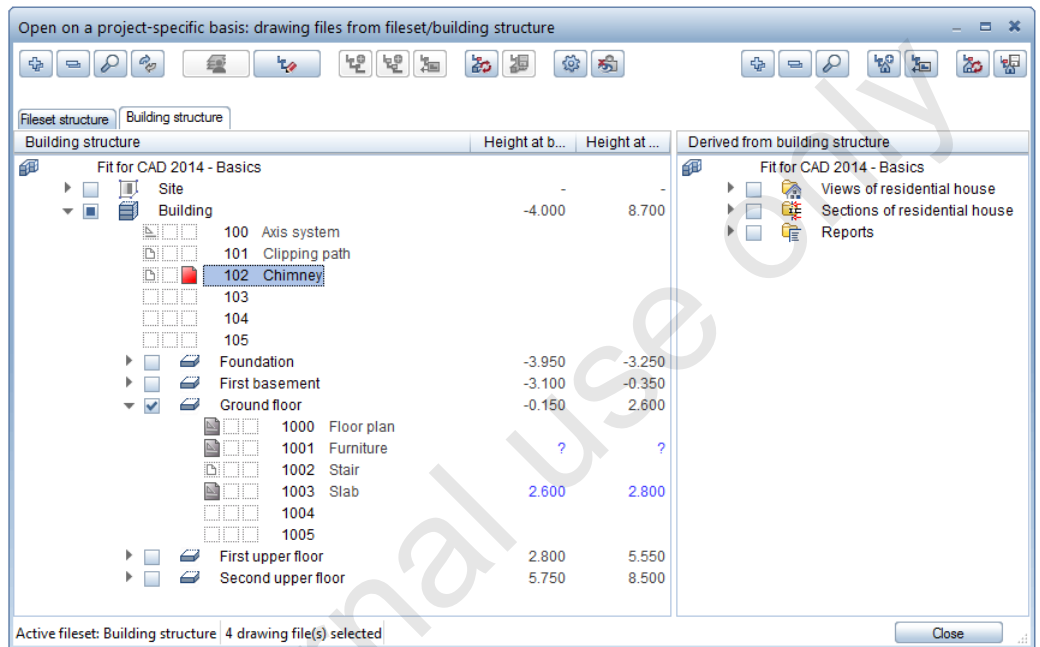
As you can see, the chimney's top and bottom are set so that there is no offset to the upper and lower default reference planes. Due to the height settings of the **Ground floor** structural level, to which drawing file 1000 is assigned, the current component height of the chimney is 2.75 m.

- 6 As you do not need to make modifications here, press ESC twice to quit the tool.
- 7 Select the chimney by clicking it with the left mouse button (do not double-click!).



- 8 Open the Edit menu and click  Cut (or CTRL+X).
The chimney is cut.

- 9 Click  **Open on a Project-Specific Basis** (File menu or Default toolbar), make drawing file 102 Chimney current and open drawing files 1000, 1001 and 1003 in reference mode.

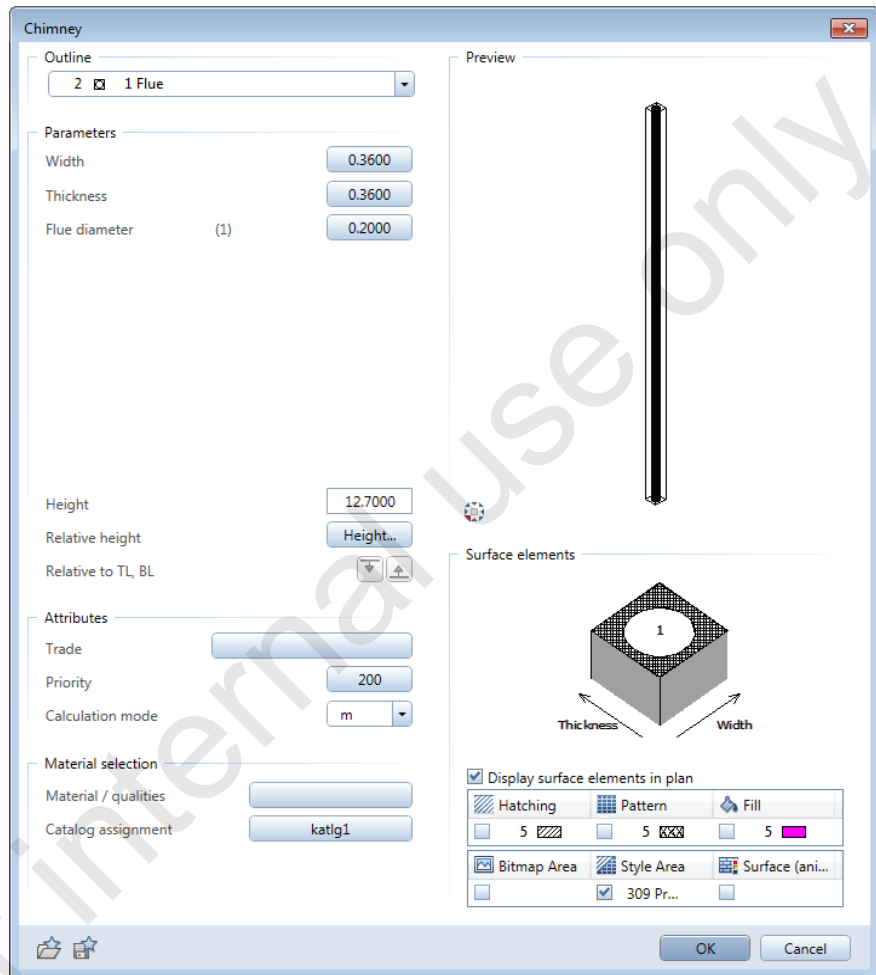


- 10 Close the dialog box.

- 11 On the Edit menu, click  **Paste to Original Position** (or CTRL+ALT+V) and quit by pressing ESC.

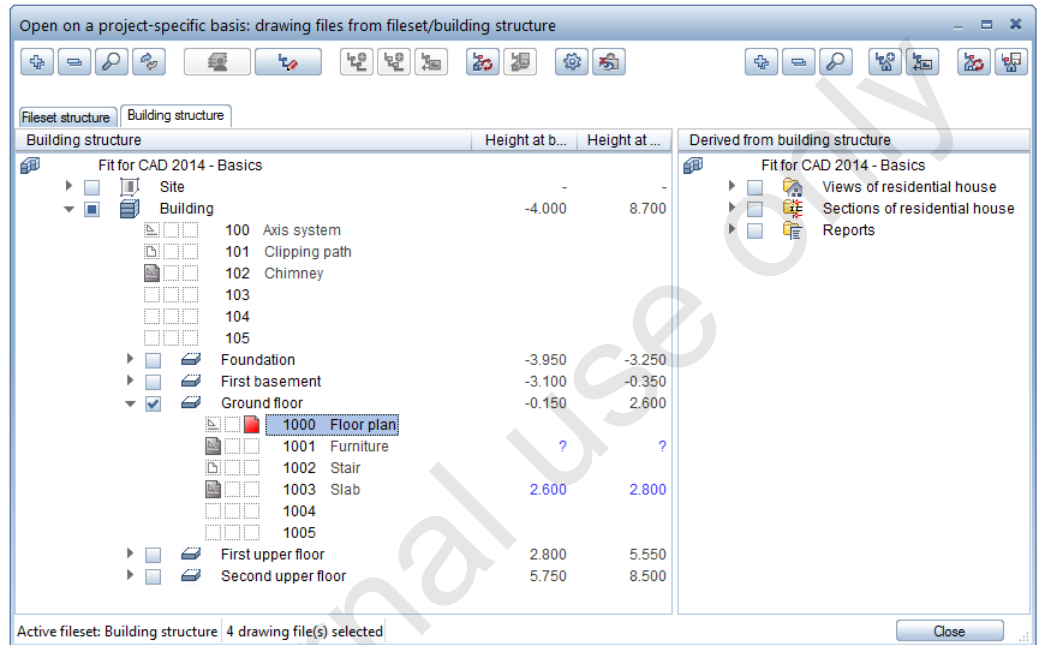
The chimney is inserted in its original position. However, its height has automatically changed: As the height of drawing file 102 is governed by the height settings of the Building structural level, the total height of the chimney is now 12.70 m.

12 To check the new height, open the **Chimney** dialog box by double-clicking the chimney with the left mouse button.



13 Press ESC to close the **Chimney** dialog box.

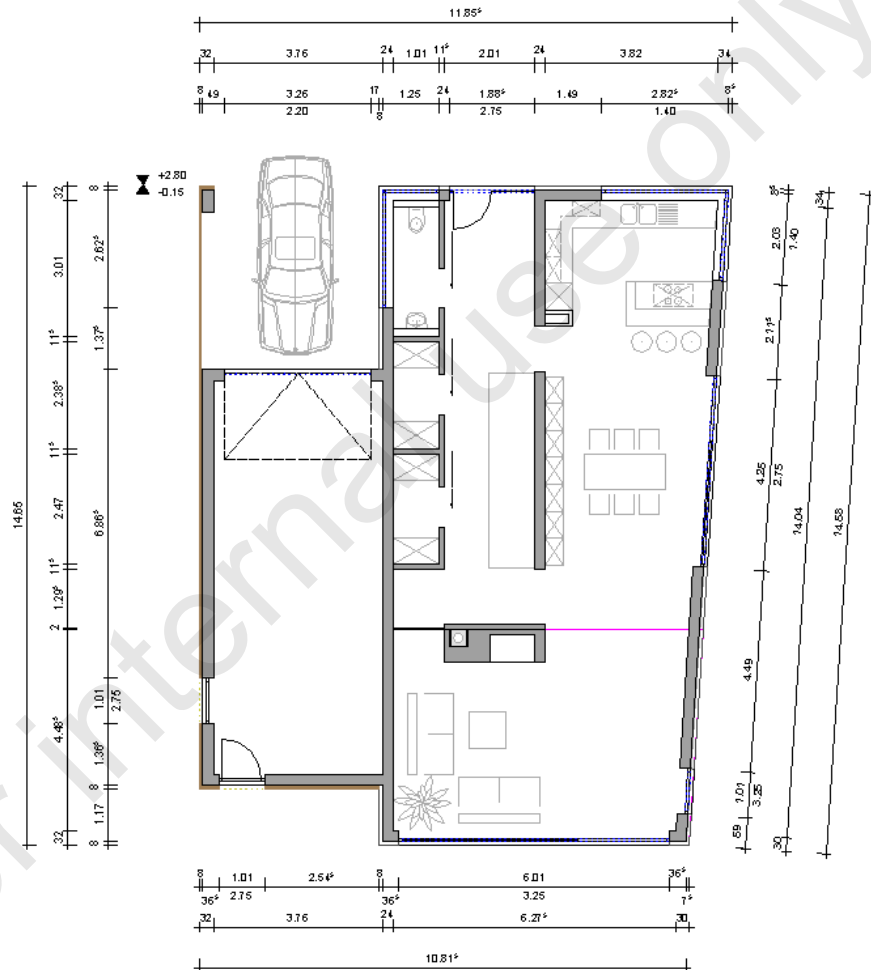
- 14 Click  **Open on a Project-Specific Basis** (File menu or Default toolbar), make drawing file **1000 Floor plan** current and open drawing files 102, 1001 and 1003 in reference mode.



Note: You will adjust the height of the chimney more precisely in unit 4 when you design the upper floor.

Task 17: dimensions

Overview



Use the following tool(s) to do this:

Function

How to activate it



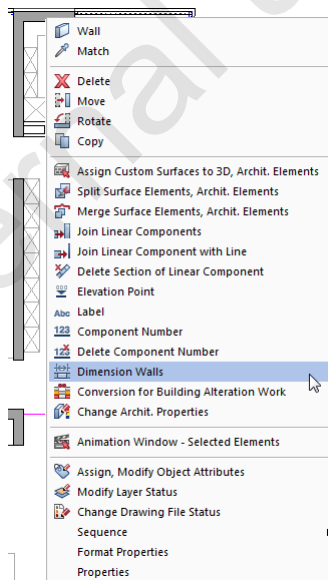
Dimension Walls

Shortcut menu

Solution

To automatically dimension walls

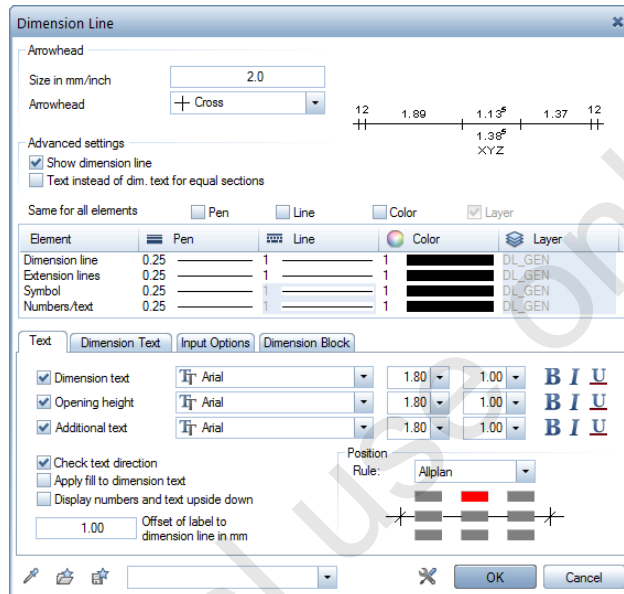
- Structural level(s): **Building and Ground floor** active
 - Drawing file setting: **1000** current; **102, 1001** and **1003** open in reference mode.
 - Drawing type: **Working drawing**
 - Reference scale: **1:100**
 - Unit of length: **m**
- 1 In the status bar, set the **Drawing type** back to **Schematic design drawing**.
 - 2 Open the shortcut menu of the top exterior wall of the north facade and click  **Dimension Walls**.



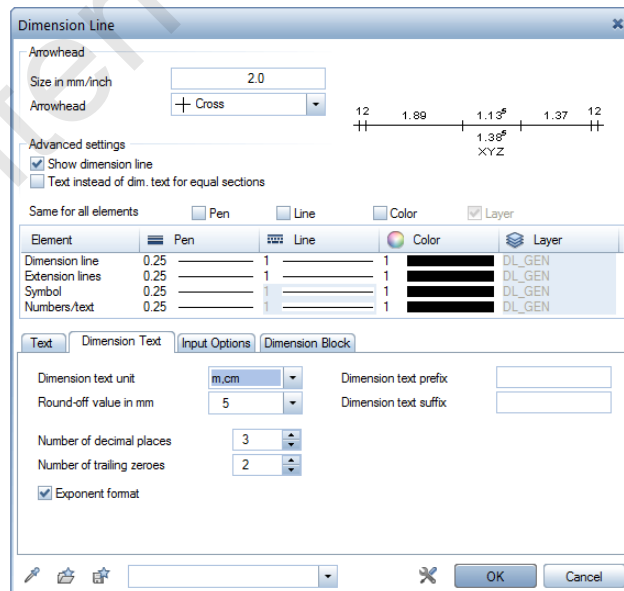
- 3 *Select walls to dimension, set properties, click right mouse button to confirm*

Click  **Properties** and set the following parameters in the **Dimension Line** dialog box.

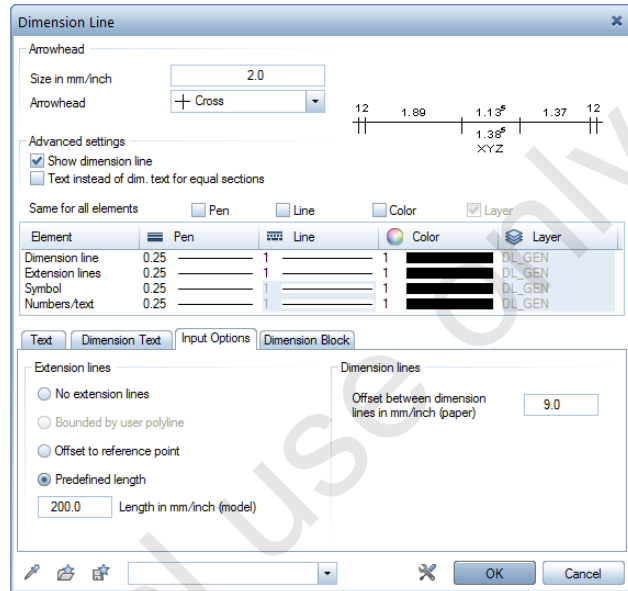
On the Text tab:



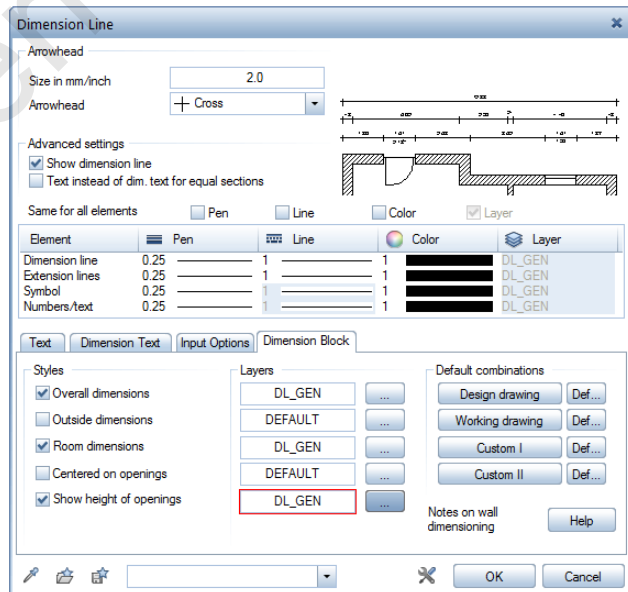
On the Dimension Text tab:



On the Input Options tab:



On the Dimension Block tab:



- 4 Click **OK** to confirm the settings.
 - 5 *Select walls to dimension, set properties, click right mouse button to confirm*
Click all the walls you want to include in the dimension string.
The selected walls are displayed in the selection color.
 - 6 Click the right mouse button to confirm.
 - 7 *Use active wall line as direction element, set properties*
To specify the direction element, click the outside edge of an active wall line that is parallel to the dimension block you are creating.
 - 8 *Specify drop-in point, set properties*
Place the dimension line block.
 - 9 Dimension the other walls in the same way.
 - 10 Press **ESC** to quit the tool.
-

Tip: You can use the tools in the **Input Options** to invert the arrangement of the dimension lines before you place them.

