ARCHLine.XP® 2018

Windows

PRELIMINARY COURSE

Interior Design Tutorial

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This tutorial was produced using Microsoft Word and ARCHLine.XP®.

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What is ARCHLine.XP®?

ARCHLine.XP® is CAD based architectural and interior design software. The model is created from a collection of well-known building components such as wall, door, window, stair, roof, column, etc.
In addition to this ARCHLine.XP® comes with parametric interior design components such as furniture design tools, curtains, lights, sockets, switches, cornices, skirting boards, tiles, pictures on wall, etc.
Using ARCHLine.XP® you can design rooms with any shape – offices, reception rooms, lofts, kitchens, bathrooms and bedrooms, add furniture, appliances and finishes and develop the scheme of an entire house.
Furniture for any space can be remodelled or designed from scratch and every element of units and cabinets are individually customized.

Description

This tutorial contains step-by-step guide that show how to create stunning interior spaces in ARCHLine.XP®.
It will teach you how to design interior space like a reception room, with furniture, lights and other accessories.
You will create section and elevation scenes and dimensioned floor plan documentation drawing.
You will learn how to apply manufacturer textiles and finishes and create stunning rendering for your client.

This tutorial is provided to interior designers beginners in computer design.

Getting Started

To get the most out of this tutorial it is best to run ARCHLine.XP® and YouTube with the appropriate video, so that you can get experiment with the concepts that are mentioned in the tutorial.

Fundamental concept on how to create interior spaces in ARCHLine.XP®

ARCHLine.XP® is an accurate design software based on 2D floor plan. It means you will create the 3D multi-level interior spaces always from the 2D layout.

This new generation BIM software creates all 3D model views, section and elevation scenes, printing layouts and lists from the 2D floor plan centred information automatically.

As an example if you draw a wall on your floor plan and place window and door into this wall, the 3D view will display the perfect 3D model without any further instruction needed.
However you can work on your wall and window in 2D floor plan or 3D view either and the project remains congruent.

First of all download the **WORKSHOP PROJECTS - PRELIMINARY** from the website and install it. It includes all project for all preliminary workshops.

https://www.archlinexp.com/education/workshops/workshop-application-preliminary

Workshop 1: Reception Room

1. Workshop: Reception Room

This course goes through the design of a typical reception room and provides you with the following principles and basic skills in both 2D and 3D:

- Fundamentals of CAD design: Interface and Drawing tools
- Basic architectural design: Accurate drawing of walls, doors, windows, slab, ceiling
- Interior design: Cornicing, skirting boards, curtains, painting, lights, furniture
- Visuals: Finishes and materials from producers, shadows, photorealistic rendered images
- Documentation: Inserting dimensions, create elevations
- You will be able to visualize a 3D model, wall views, photorealistic/rendered images, incorporating textures and fabric patterns.

Suitability: Beginners in computer design.

In ARCHLine.XP there are many ways to draw a room or even a multi-storey full building.
In this workshop we are going to create the project of the following reception room:

- Please open the following playlist in your browser:
https://www.archlinexp.com/education/webinars/interior-design-1-essentials