A note on modifying dimension lines

If some of the points were not dimensioned correctly, you can use the tools on the shortcut menu to modify the dimension lines.

To modify dimension lines

- To modify an existing dimension line (e.g. to delete or add a dimension line point), click the relevant dimension line with the right mouse button and select a modification tool on the shortcut menu.

Or:

- 1 Click  **Modify Dim. Line** (Tools palette - Basic family - Dimension Lines module - Change area).
 - 2 Click  **Properties**, change the parameters and click **OK** to confirm.
 - 3 Click the dimension line you want to modify or enclose a number of dimension lines in a selection rectangle in order to select and modify them together.
-

For example: changing the height specification

- 1 Click a dimension line with the right mouse button and select  **Modify Height Spec, Additional Text** on the shortcut menu.
 - 2 On the Context toolbar, define how the component height and/or additional text is to be modified:
 - **Retain**
No changes.
 - **Delete**
Component height and/or additional text is deleted.
 - **Set**
Component height and/or additional text is added or modified using the entries you have made in the right hand part of the Context toolbar.
 - **Component height data entry box**
You can enter any value at the keyboard (only numbers; you cannot enter text) or adopt a height from an existing opening/foundation.
To do this, select  and click an opening/foundation in the workspace.
Note: When you point to an opening or foundation, the (sill) height of this component is displayed. When you click the opening or foundation, the program enters this height in the data entry box.
Note: In this case, the opening or foundation must have been created using the **Basic: Walls, Openings, Components** module.
 - **Additional text data entry box**
You can enter any text here.
You can adopt additional text by selecting  and clicking another dimension line section.
Click the dimension line section you want to modify.
The changes are applied.
 - 3 Repeat steps 2 and 3 to make further changes. Otherwise, press ESC or click **Close** to quit the tool.
-

Tip: You can insert height specs and additional text later by modifying individual sections of a dimension line (using the shortcut menu).

Task 18: rooms

Introduction

Before you can carry out area calculations or generate reports, you have to define rooms in the CAD program.

Two methods are provided for creating rooms:

- **Room by room:** in this case the boundary of each room is entered as a polyline. The rooms can be labeled immediately and assigned properties.

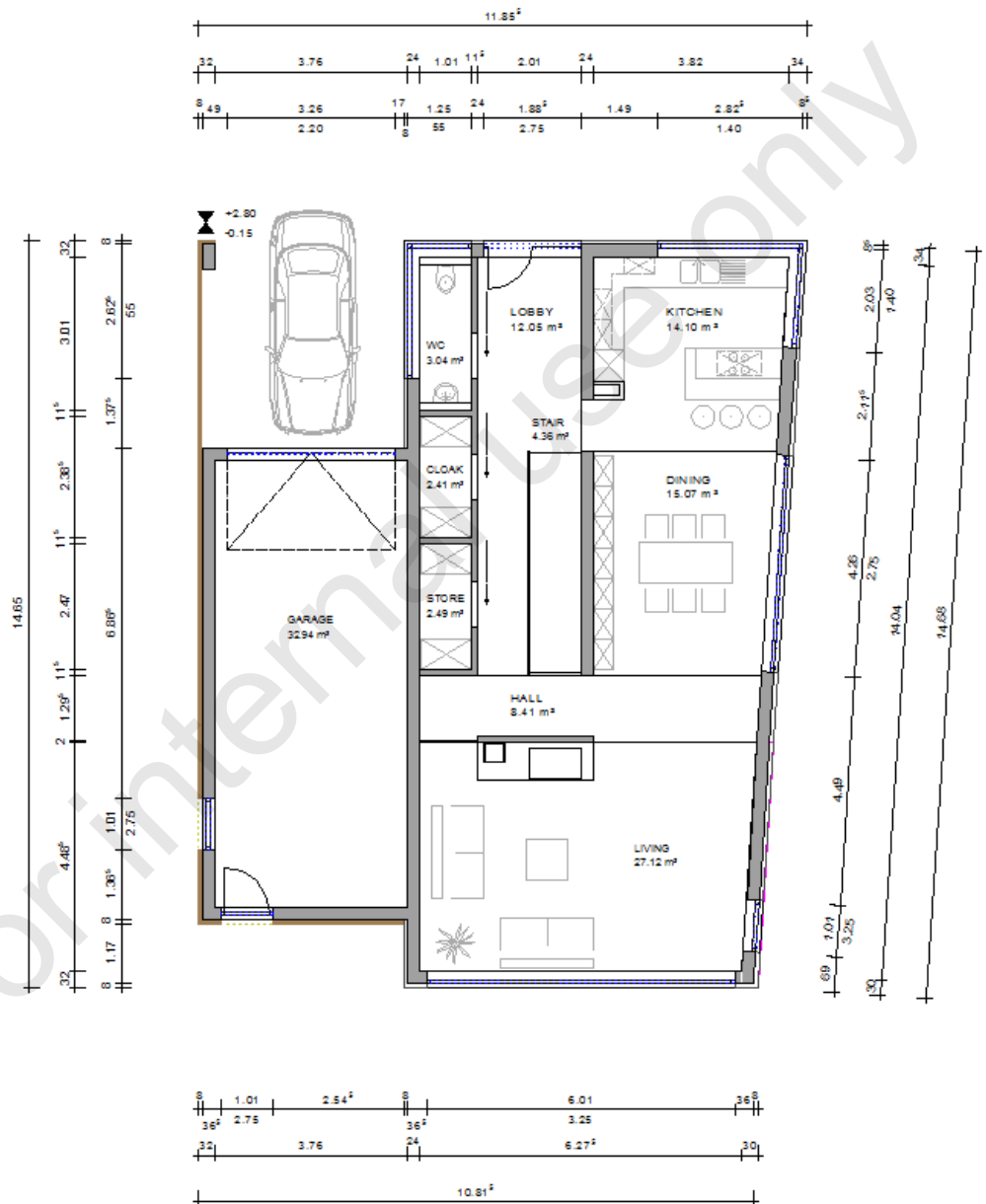
You will use this method now.

- **Automatic room generation:** in this case, the rooms are "fitted" within closed wall polylines. All that remains is to label the rooms and assign properties.

You will use this method later when you create rooms for the first upper floor (unit 4, exercise 2, task 3).

The **Group Rooms** tool lets you combine individual rooms into groups. For example, you might combine all the rooms belonging to an apartment. The individual groups can be assigned different hatching styles, patterns or fills as a means of identification. They can also be analyzed and evaluated together.

Overview



Use the following tool(s) to do this:

Function	How to activate it
 Room	Tools palette - Architecture family - Rooms, Surfaces, Stories module - Create area

Solution

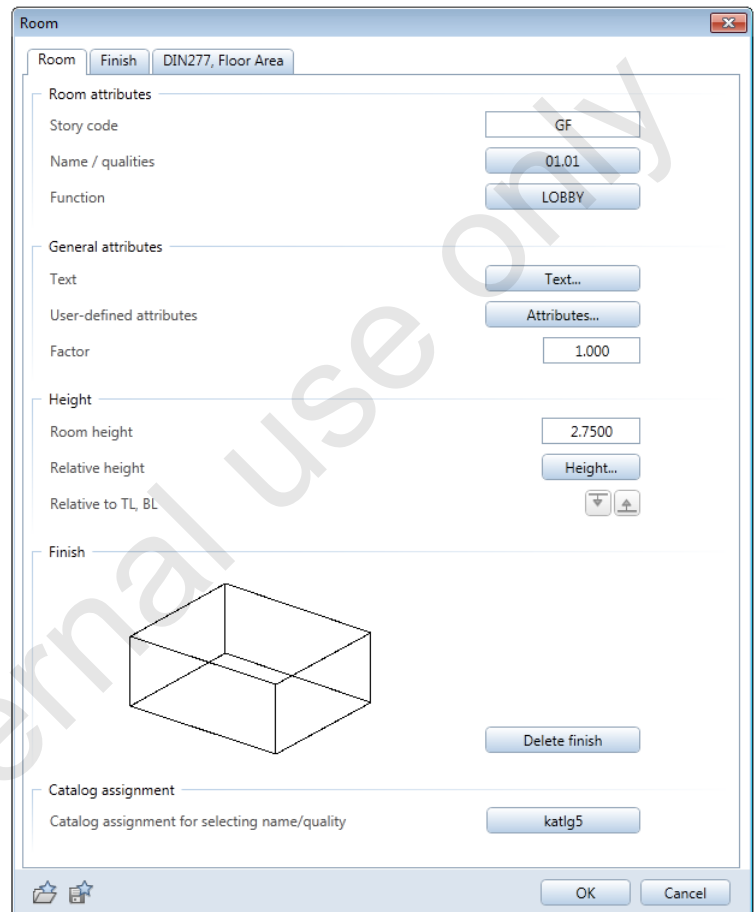
To manually create and label rooms

- Structural level(s): **Building** and **Ground floor** active
- Drawing file setting: **1000** current; **102**, **1001** and **1003** open in reference mode.
- In the Tools palette: **Architecture** family - **Basic: Walls, Openings, Components** module
- Drawing type: **Schematic design drawing**
- Reference scale: **1:100**
- Unit of length: **m**
- 1 In the Tools palette, open the **Rooms, Surfaces, Stories** module and select the  **Room** tool (Architecture family - Rooms, Surfaces, Stories module - Create area).
- 2 Check that the layer **RO_ROOM** is current.
- 3 *Set properties, place polygon point 1, element or offset*
Click  **Properties** and enter the following parameters on the Room tab:
 - Story code: **GF**

Important!

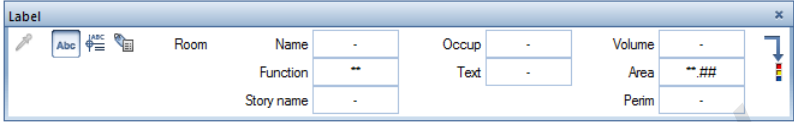
To specify a room name of your choice, check that you have selected **katlg5** for the **Name** attribute in the **Catalog assignment** area. To make sure that Allplan automatically increments the room number, activate the **Name ++** option.

- Name: 01.01
- Function: Hall



- 4 Click **OK** to confirm.
- 5 *Set properties, place polygon point 1, element or offset*
Select  **Single:** enter a single closed area in the **Input Options** and then click the corners of the hall one after the other. To close the polyline, click the first point again. Pay attention to the outline of the stair. Make sure that you do not include it!
The **Label Context** toolbar appears.

- 6 Select the  Default label and make the following settings:



Room	Name	-	Occup	-	Volume	-
	Function	**	Text	-	Area	**##
	Story name	-			Perim	-

- 7 Click  Toggle to set parameters for the text.



1.800	1.000	90.0	90.0	"Off"
1.800	Arial	1.6	"On"	

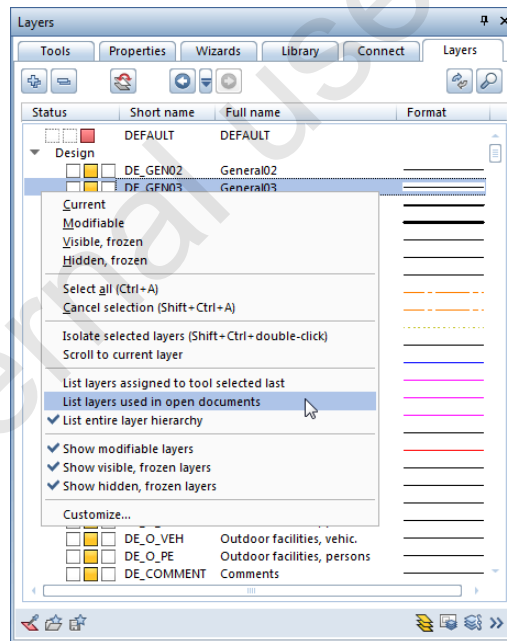
Tip: You can also control the font size by entering a factor in the dialog line (**Resize** button in the **Input Options**).

- 8 *Place label*
If necessary, use the tools in the **Input Options** to adjust the label.
- 9 Check that the layer **AR_LABEL** is current and place the label in the room.
- 10 *Set properties, place polygon point 1, element or offset*
Click  **Properties**, make settings for the next room (e.g. **Kitchen**) on the **Room** tab and create the room.
- 11 *Set properties, place polygon point 1, element or offset*
Create and label the other rooms in the same way. Make sure that you assign unique name and functions to the individual rooms (see the illustration at the beginning of this task).
- 12 Press ESC to quit the tool.

Task 19: saving layer favorite

To save a layer favorite

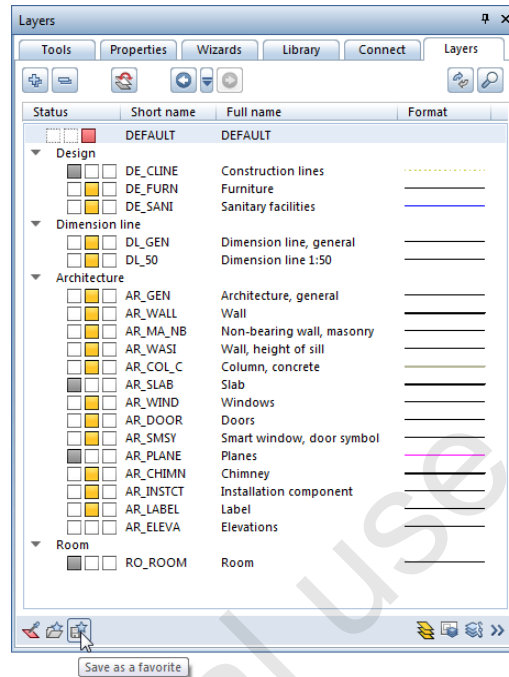
- Structural level(s): **Building and Ground floor** active
 - Drawing file setting: **1000** current; **102, 1001 and 1003** open in reference mode.
- 1 Select the **Layers** palette.
 - 2 Open the shortcut menu of the **Layers** palette and click **List layers used in open documents**.



- 3 Set the layer status for layers **DE_CLINE**, **AR_SLAB**, **AR_PLANE** and **RO_ROOM** to **Hidden, frozen**.

To do this, click the *left* check box of each layer. You can immediately see the effects on screen.

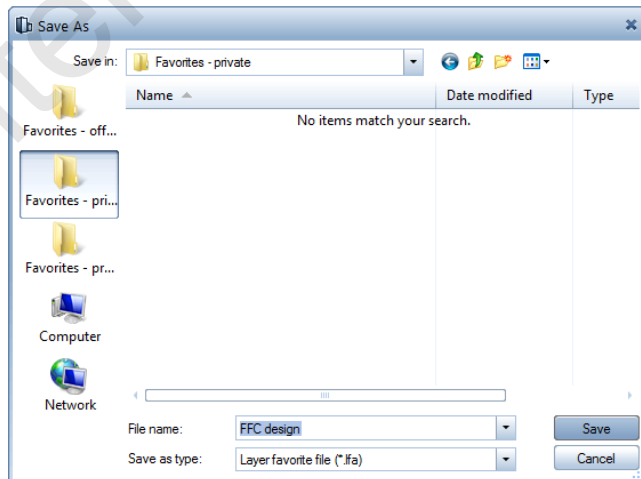
- 4 Click  **Save as a favorite** at bottom left in the border of the palette.



- 5 In the Save As dialog box, select the Favorites - private folder, enter FFC design for the file name and click Save.

Tip: Using  Load favorite, you can retrieve this layer status at any time.

As an alternative, you can also save and load the layer status using the  Select, Set Layers tool (Format menu). All you need to do is open the shortcut menu in the Status area and select Save current setting as a print set or Match visibility from print set. However, saving and loading print sets requires special privileges in Allplan. Consequently, only authorized users can use these tools.



Unit 3

For internal use only

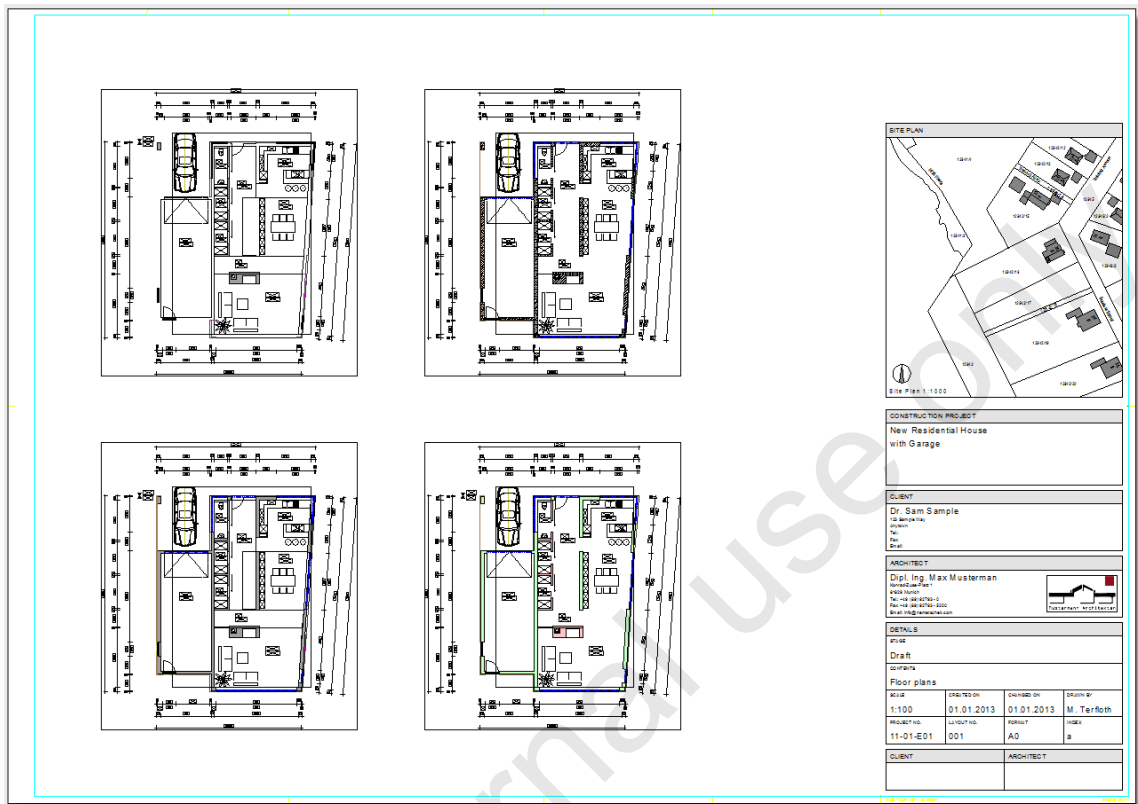
For internal use only

Exercise 1: ground floor layout

Task 1: assembling and printing the ground floor plan

Overview

This exercise involves creating, modifying and printing a layout. To do this, you will use Allplan's layout editor. The steps that follow show you how to set up the page, define the arrangement of the individual layout elements, specify the principal settings for printing and output the layout as a PDF file.



Use the following tool(s) to do this:

Function

How to activate it



Layout Editor

Default toolbar



Set Up Page

Tools palette - Basic family - Layout module - Create area



Layout Element

Tools palette - Basic family - Layout module - Create area

Library palette, Symbols folder



Bitmap Area

Tools palette - Basic family - Draft module - Create area



Print Layouts

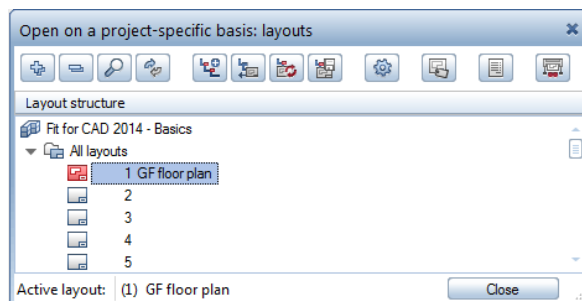
Tools palette - Basic family - Layout module - Create area

	Export PDF Data	Tools palette - Basic family - Layout module - Create area
	Copy	Edit toolbar
	Paste to Original Position	Edit menu
	Delete	Edit toolbar
	New Project, Open Project	File menu
	Select attributes	New Project, Open Project dialog box

Solution

To define the layout size

- Structural level(s): **Building** and **Ground floor** active
 - Drawing file setting: **1000** current; **102**, **1001** and **1003** open in reference mode.
 - Layer setting: **DE_CLINE**, **AR_SLAB**, **AR_PLANE** and **RO_ROOM** are hidden; all the other layers are modifiable.
- 1 On the Default toolbar, click  **Layout Editor**.
Layout 1 is selected automatically the first time you open the Layout module.
 - 2 Click  **Open on a Project-Specific Basis (Default toolbar)**, enter **GF floor plan** for the name of layout 1 and confirm the dialog box by clicking **Close**.



Note: When you switch to the layout editor, Allplan automatically sets the reference scale to 1:1 and the unit of length to **mm**. Your original settings are restored as soon as you leave the layout editor again.

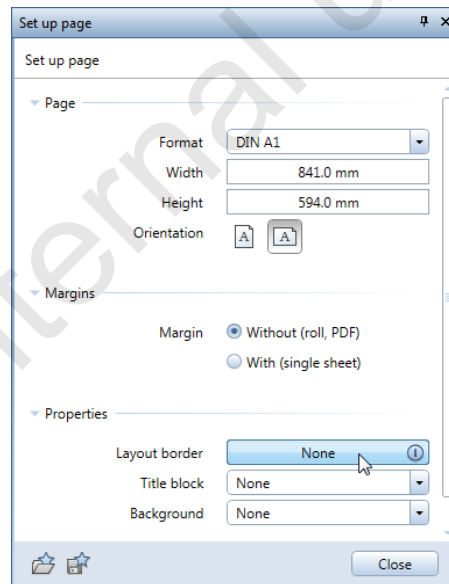
- 3 Check that **Design view** is selected on the toolbar at bottom right in the viewport; if it isn't, select it.

The design view is particularly useful for arranging the individual elements of the layout. In this example, the elements of the layout are displayed as you have created them. The layout elements are displayed within a border.

- 4 In the Tools palette, click  **Set Up Page (Basic family - Layout module - Create area)**.

The Set up page palette opens.

- 5 Specify the page size (**DIN A1**) and the orientation (**Landscape**).



6 Define the margins in the **Margins** area:

- **Without (roll, PDF):** select this option to output layouts to roll paper or as PDF files. All margins are automatically set to 0.00 mm and cannot be changed.

With this setting, the page is always placed so that its bottom left corner coincides with the bottom left corner of the printable area of the printer you have specified in the



Print Layouts tool. This ensures that the entire page including the outer border is printed.

- **With (single sheet):** Select this option to output layouts to single sheets of paper. Define the individual margins. If you are using Windows drivers for the current layout, you can click the  button to match the device margins of the printer you have specified in the  **Print Layouts** tool. With this setting, the page is always placed so that its bottom left corner coincides with the bottom left corner of the single sheet. If a layout border is defined along with the page, it can happen that the outer border is not printed due to the device margins.

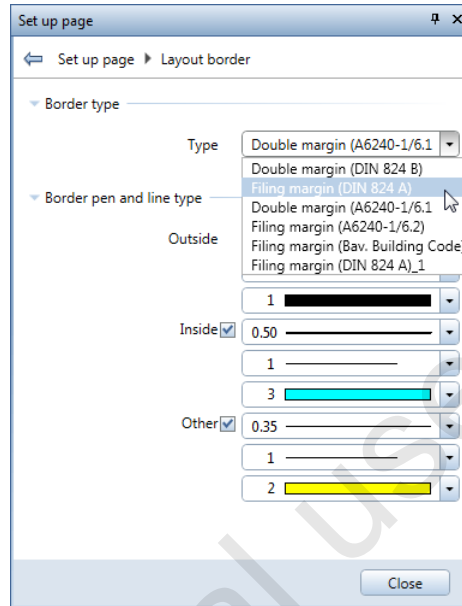
Note: The values you enter for the margins appear red if they are smaller than the associated values of the output device.

When you close the tool, the program automatically corrects the margins.

As this layout is to be output in PDF format, select the **Without (roll, PDF)** option.

7 In the **Properties** area, click the button beside **Layout border**.

8 Select the Filing margin DIN 824 A border type.



The layout border is placed correctly on the DIN A1 page in landscape format.

9 Click Close twice to quit the tool.

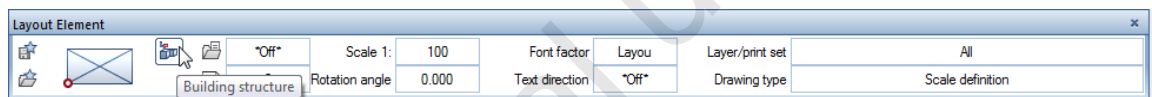
To place layout elements

- Active tool:  Layout Editor (Default toolbar)
- Layout setting: 1 current
- In the Tools palette: Basic family - Layout module
- 1 In the Tools palette, click  Layout Element (Create area).

The Layout Element Context toolbar appears.

- 2 You can select the layout elements (= drawing files) individually using  Drawing file, as a fileset using  Fileset or selectively using  Building structure. Here, you will use the building structure.

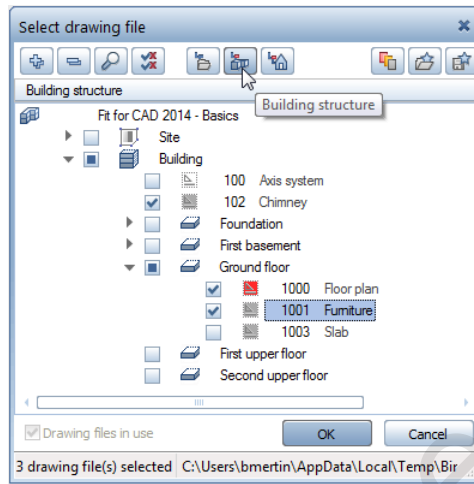
On the Layout Element Context toolbar, click  Building structure.



The Select drawing file dialog box is displayed.

- 3 In the Select drawing file dialog box, you can display the drawing file structure in different ways. You can choose between  Drawing file/Fileset,  Building structure or  Derived from building structure.

Here, you will use the  Building structure. Click the  Building structure icon in the Select drawing file dialog box and select the following drawing files:



- 4 Click OK to confirm the settings.

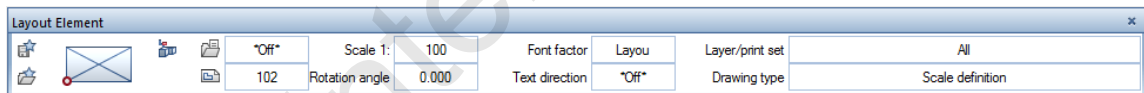
The selected drawing files are attached to the crosshairs.

- 5 On the Layout Element Context toolbar, set the reference point to  bottom left and check the following settings:

Scale 1: 100

Font factor: 1 (= Layout)

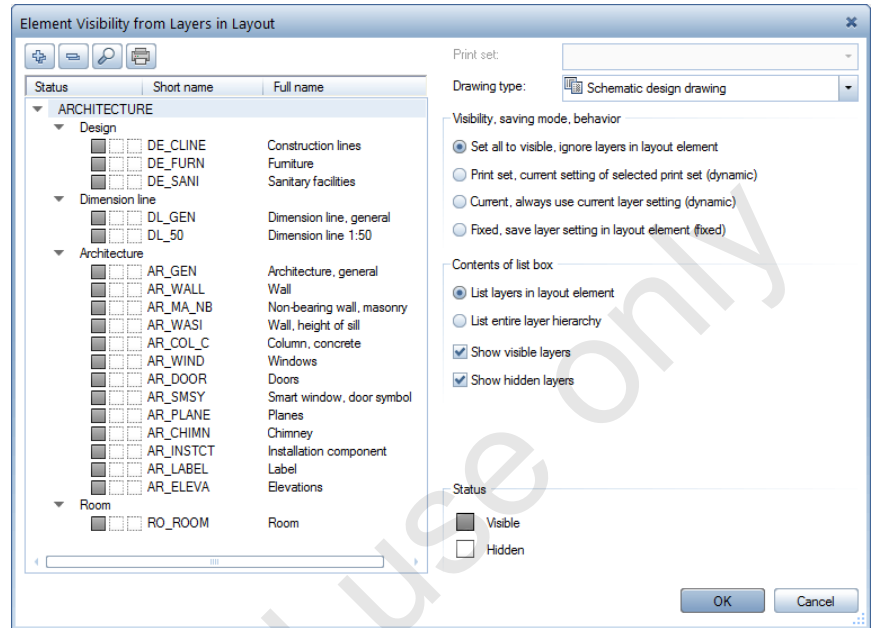
Rotation angle: 0.000



- 6 Click the Layer/print set box.

The Element Visibility from Layers in Layout dialog box opens.

- 7 You will try out a number of variants. For the first variant, set the drawing type to **Schematic design drawing** and set the other options as shown:

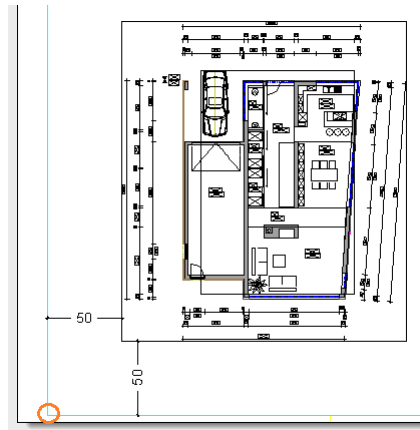


- 8 Click OK to confirm the settings.

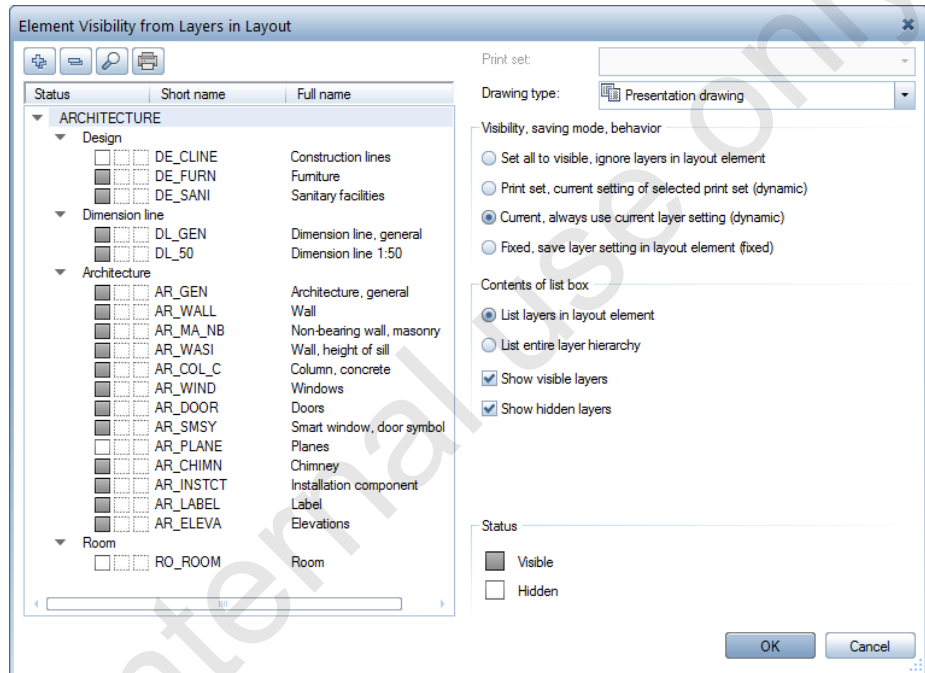
The settings you have made for the drawing type and layer/print set are transferred to the **Layout Element** Context toolbar.

Tip: A layout element border is displayed around each drawing file you place in the layout. This border, which will not appear in printouts, helps you select and position layout elements. However, you can hide this border as well as the contents of the layout elements using Show/Hide. All you need to do is switch off the **Layout element border** and **Contents of layout element** options.

- 9 Place the drawing files 50 mm from the bottom left corner of the inner border. This offset applies both to the X and to the Y direction.



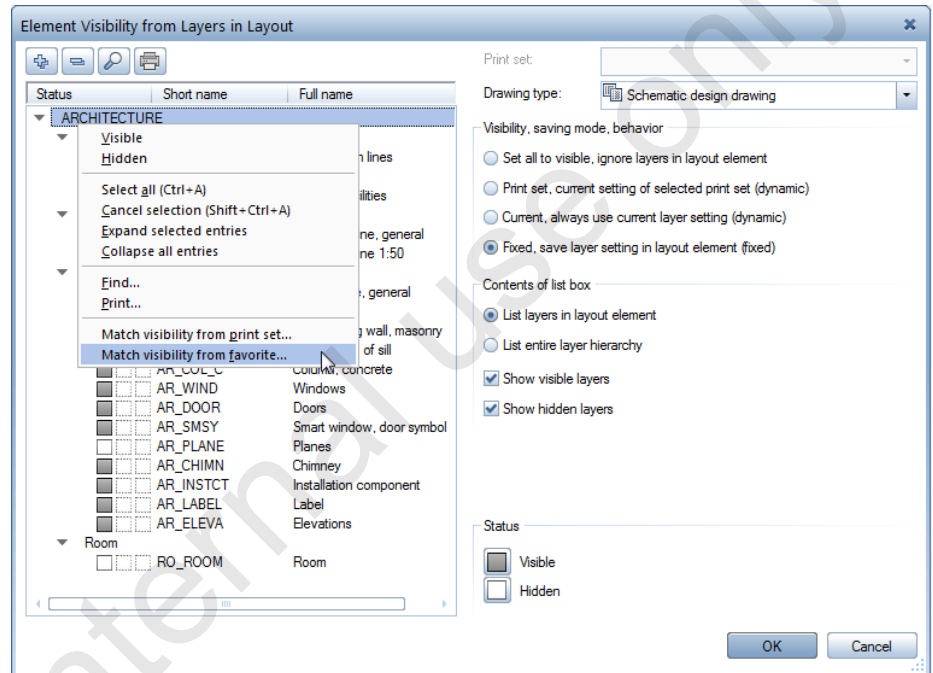
- 10 For the second variant, click  **Building structure** again and select the same drawing files.
- 11 Leave the settings on the **Layout Element Context** toolbar as they are and click in the **Layer/print** set box. Make the following settings for the second variant in the **Element Visibility from Layers in Layout** dialog box:



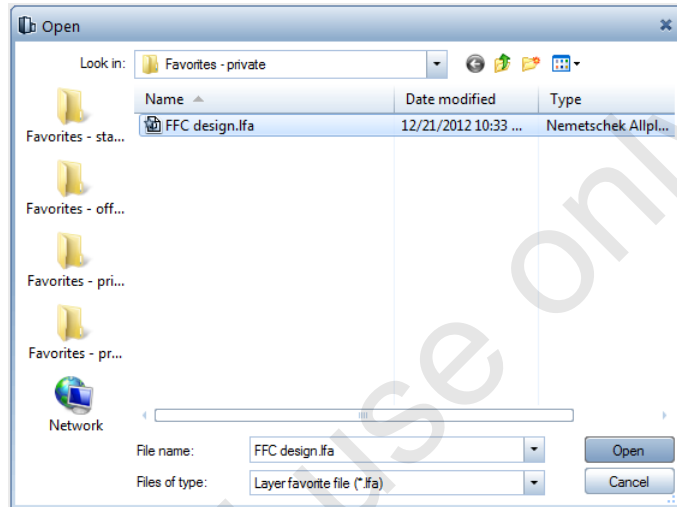
- 12 Click **OK** to confirm the settings and place the drawing files at an offset of 50 mm in the X direction from the bottom right corner of the first variant.
- 13 For the third variant, click  **Building structure** again and select the same drawing files.
- 14 Here, too, leave the settings on the **Layout Element Context** toolbar as they are and click in the **Layer/print** set box again.
- 15 In the **Element Visibility from Layers in Layout** dialog box, set the **Drawing type** back to **Schematic design drawing**. For this variant, select the **Fixed, save layer setting in layout element (fixed)** option in the **Visibility, saving mode, behavior** area.