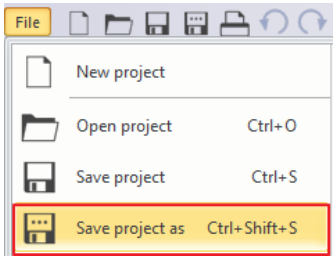
Starting

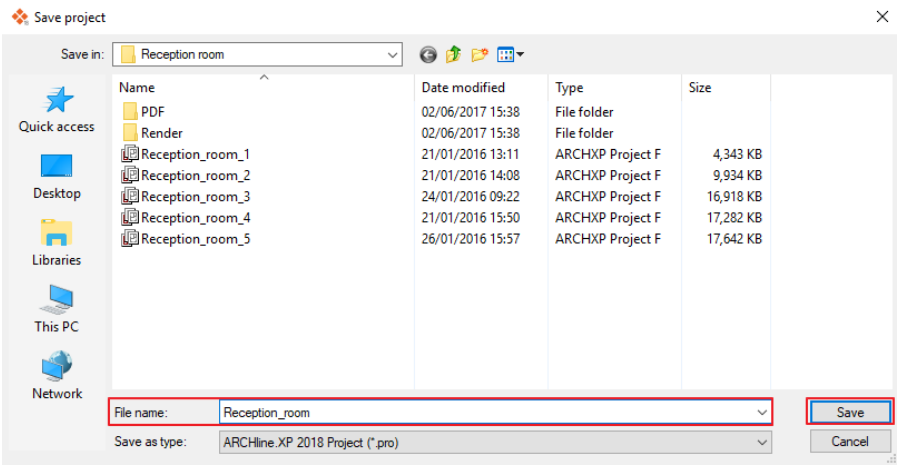
- Start ARCHLine.XP®. Your screen should look similar as follows:

- Click on **New Project** to start.

Save your project

- Before starting to design it is recommended to save your project with a real project name, as “Reception_room” or “My_reception_room” etc.
- Click on **File menu – “Save project as”** command and type your file name to save the project. Your screen should look as follows:



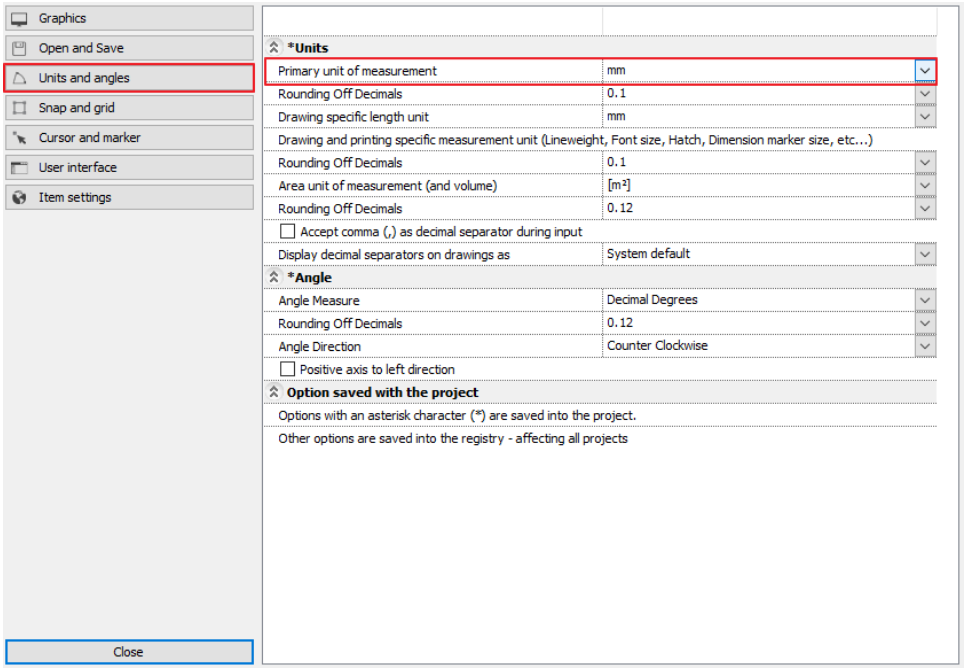


1.1. Modelling an empty room

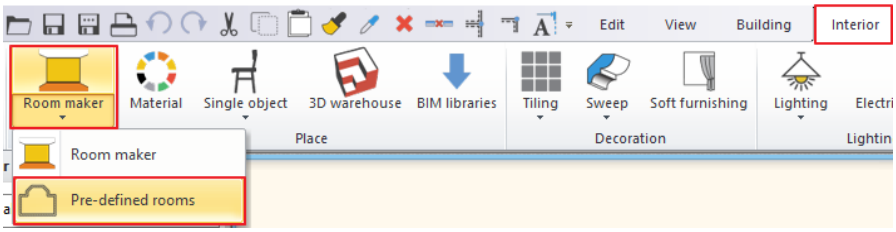
Design approach may vary from person to person. However, it is recommended to start the drawing in a 2D floor plan.