16 With this setting, you can choose to show or hide each layer of the layout elements. In addition, you can match the visibility settings of a layer favorite or print set you saved beforehand.

Click the **ARCHITECTURE** layer structure with the right mouse button and, on the shortcut menu, choose **Match visibility from favorite**.



- 17 In the **Open** dialog box, select the **FFC design** layer favorite and click **Open**.



The combination of layers (visible/invisible) saved in the favorite file is set. After having selected this favorite, you can now make additional layers visible or invisible.

- 18 Click **OK** to confirm the settings you have made in the **Element Visibility from Layers in Layout** dialog box and place the drawing files above the first layout element at an offset of 50 mm.
- 19 For the fourth variant, click  **Building structure** again and select the same drawing files.
- 20 Now select the **Drawing** for permission to build drawing type, leave the **Fixed**, save layer setting in layout element option (**Visibility, saving mode, behavior area**) set to active and set the layer **AR_ELEVA** to invisible.
- 21 Place the drawing files at an offset of 50 mm to the other three variants.
- 22 Press **ESC** to quit the tool.

Tip: You can use  **List Layout Elements (Change area)** to check and modify how one or more layout elements are displayed.

Now the layout might look like this:



To place the title block as a symbol

- Active tool:  Layout Editor (Default toolbar)
- Layout setting: 1 current
- In the Tools palette: Basic family - Layout module
 - 1 Select the Library palette.
 - 2 Open the Symbols -> Private -> FFC title blocks folders.

Important!

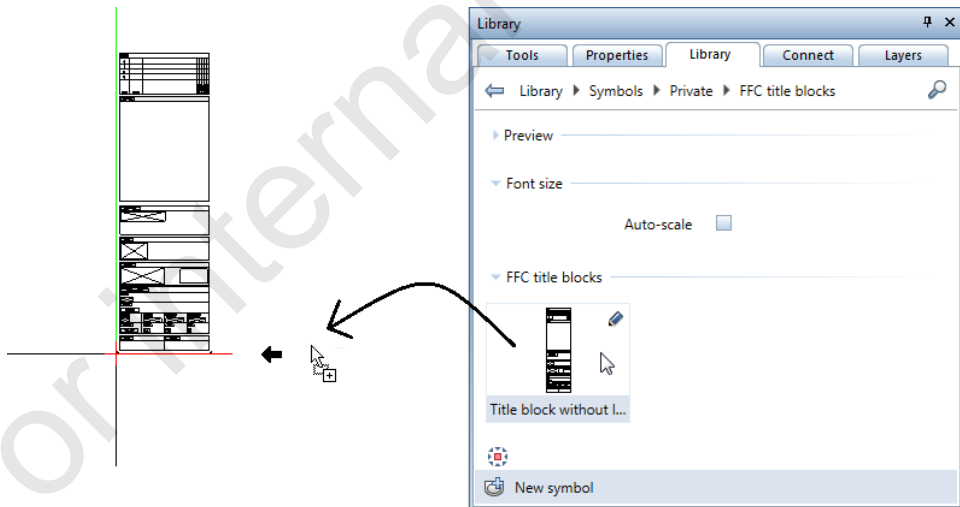
Make sure that the Auto-scale option is *not* selected in the Font size area.

- 3 Double-click the Title block without logo symbol.

Or:

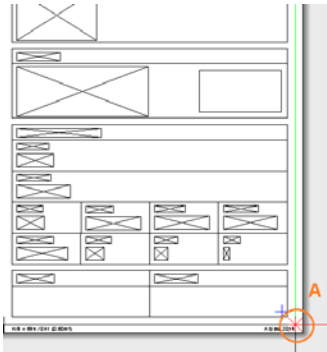
Drag the Title block without logo symbol into the workspace.

The symbol is attached to the crosshairs at its base point.

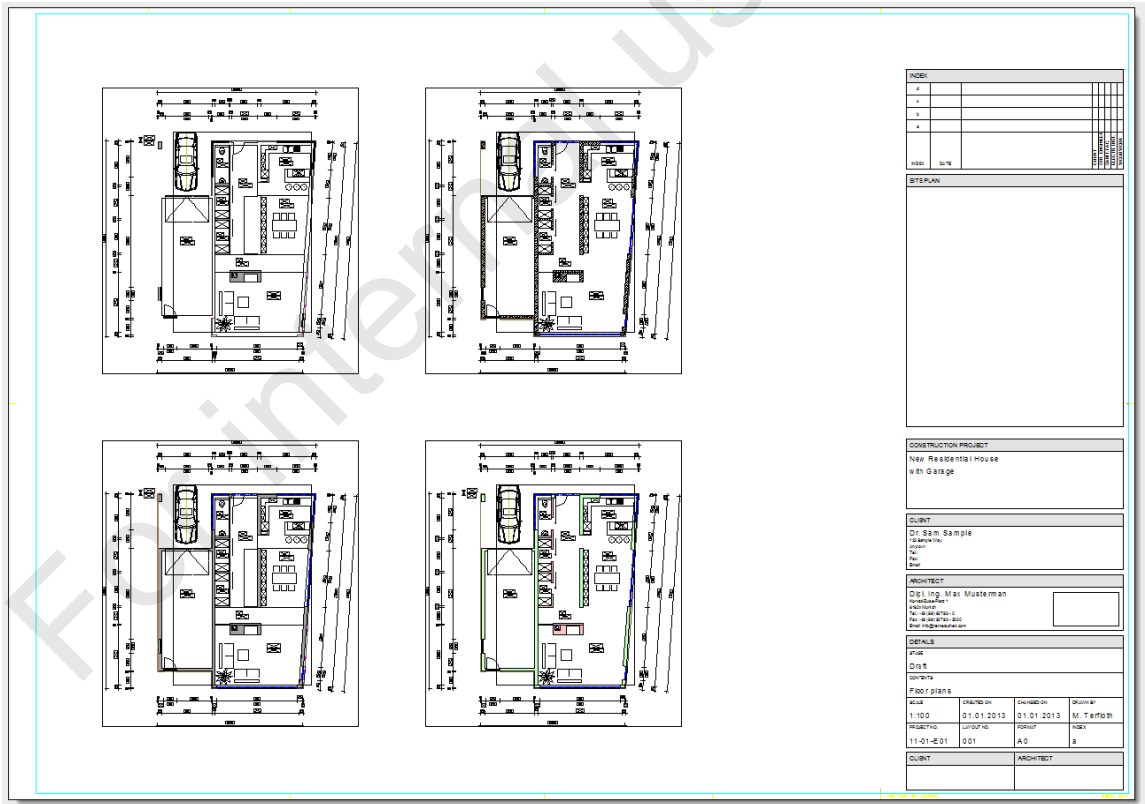


- 4 In the Input Options, set the drop-in point to  bottom right.

5 Place the title block at point A.

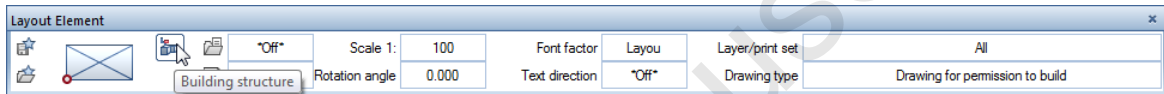


Now the layout might look like this:



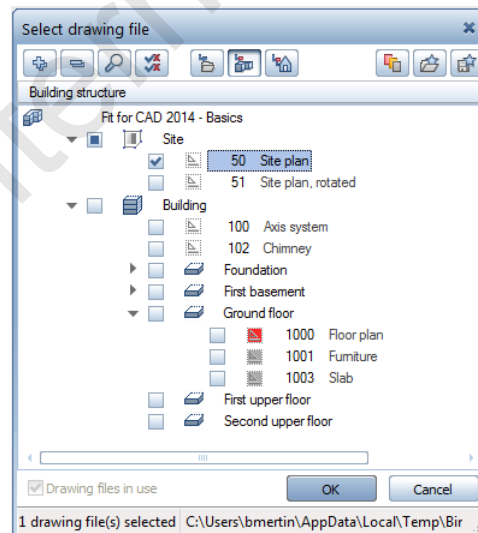
To add the site plan at 1:1000 to the title block

- Active tool:  Layout Editor (Default toolbar)
 - Layout setting: 1 current
 - The Library palette is still open.
- 1 Switch to the Tools palette, select the Basic family and open the Layout module.
 - 2 Click  Layout Element (Create area).
The Layout Element Context toolbar appears.
 - 3 On the Layout Element Context toolbar, click  Building structure.



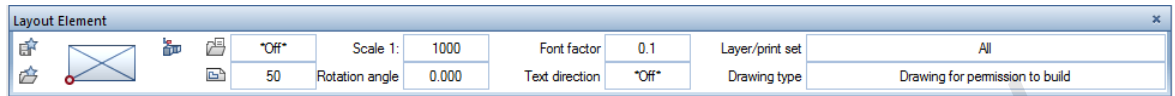
The Select drawing file dialog box is displayed.

- 4 Choose drawing file 50 Site plan.



- 5 Click OK to confirm.

- 6 On the **Layout Element** Context toolbar, set the **Scale** to 1:1000. This automatically sets the font factor to 0.1.



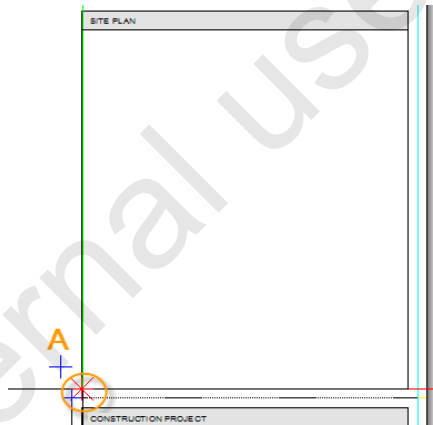
- 7 Check the other settings:

Reference point:  bottom left

Rotation angle: 0.000

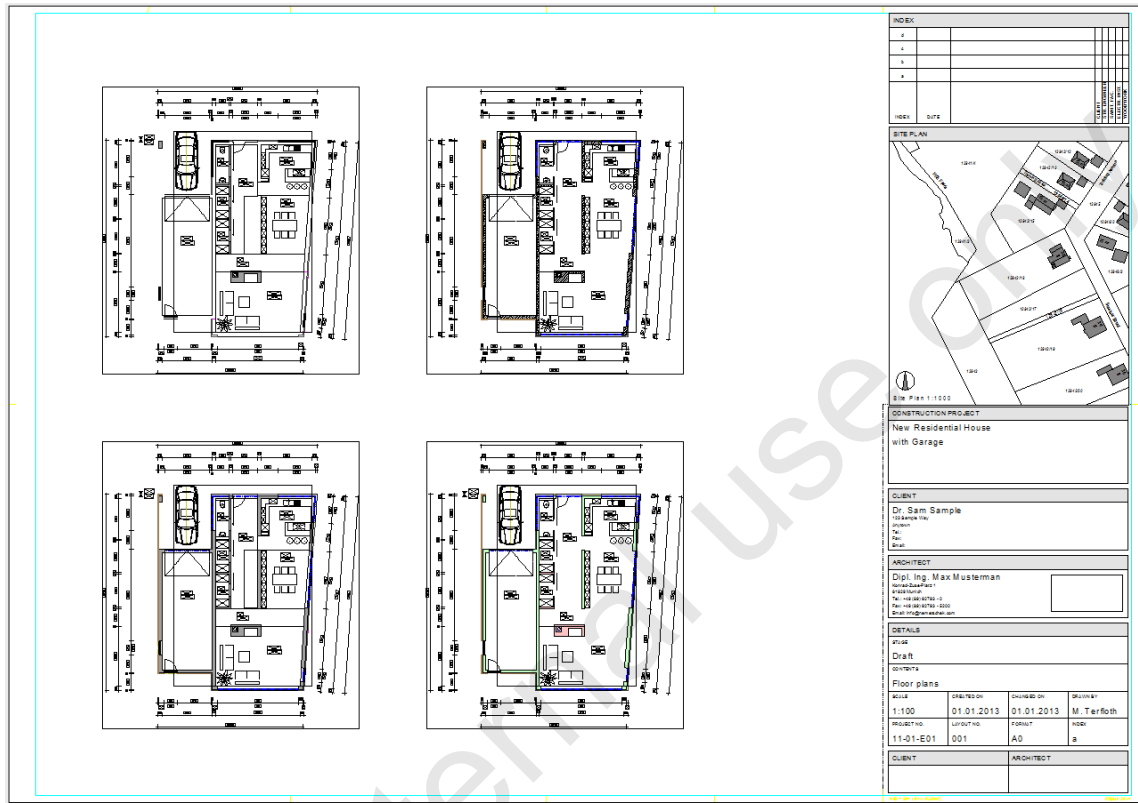
Layer: All

- 8 Place the drawing file in the title block at point A.



- 9 Press ESC to quit the  **Layout Element** tool.

Now the layout might look like this:



To modify the title block

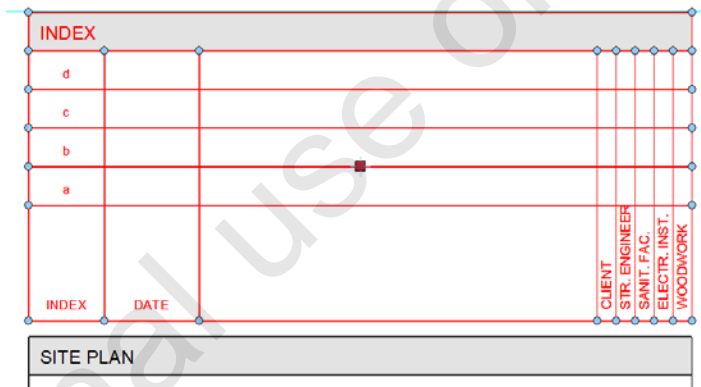
- Active tool:  Layout Editor (Default toolbar)
- Layout setting: 1 current
- In the Tools palette: Basic family - Layout module

- 1 Modify text by double-clicking it with the left mouse button (e.g. change the **Format** from A0 to A1 or adjust the **Date**).

1:100	01.01.2013	01.01.2013	M. Terfloth
PROJECT NO.	LAYOUT NO.	FORMAT	INDEX
11-01-E01	001	A0	a

Tip: The <cd>\NDW data folder of the "Fit for CAD" CD contains the finished title block in NDW format. You can simply copy the Plankopf.ndw file to a folder on your computer and then add it to the layout using the  NDW Layout Element tool.

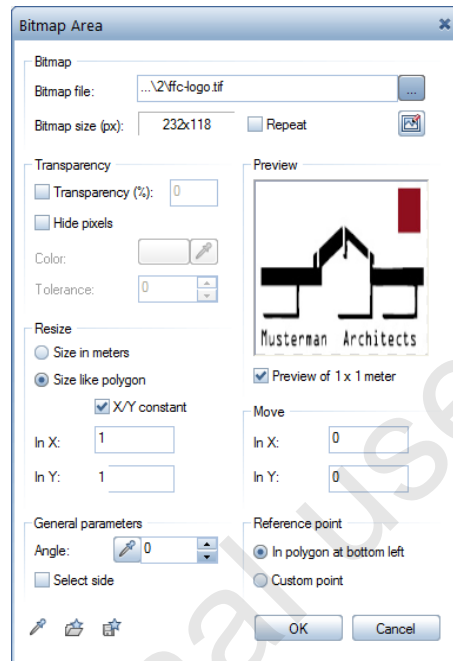
- 2 The index table at the top of the title block is not required for this layout: select this area and press the DEL KEY.



To integrate the company logo into the title block

- Active tool:  Layout Editor (Default toolbar)
 - Layout setting: 1 current
 - In the Tools palette: Basic family - Layout module
 - "Fit for CAD" CD inserted in the drive
- 1 In the Tools palette, switch to the Draft module (Basic family).
 - 2 Click  Bitmap Area (Create area).
 - 3 Click  in the Bitmap Area dialog box. The Open dialog box is displayed. Set the path to <cd>\bitmaps.
 - 4 Select the ffc-logo.tif file and click Open.

The logo is transferred to the Bitmap Area dialog box.



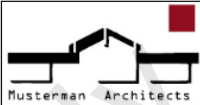
- 5 Set the other options as shown above and click **OK** to confirm.
- 6 *Would you like to add the new bitmap to the office folder (Std\Design)?*
Click No.
- 7 *Set properties, place polygon point 1, element or offset*
Click any corner of the rectangle for the logo.
- 8 *To point or element*
Click the other corners of the rectangle one after the other.
Finally click the first corner again.

The logo is inserted.

ARCHITECT

Dipl. Ing. Max Musterman

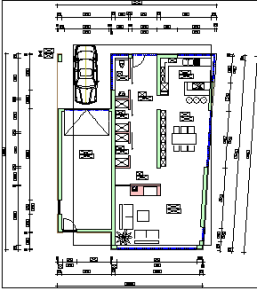
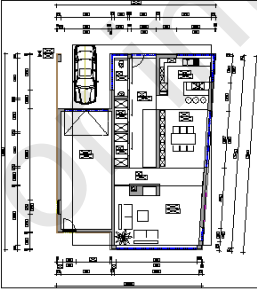
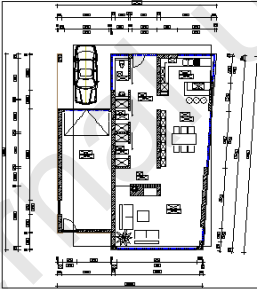
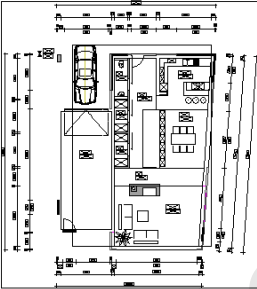
Konrad-Zuse-Platz 1
81829 Munich
Tel.: +49 (89) 92793 - 0
Fax: +49 (89) 92793 - 5200
Email: info@nemetschek.com



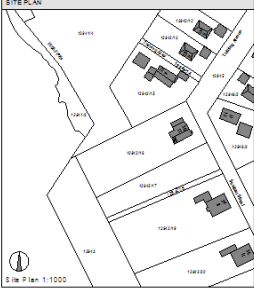
Musterman Architects

9 Press ESC to quit the  Bitmap Area tool.

Now the layout might look like this:



SITEPLAN



Site Plan 1:1000

CONSTRUCTION PROJECT

New Residential House
with Garage

CLIENT

Dr. Sam Sample
12345678901234
Tel.: +49 (89) 92793 - 0
Fax: +49 (89) 92793 - 5200
Email: info@nemetschek.com

ARCHITECT

Dipl. Ing. Max Musterman
Konrad-Zuse-Platz 1
81829 Munich
Tel.: +49 (89) 92793 - 0
Fax: +49 (89) 92793 - 5200
Email: info@nemetschek.com

DETAILS

SCALE

1:100

DATE

01.01.2013

DESIGNED BY

01.01.2013

DRAWN BY

M. Terfloth

PROJECT NO.

11-01-E01

001

PROJECT

A0

ISSUE

a

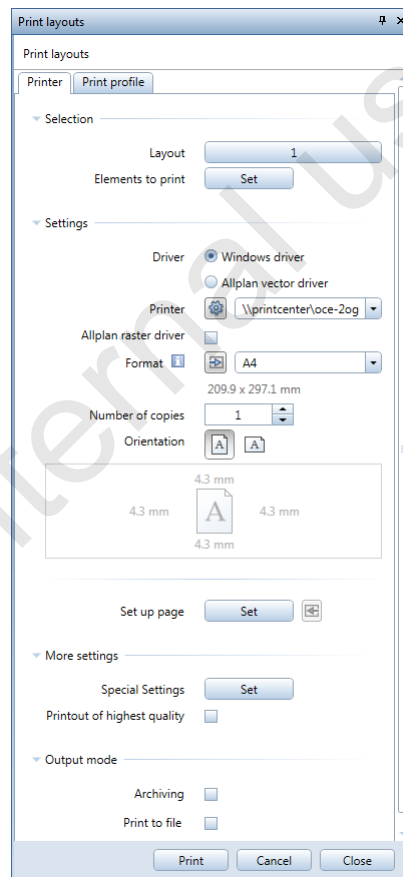
CLIENT

ARCHITECT

To print the layout

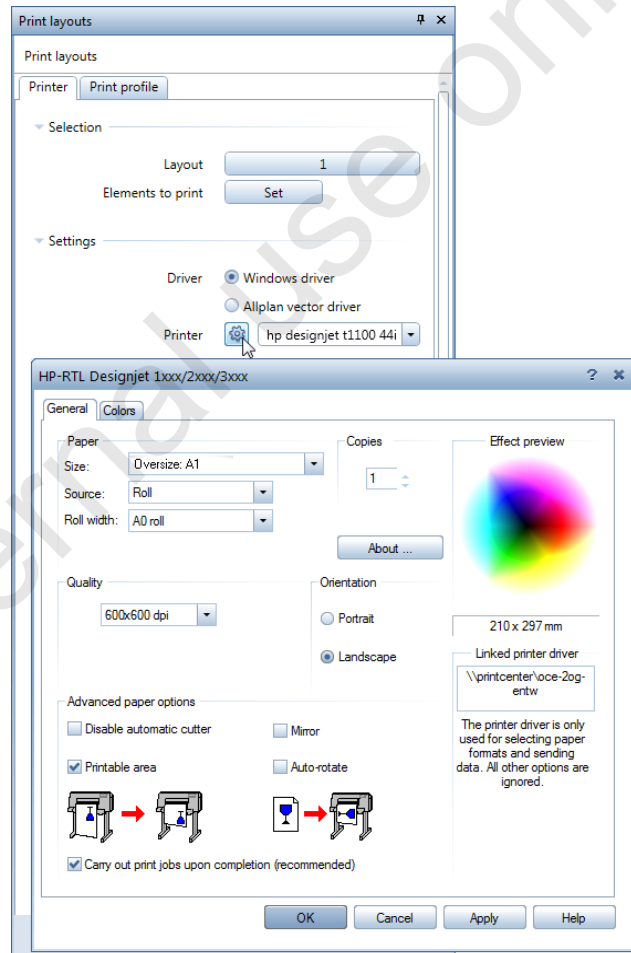
- Active tool:  **Layout Editor** (Default toolbar)
- Layout setting: 1 current
- In the Tools palette: **Basic family - Draft module**
- 1 In the Tools palette, switch back to the **Layout module** (Basic family).
- 2 In the Tools palette, click  **Print Layouts** (Create area).

The **Print layouts** palette is displayed.



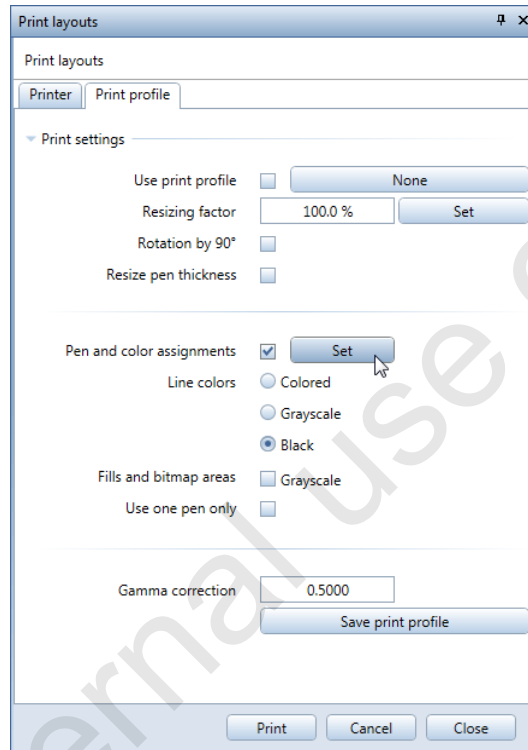
Tip: In the **Selection** area, you can use the **Set** button (beside **Elements to print**) to show or hide specific components of the layout, such as text or dimension lines.

- 3 Check that the correct printer is set. (In this example, the printer HP DesignJet TL100 44in HPGL2 was selected.)
- 4 Click  **Settings**. The "HP DesignJet TL100 44in HPGL2" **Properties** dialog box opens. Set the paper size to **Oversize A1** or larger so that the layout prints without margins. Set the **Paper Source** to **Roll**. Check that **Landscape** is selected for the orientation.



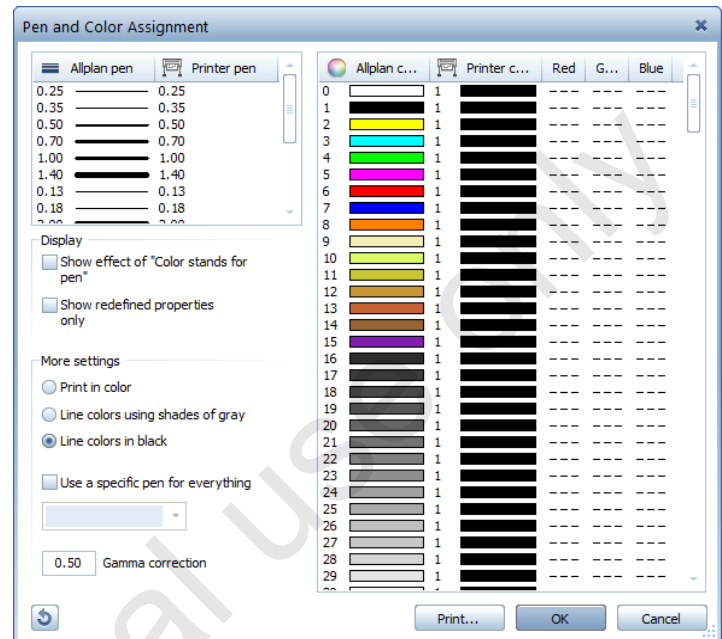
- 5 Click **OK** to confirm the ... **Properties** dialog box.

- 6 Switch to the **Print profile** tab, select the **Pen and color assignment** option and click the **Set** button.



- 7 In the **Pen and Color Assignment** dialog box, you can specify how pens and colors appear in printouts.

Make the following settings:



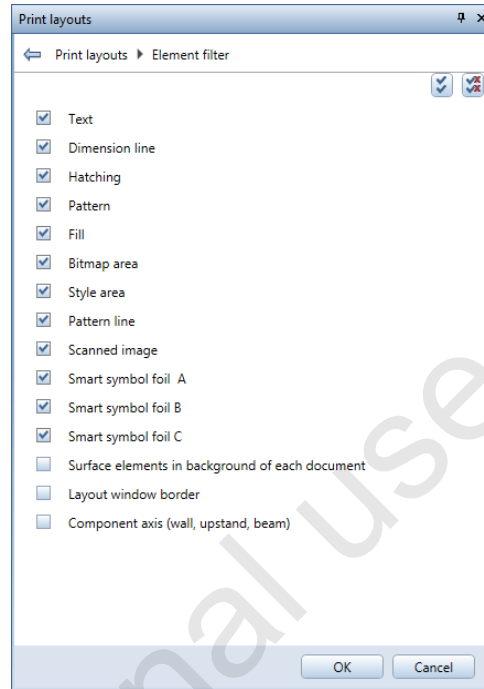
8 Click OK to confirm.

9 To save the settings, print the layout later or output it in a different format (PDF, for example), click Close.

10 Check that **Print** view is selected on the toolbar at bottom right in the viewport.

The **Print** view displays the layout as it is output by the printer. The elements you have selected in the **Print** layouts palette (**Printer** tab, **Set** button) and the parameters you have specified on the **Print** profile tab are taken into account. Depending on the settings you have made, lines, fills and/or bitmap areas are displayed in color or in shades of gray.

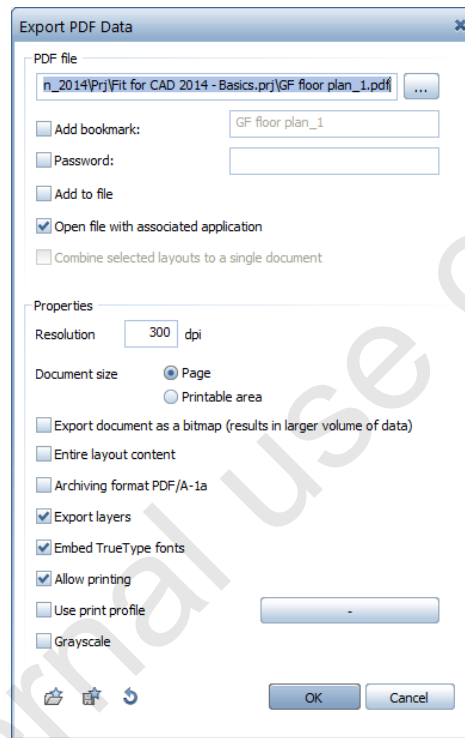
The settings selected in this example:



To export the layout as a PDF file

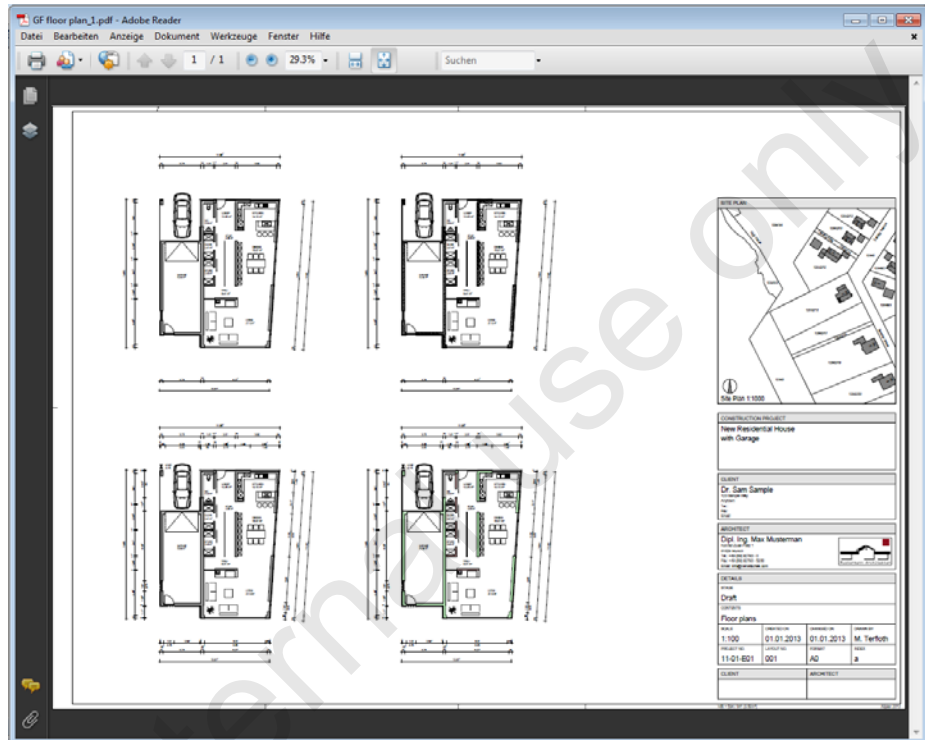
- ➔ Active tool:  Layout Editor (Default toolbar)
 - ➔ Layout setting: 1 current
 - ➔ In the Tools palette: Basic family - Layout module
- 1 In the Tools palette, click  Export PDF Data (Create area).
The **Select Layouts** dialog box is displayed.
 - 2 If there are several layouts, you can select the layout(s) you want to export. As there is only one layout in this example, click **OK** to confirm the dialog box.

- 3 Make appropriate settings in the Export PDF Data dialog box. Select the following settings:



- 4 Click OK to confirm.

The layout is exported and appears in the associated application (e.g. Adobe Acrobat) if the **Open file with associated application** option was active in the **Export PDF Data** dialog box.



5 Click Exit on the File menu to close the document.

As an alternative, you can also use a **label style** for the title block. Allplan provides a number of predefined label styles which you can use or customize for your needs. You can also create your own label styles.

The advantage of **label styles** is that they can also include attributes in addition to normal text and design entities like lines, circles and so on.

The attributes serve as placeholders: the current values of the attributes are only calculated and displayed in the label when the label style is used.

To use a label style for the title block

➤ Active tool:  **Layout Editor (Default toolbar)**

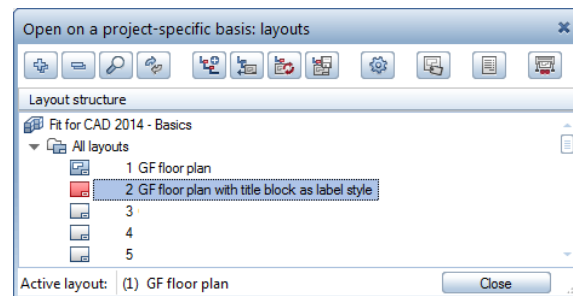
➤ Layout setting: 1 current

1 Start by copying the entire layout.

Press CTRL+A to select all the elements of the layout or enclose the entire layout in a selection rectangle.

2 Press CTRL+C or select  **Copy (Edit toolbar)** top copy all the selected elements.

3 Click  **Open on a Project-Specific Basis (Default toolbar)**, create a new layout and activate it.



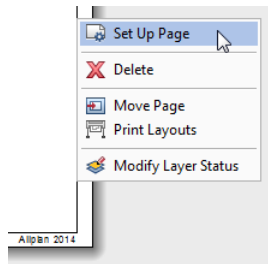
4 Click **Close** to confirm.

5 Press CTRL+V or select  **Paste to Original Position (Edit menu)** to insert the contents of layout 1 in layout 2.

Tip: When you press the SHIFT KEY while deleting the title block, all the elements of the text symbol are deleted as the text symbol is an entity group.

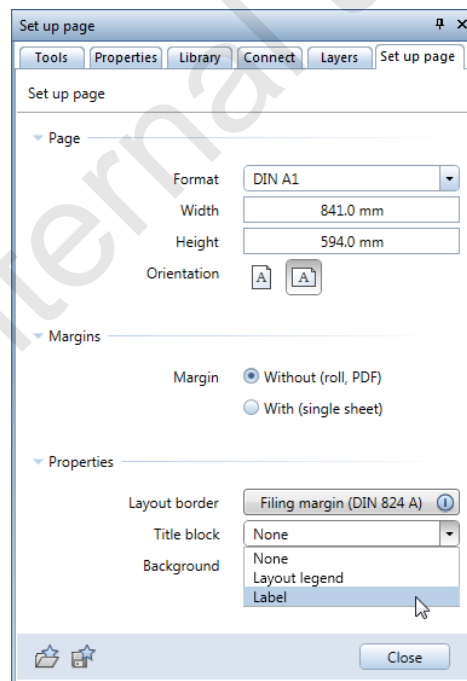
The site plan and logo, however, are not part of the entity group as they were added later. Therefore, you need to delete them individually.

- 6  **Delete** (Edit toolbar) the title block in the layout.
- 7 Click the layout border with the right mouse button and choose  **Set Up Page** on the shortcut menu.



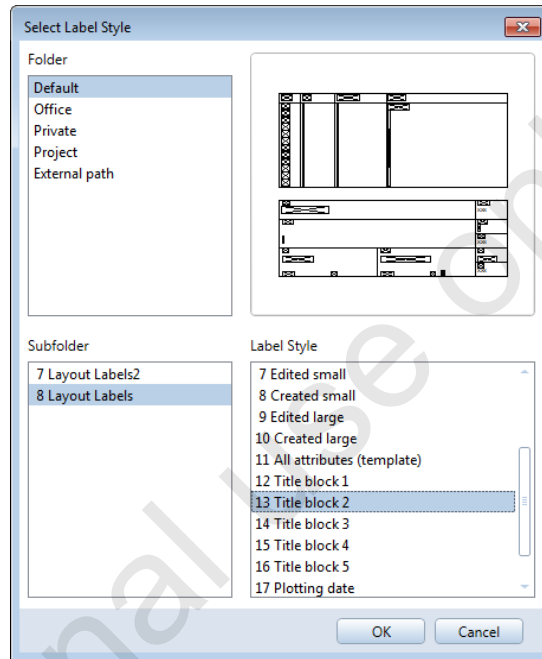
The Set up page palette opens.

- 8 In the **Properties** area, click the button beside **Title block** and then choose **Label**.



The Select Label Style dialog box opens.

- 9 Select Styles in the Folder area, 8 Layout labels in the Subfolder area and then select label style 13 Title block 2.



- 10 Click OK to confirm.

- 11 The title block is placed correctly in the bottom right corner of the inner layout border.

Some attributes have already been filled:

Index	Date	Edited by	Remark
XXX	7/7/2009		Created on
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			

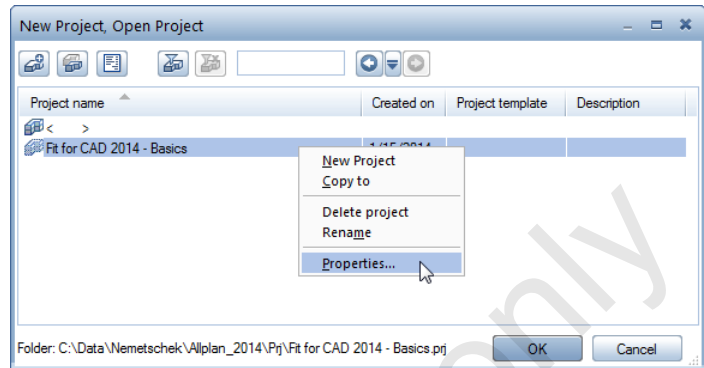
Project Fit for CAD 2014 - Basics		Project no. XXX
Contents GF floor plan with title block as label style		Layout# 2
		Scale XXX
Client Dr. SamSample	Architect Dipl. Ing. Max Musterman	Date 1/21/2014
Approved: _____ Date _____	Approved: _____ Date 0	Index XXX

12 In the **Set up** page palette, click **Close**.

To display the **Client** and **Architect** attributes, you first need to select them and then assign project-specific values to them.

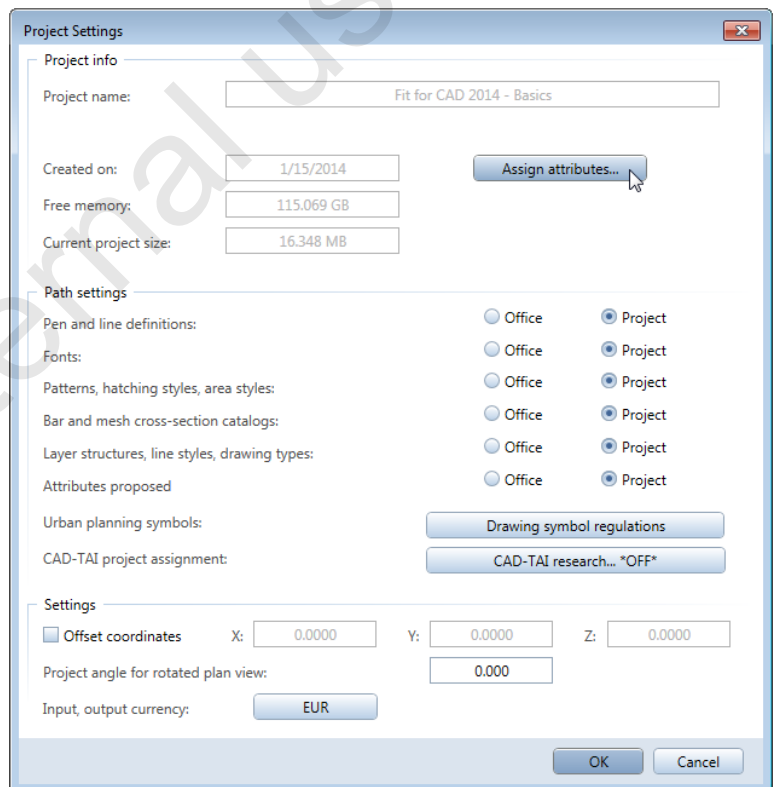
To select and assign attributes

- Active tool:  Layout Editor (Default toolbar)
 - Layout setting: 2 current
- 1 On the File menu, click  **New, Project, Open Project**.
The **New Project, Open Project** dialog box opens.
 - 2 Open the shortcut menu of the **Fit for CAD 2014 - Basics** project and click **Properties....**



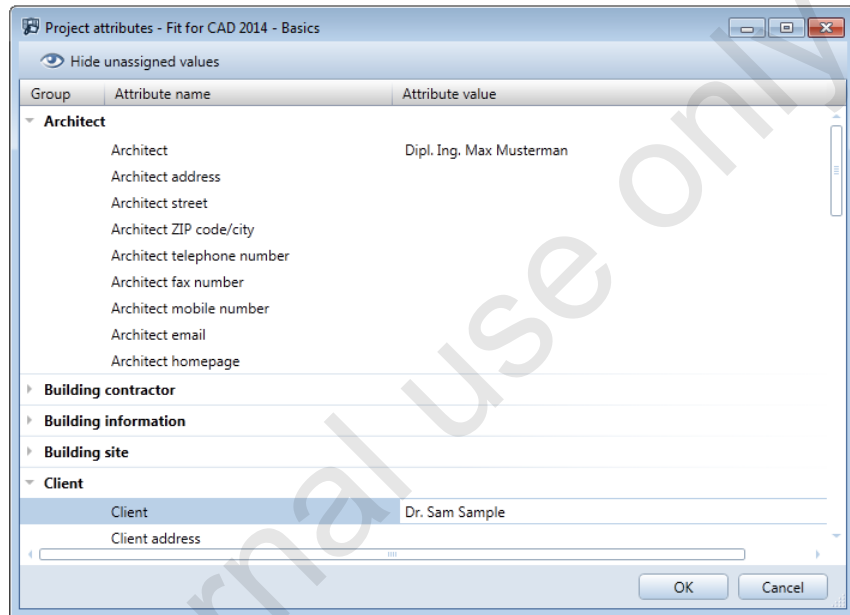
The Project Settings dialog box opens.

3 Click Assign Attributes....



The Project attributes dialog box is displayed.

- 4 Select the **Architect** attribute and type in **Dipl.-Ing. Max Musterman**.
- 5 Select **Client** for the second attribute and type in **Dr. Sam Sample**.



- 6 Click **OK** to confirm the two dialog boxes.

The attribute values are automatically entered in the title block.

Index	Date	Edited by	Remark
XXX	7/7/2009		Created on
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			
XXX			

Project Fit for CAD 2014 - Basics		Project no. XXX
Contents GF floor plan with title block as label style		Layout# 2
		Scale XXX
Client Dr. Sam Sample	Architect Dipl. Ing. Max Musterman	Date 1/21/2014
Approved: _____	Date 0	Index XXX

Task 2: using print sets

Introduction

A print set is a saved combination of visible and hidden layers. Both when setting up your layouts and when turning layers on and off, activating a print set is a rapid way of showing/hiding only those layers that are required for a specific print set.

Overview

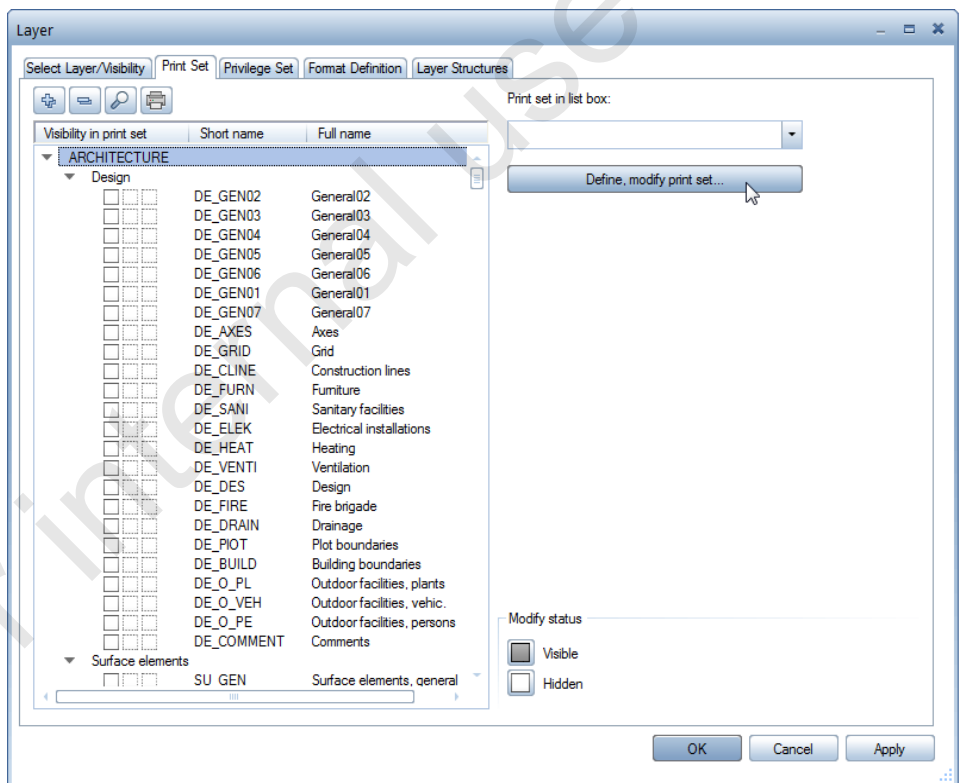
Use the following tool(s) to do this:

Function	How to activate it
 Select, Set Layers	Format menu
 Open on a Project-Specific Basis	Default toolbar
 Set Up Page	Basic family - Layout module - Create area
 Layout Element	Basic family - Layout module - Create area
 Export PDF Data	Basic family - Layout module - Create area
 Layout Editor	Default toolbar

Solution

To define a new print set

- Active tool:  Layout Editor (Default toolbar)
- 1 On the **Format** menu, click  **Select, Set Layers**.
Or:
Click **Set...** in the **Select, Set Layers** list box (**Format** toolbar).
The **Layer** dialog box is displayed.
- 2 Select the **Print Set** tab and click **Define, modify print set**.

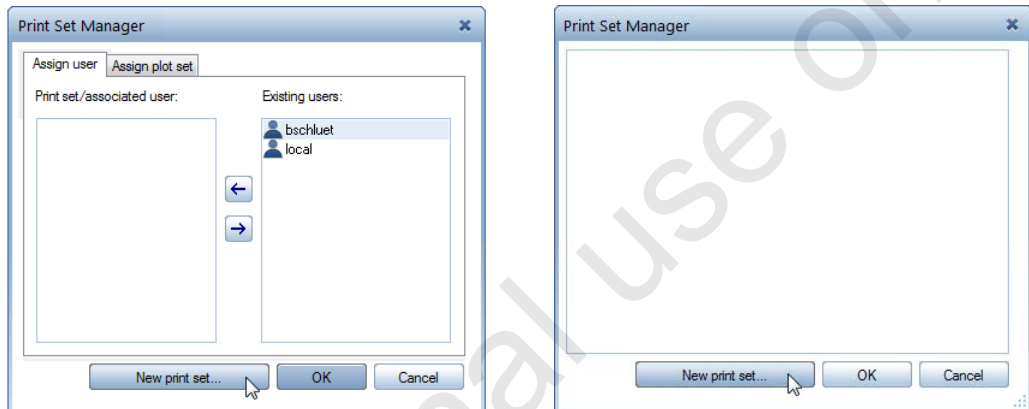


The Print Set Manager dialog box opens.

- 3 *Workgroup Manager is installed* with Allplan (illustration on the left):

You can assign access rights for print sets (provided you are authorized to do so). You can assign users to print sets or print sets to users.

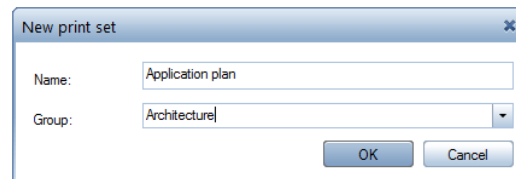
Workgroup Manager is not installed (illustration on the right): Existing print sets are displayed (there are not yet any print sets defined in this example).



Click **New print set**.

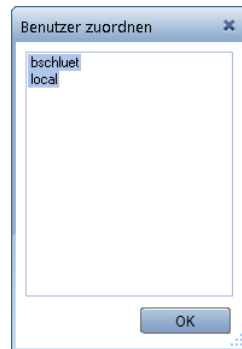
The **New print set** dialog box opens.

- 4 Enter a name for the print set and specify a group (which helps you find the print set later). Then click **OK** to confirm.



- 5 Only available when *Workgroup Manager is installed*: Select the users that are to be authorized to access the new print set in the **Assign users** dialog box.

Select the relevant users and click Close to confirm.

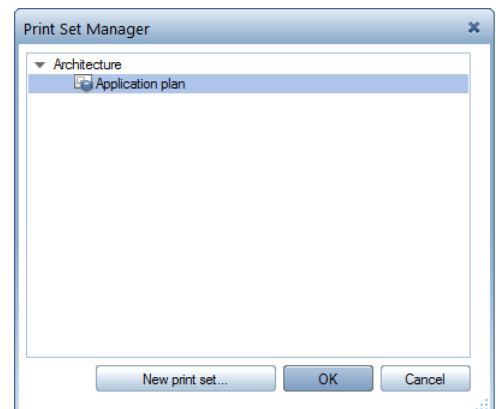
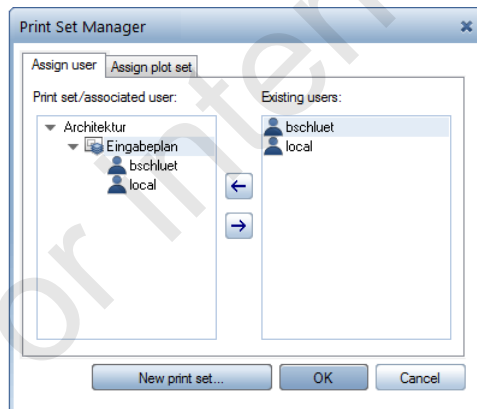


- 6 *Workgroup Manager is installed with Allplan (illustration on the left):*

The **Print Set Manager** dialog box displays the new print set and the authorized users. You can also assign more users to the print set or remove assignments.

Workgroup Manager is not installed (illustration on the right):

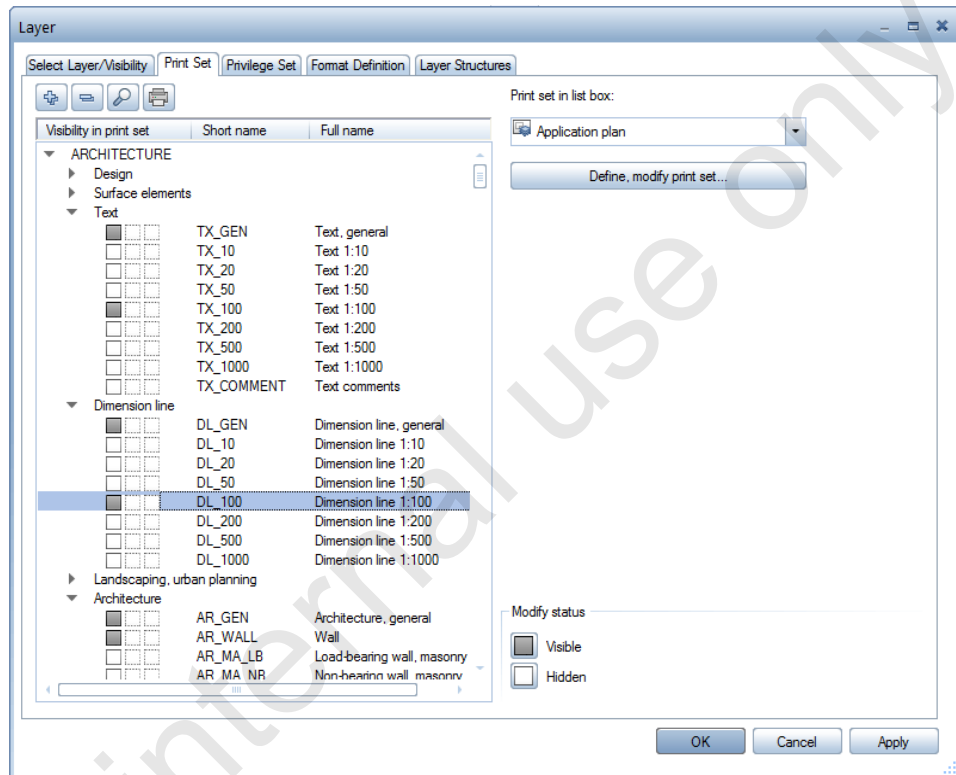
The **Print Set Manager** dialog box displays the existing print sets (in this example, only the new one).



- 7 Click OK to confirm.

- 8 Set all the layers that are to be visible in this print set to **Visible**.

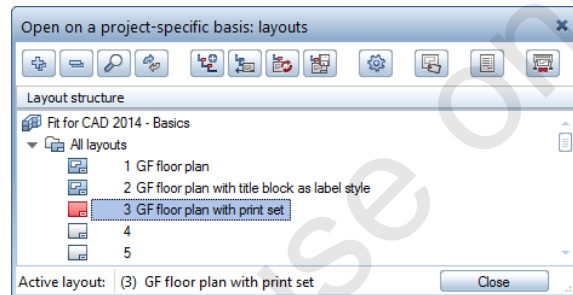
Note: Here, too, you can show and hide layers quickly. All you need to do is select a layer and set the layer status you need by pressing the SPACE BAR (a number of times).



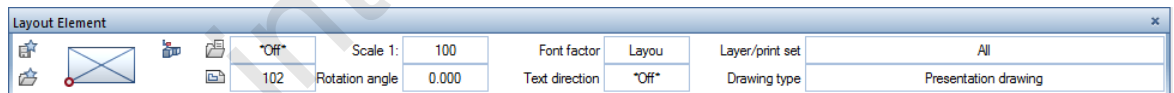
- 9 Click OK to save the settings you have made.

To use a print set for printing

- Active tool:  Layout Editor (Default toolbar)
- In the Tools palette: Basic family - Layout module
- 1 Click  Open on a Project-Specific Basis (Default toolbar), create a new layout and activate it.

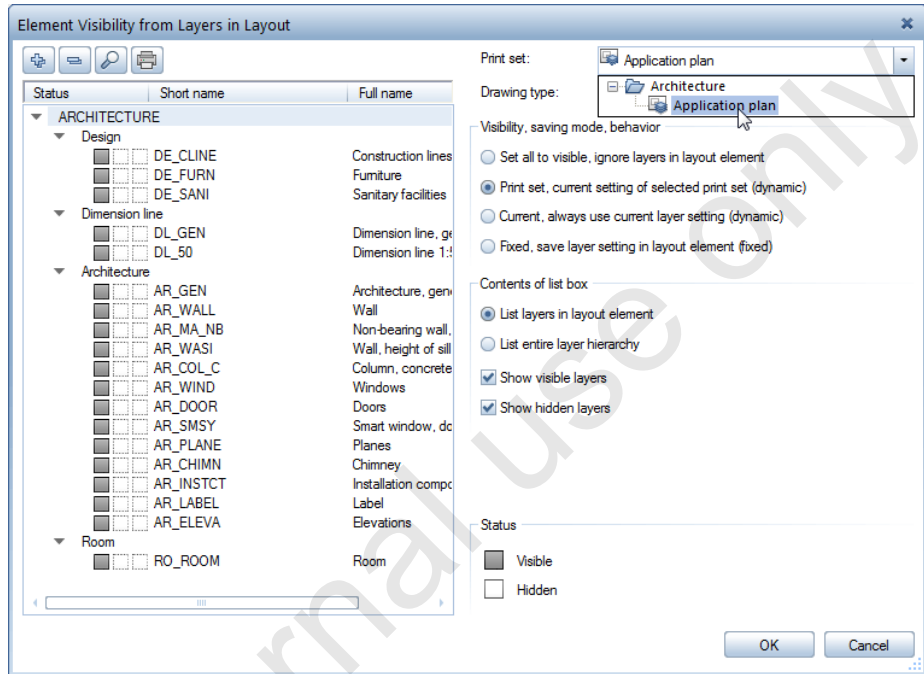


- 2 Click  Set Up Page (Create area), make appropriate settings including the layout border and click OK to confirm.
- 3 Click  Layout Element (Create area), select the building structure and choose the drawing files of the ground floor plus drawing file 102 Chimney.
- 4 On the Layout Element Context toolbar, click in the Layer/print set box.



The Element Visibility from Layers in Layout dialog box opens.

- 5 Select the **Print set**, current setting of selected print set (dynamic) option in the **Visibility, saving mode, behavior** area and choose the print set you just defined in the **Print set** list box.



The layer status is taken from the selected print set.

As an alternative, you can also select the **Fixed, save layer setting in layout element** option in the **Visibility, saving mode, behavior** area and then choose the print set on the shortcut menu.

- 6 Click **OK** to confirm and place the layout element in the layout as you require.
- 7 Use a title block to label the layout and print the layout or select  **Export PDF Data (Create area)** to check the result.
- 8 Close the layout editor by clicking the active  **Layout Editor** icon (Default toolbar).

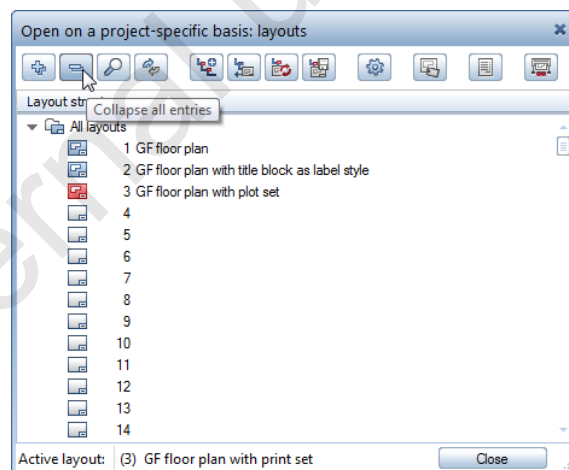
A note on the layout structure

This example includes three layouts, which does not reflect common practice. A real project usually requires a large number of layouts for a large variety of purposes. Therefore, it is essential that you structure the layouts. In the section that follows, you will learn how to create a layout structure.

Tip: You can find general information on the topic of "What is the layout structure?" and detailed instructions on how to create a layout structure in the Allplan help (F1 KEY).

To create a layout structure

- Active tool:  **Layout Editor (Default toolbar)**
- 1 Click  **Open on a Project-Specific Basis (Default toolbar)**.
 - 2 As you have not created a layout structure in this example, only the **All layouts** folder is displayed below the project node. This folder always contains all layouts.

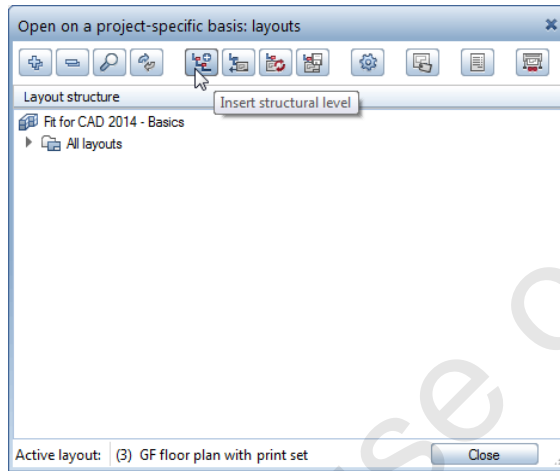


The **All layouts** folder is open when you open the dialog box.

Click  **Collapse all entries**.

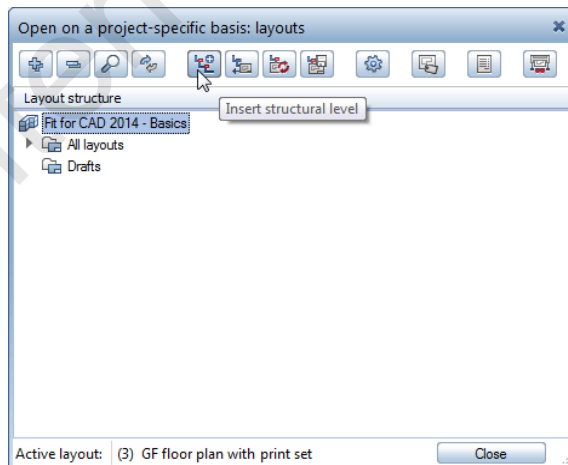
- 3 To structure layouts, you can insert additional layout folders with any number of subfolders under the project node.

To do this, click  **Insert structural level**.



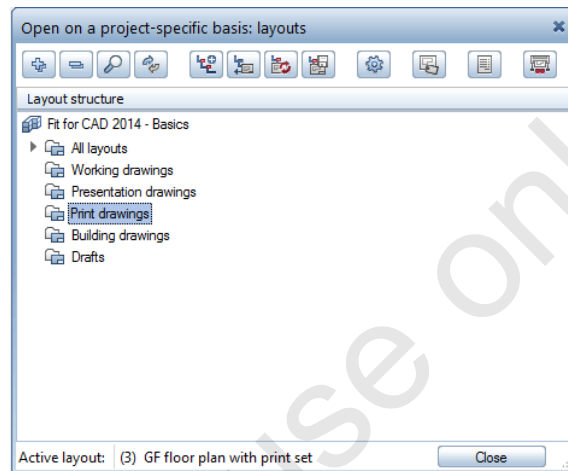
- 4 Enter **Drafts** for the name of the new layout folder.
- 5 Click the project node with the right mouse button so that it is highlighted in blue.
- 6 Now click  **Insert structural level** again.

Tip: You can also find  **Insert structural level** on the shortcut menu.



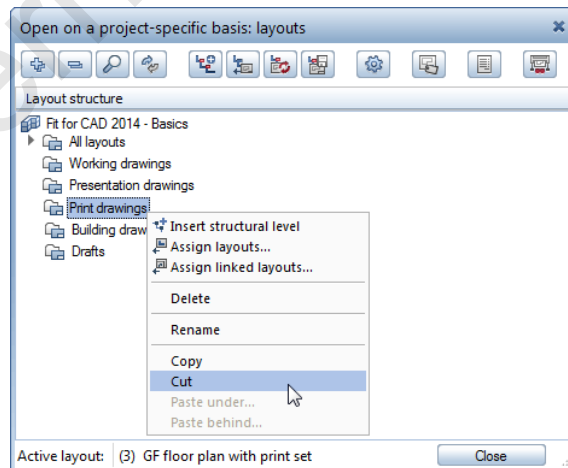
- 7 Enter **Building drawings** for the name of the layout folder.

- 8 Use the same approach to create the following layout folders:
Presentation drawings, Working drawings and Print drawings.



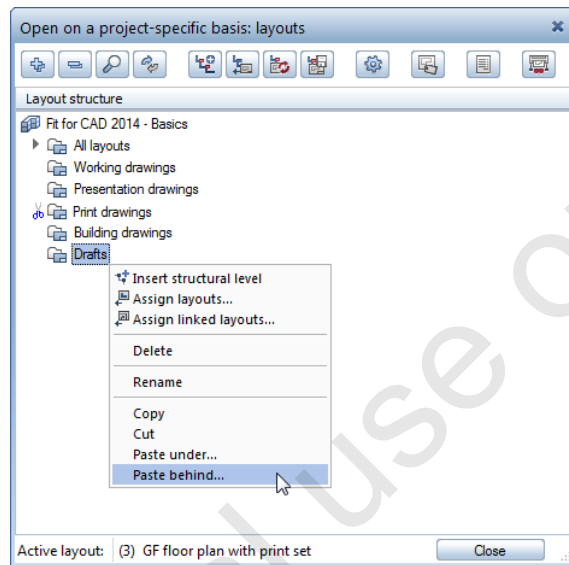
- 9 Next, change the sequence of the new layout folders.

Open the shortcut menu of the Print drawings folder and click Cut.

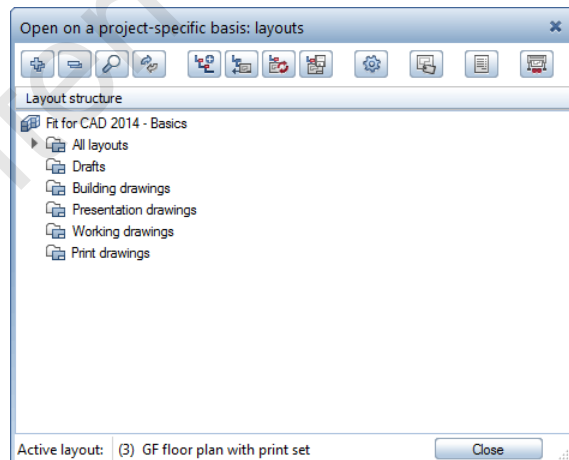


- 10 Now open the shortcut menu of the **Drafts** folder and click **Paste behind....**

Tip: The Allplan help includes detailed information on all the tools you can control using the mouse and shortcuts such as **Paste behind.** Refer to the topic of "Using the mouse in the layout structure".

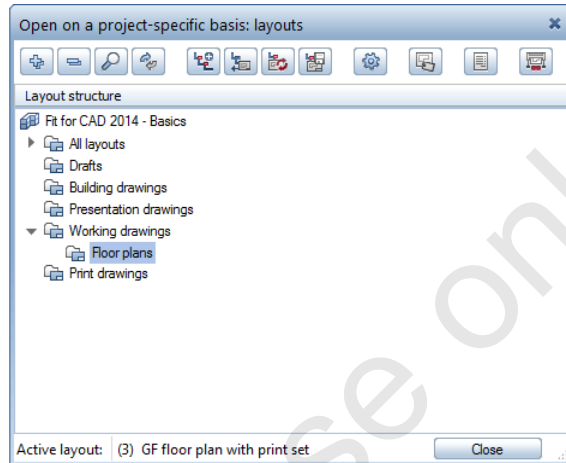


- 11 Use the tools on the shortcut menu to sort the folders as follows:



- 12 To refine the layout structure, open the shortcut menu of the **Working drawings** folder and select  **Insert structural level.**

13 Enter **Floor plans** for the name of the new subfolder.

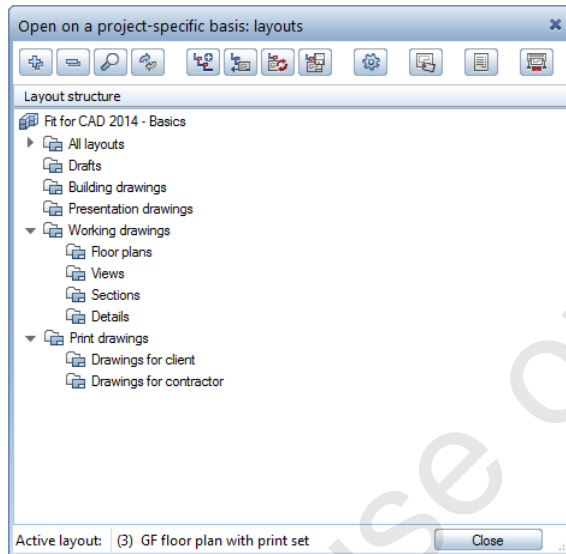


14 Use the same approach to create the following subfolders under the **Working drawings** layout folder: **Views**, **Sections**, **Details**.

15 Use **Cut** and **Paste behind....** to sort the new folders.

16 Next, refine the **Print drawings** folder. Insert the following subfolders: **Drawings for client** and **Drawings for contractor**.

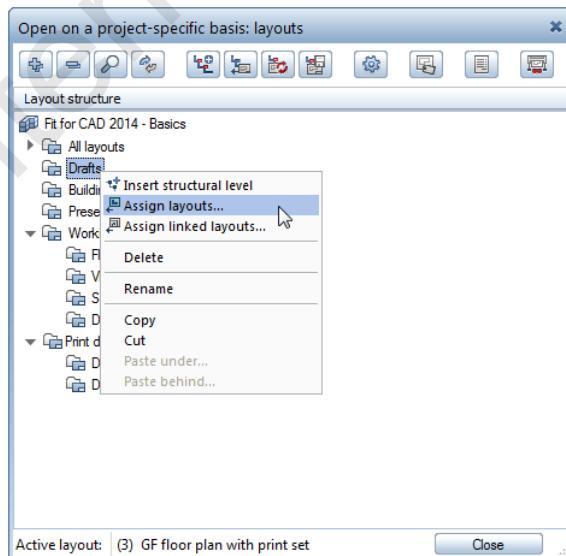
The layout structure should now look like this:



- 17 In the next step, you will assign layouts to the individual layout folders.

Open the shortcut menu of the **Drafts** layout folder and click **Assign layouts...**

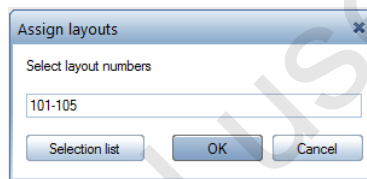
Tip: You can also find the **Assign layouts...** tool on the toolbar of the **Open on a project-specific basis: layouts** dialog box. The **Assign layouts...** dialog box opens. You can assign the layouts to the layout folders using drag-and-drop operations.



18 The **Assign layouts...** dialog box provides the following options for entering layout numbers:

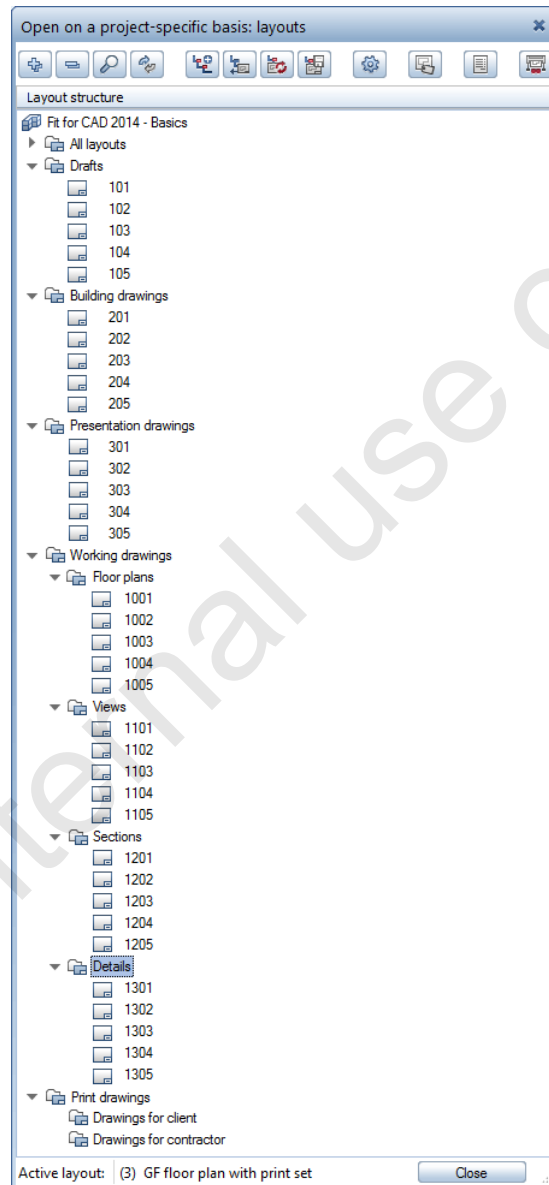
- Individual layout numbers separated by commas or spaces, e.g. 10,12,19.
- A range separated by hyphen, e.g. 10-19.
- A combination of both, e.g. 10,12,14-19,21.
- Clicking **Selection list** opens the **Assign layouts...** dialog box, where you can assign layouts using drag-and-drop operations.

In this example, enter the layout numbers **101-105** in the **Assign drawing files** dialog box and click **OK** to confirm.



19 Assign layouts to the other layout folders.

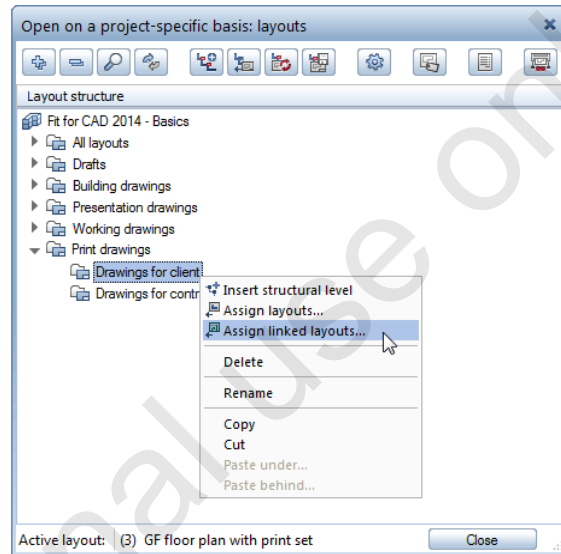
The layout structure should now look like this:



Note: Each layout can be assigned to one structural level. If selected layouts have already been assigned, you can assign them as links.

20 Now you will assign layouts that have already been assigned to other layout folders to the subfolders of the **Print drawings** folder as links.

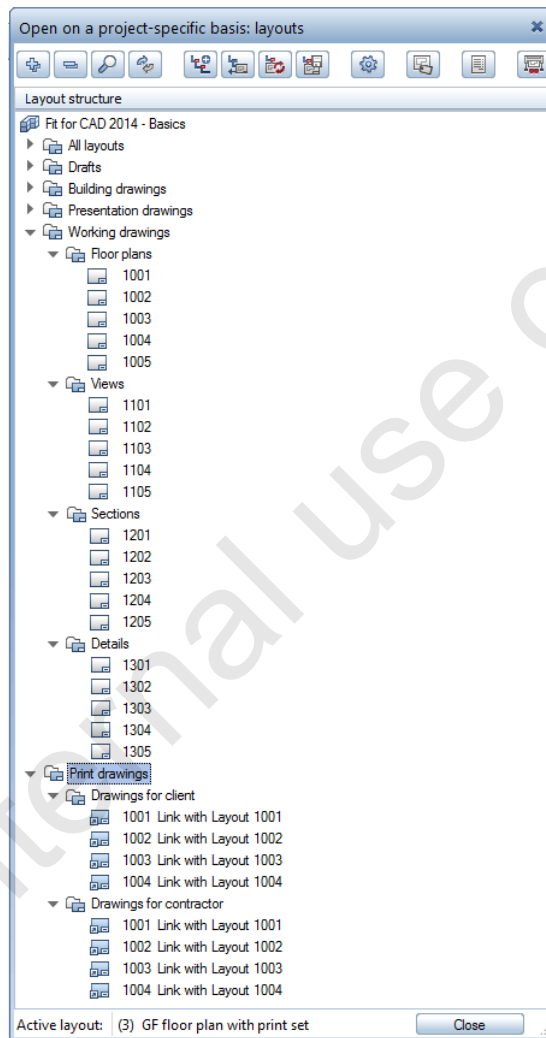
Open the shortcut menu of the **Drawings for client** folder and click **Assign linked layouts**....



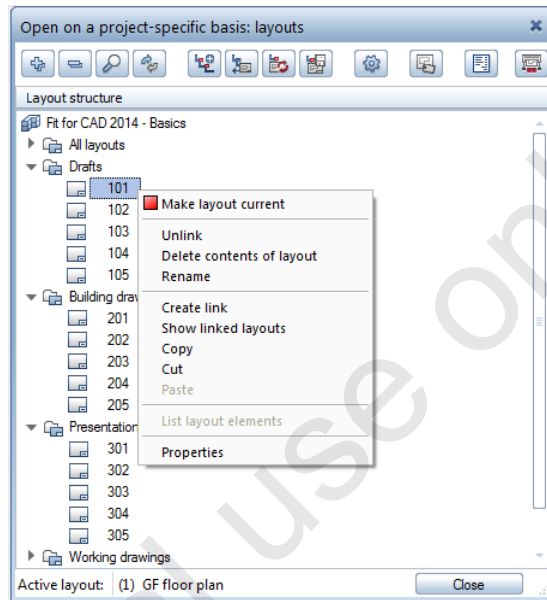
21 The **Assign linked layouts** dialog box appears. Enter layout numbers **1001-1004** and click **OK** to confirm.

22 Do the same with the **Drawings for contractor** layout folder and assign the layouts **1001-1004** as links.

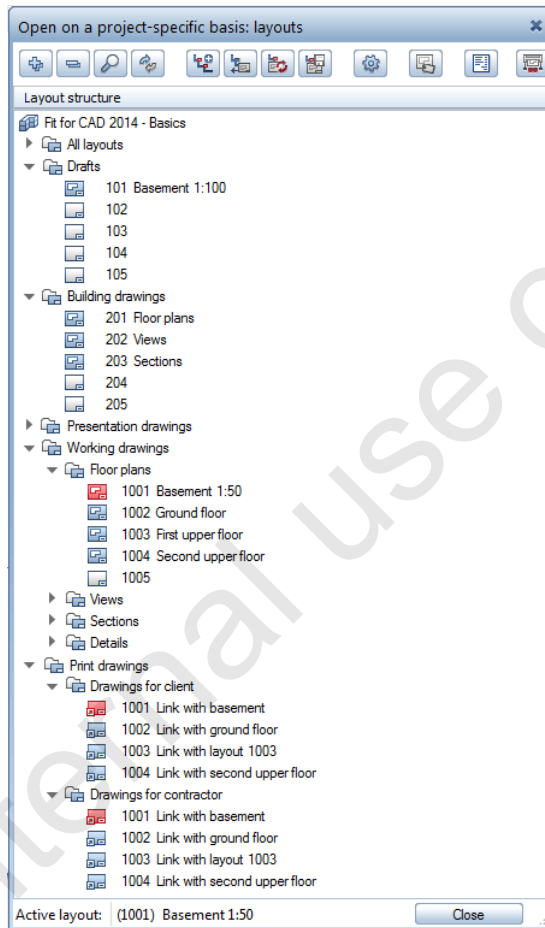
The layout structure should now look like this:



23 The shortcut menu of each layout looks like this:



Rename the layouts as follows:



Exercise 2: project backup

Data backup is a much discussed topic in the IT industry. It is a topic you cannot afford to ignore. Not only hardware failure, but also user error can cause valuable data to be lost irrevocably. An efficient backup strategy will reduce the risk of data loss to a minimum and cover your archival needs at the same time.

Important!

Back up your projects regularly!

Task 1: setting up the backup device

Overview

Use the following tool(s) to do this:

Function	How to activate it
 Services application	Icon in Quick Launch bar or in the Nemetschek Allplan group
Backup path	Configuration menu in the Services application

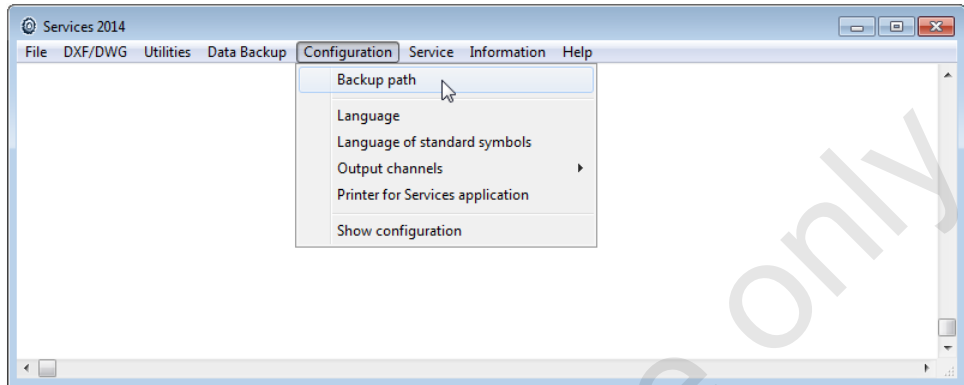
Solution

To set up the backup device

- 1 Start the Services 2014.

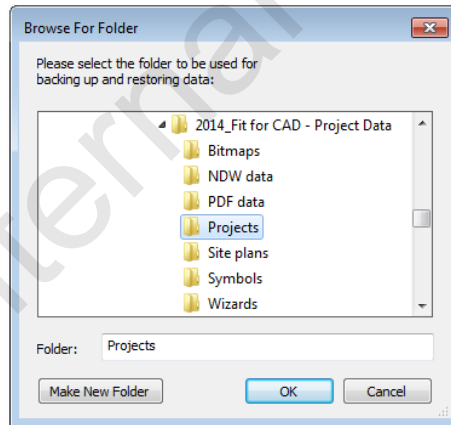
On the Windows start menu, point to All Programs, Nemetschek, Allplan 2014 and then click  Services 2014.

- 2 On the Configuration menu, click Backup path.



The Browse for Folder dialog box opens.

- 3 Select the folder you want to use to create and import backups.
The data is *compressed* and written to this folder.



- 4 Click OK.

Task 2: backing up projects

Overview

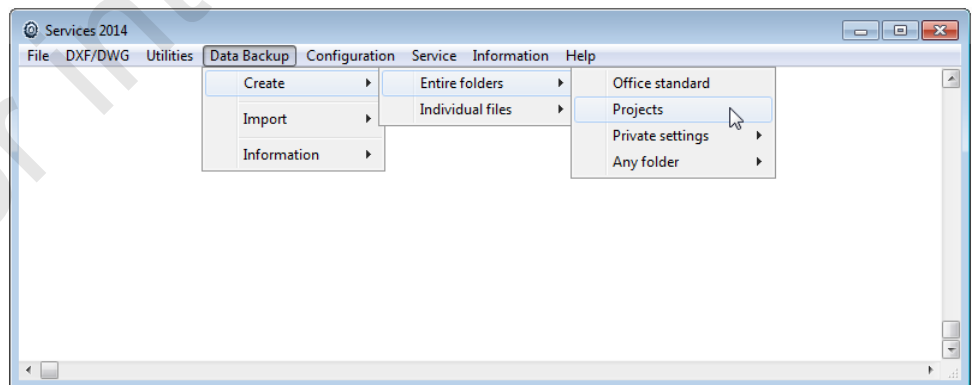
Use the following tool(s) to do this:

Function	How to activate it
 Services application	Icon in Quick Launch bar or in the Nemetschek Allplan group
Create - Entire folders	Data Backup menu in the Services application

Solution

To back up data

- 1 Exit Allplan or switch to a different project (which you do not want to back up!).
- 2 In the Services application, select the Data Backup menu, point to Create, then Entire folders and click Projects.



The Multi-select dialog box is displayed.

Tip: You can select projects by entering parts of their names in the **Select** and **Unselect** areas.

Tip: If an error message is displayed, check that Allplan and the project(s) to be backed up are actually closed. If they aren't, exit Allplan or switch to a different project.

- 3 Select the project you want to back up and click **OK** to confirm.
- 4 Click **OK** to confirm the **Information** dialog box.
Allplan is backing up the data.
- 5 Once the process is complete, another **Information** dialog box is displayed. Click **OK** to confirm.



- 6 Click **Exit** on the **Services** application's **File** menu.

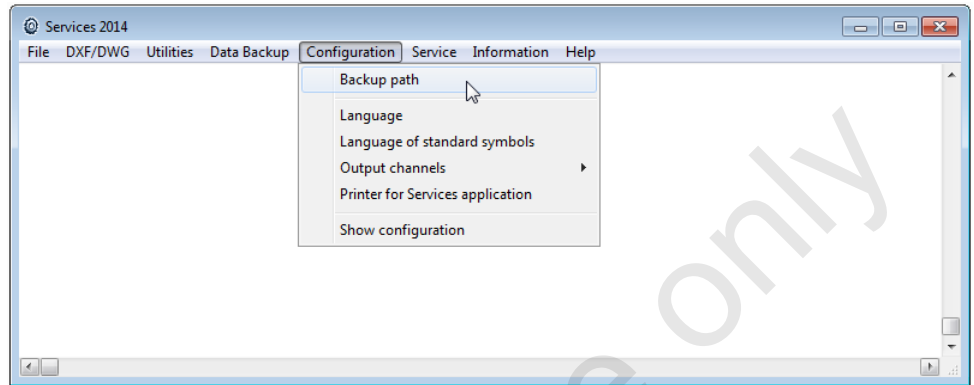
A note on project data on "Fit for CAD" CD

The "Fit for CAD" CD also includes the project presented in this guide. When you are back at home, you can import the training project and use the imported data as a guideline to work through the exercises once again. This way, you can reproduce what you have learnt and return to points of interest.

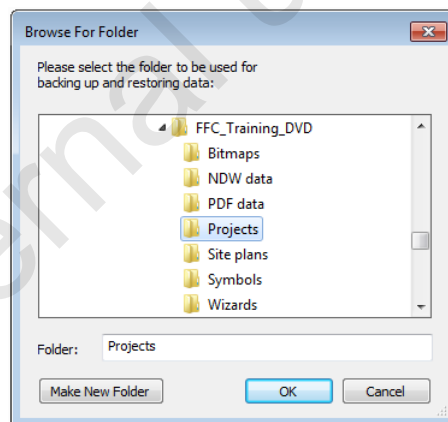
To import project data from CD

- ➡ "Fit for CAD" CD inserted in the drive
- 1 Exit Allplan.
 - 2 Start the **Services 2014**.

- 3 On the **Configuration** menu, click **Backup path**.

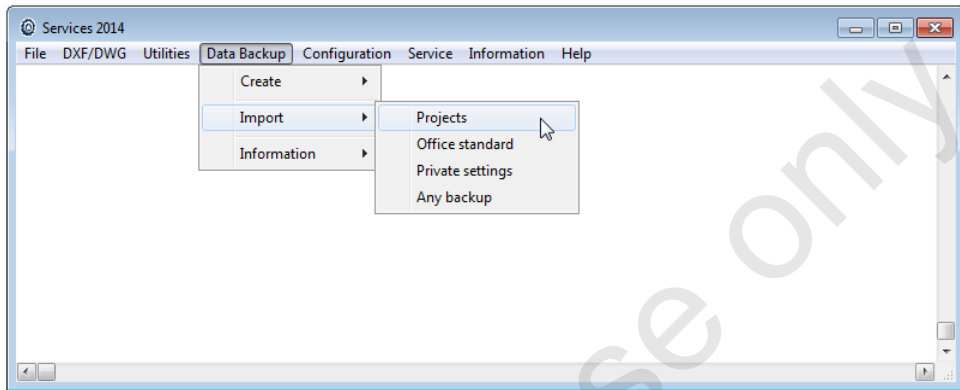


- 4 The **Browse for Folder** dialog box opens. Select the `<cd>\projects` folder.

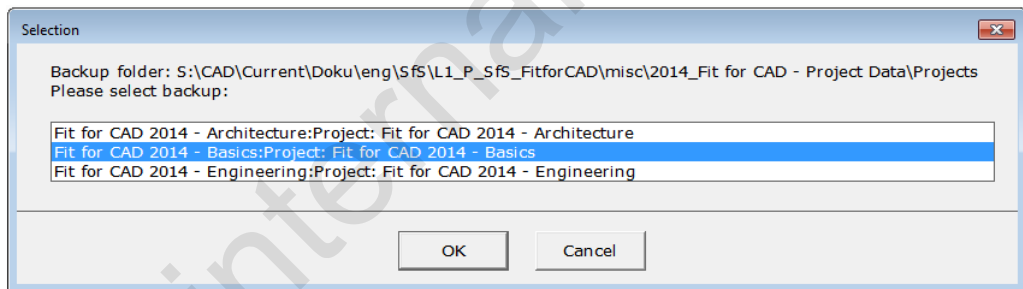


- 5 Click **OK**.
- 6 To import the backup of the "Fit for CAD 2014 - Basics" project, select the **Data Backup** menu in the Services application, point to **Import** and click **Projects**.

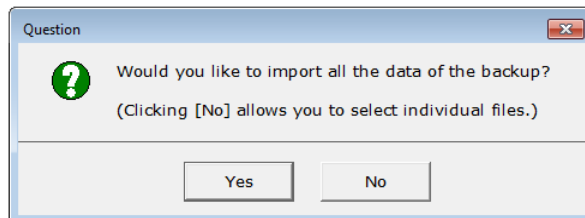
Note: If Workgroup Manager is installed along with Allplan, you need to be explicitly authorized to use this tool. Otherwise, it is not available.



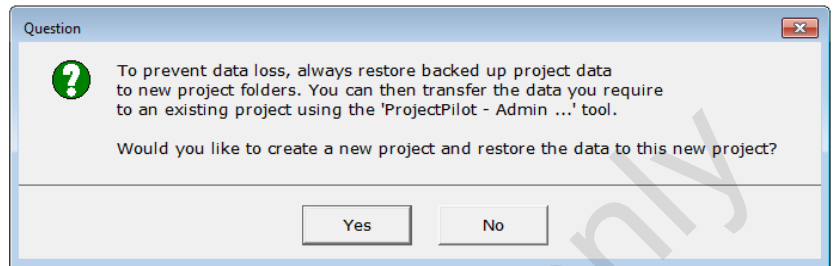
- 7 The Select dialog box opens. Choose the Fit for CAD 2014 - Basics project and click OK to confirm.



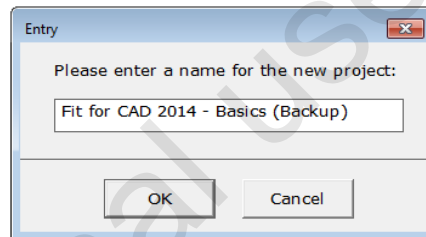
- 8 Click Yes at the following prompt.



9 Another prompt appears. Here, too, click Yes.



10 Enter a name for the new project in the **Input** dialog box and click **OK** to confirm.



The data is extracted to the new project and checked.

11 Once the process is complete, the **Information** dialog box is displayed. Click **OK** to confirm.



For internal use only

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