ARCHLine.XP offers various type of wall creation commands. You can draw straight and arc wall similar like drawing lines and arcs. The special Walls on DWG drawing command is used to convert a 2D drawing into a 3D model, by using its lines.

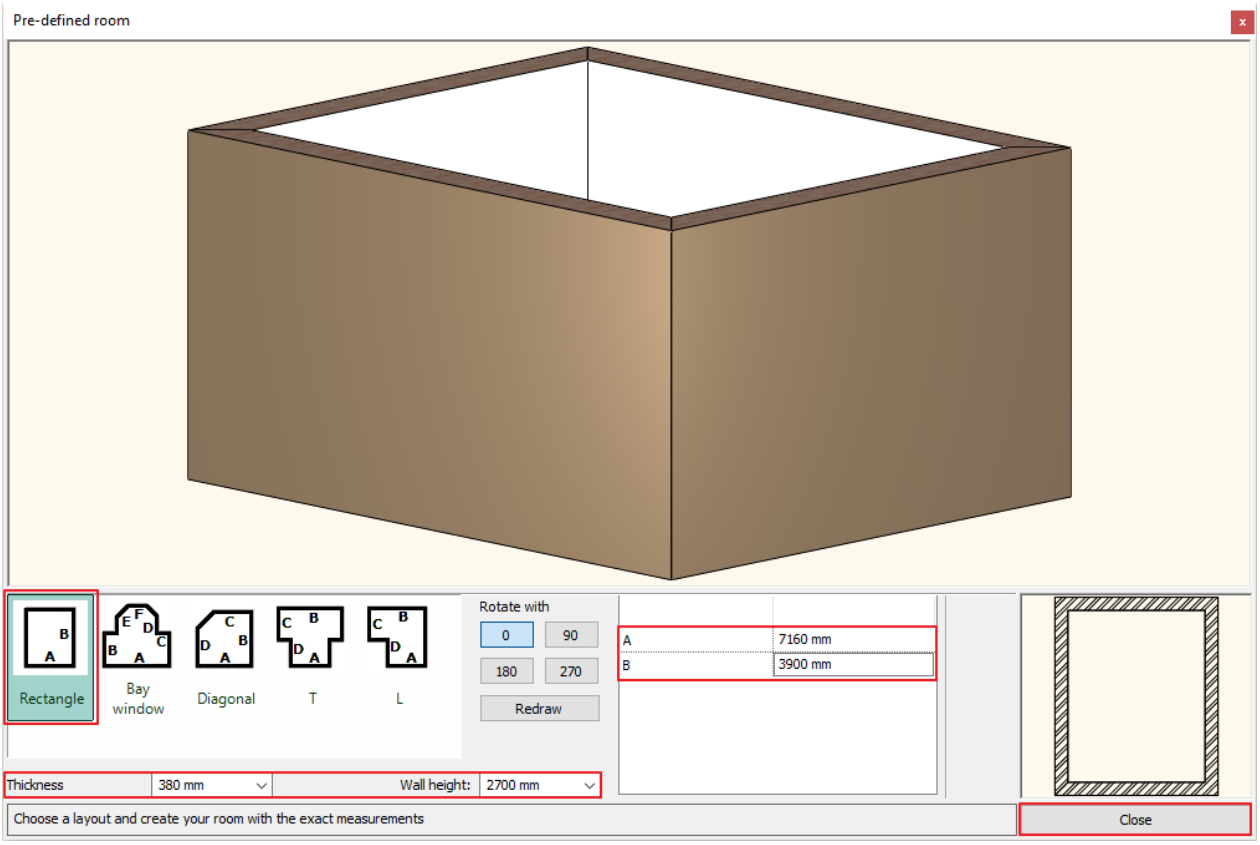
- Please check the current unit in the **File menu – Options – Units and angles**, since we use **millimetre** in this lesson.



- Then click on **Ribbon Bar / Interior / Room maker / Pre-defined rooms** command.



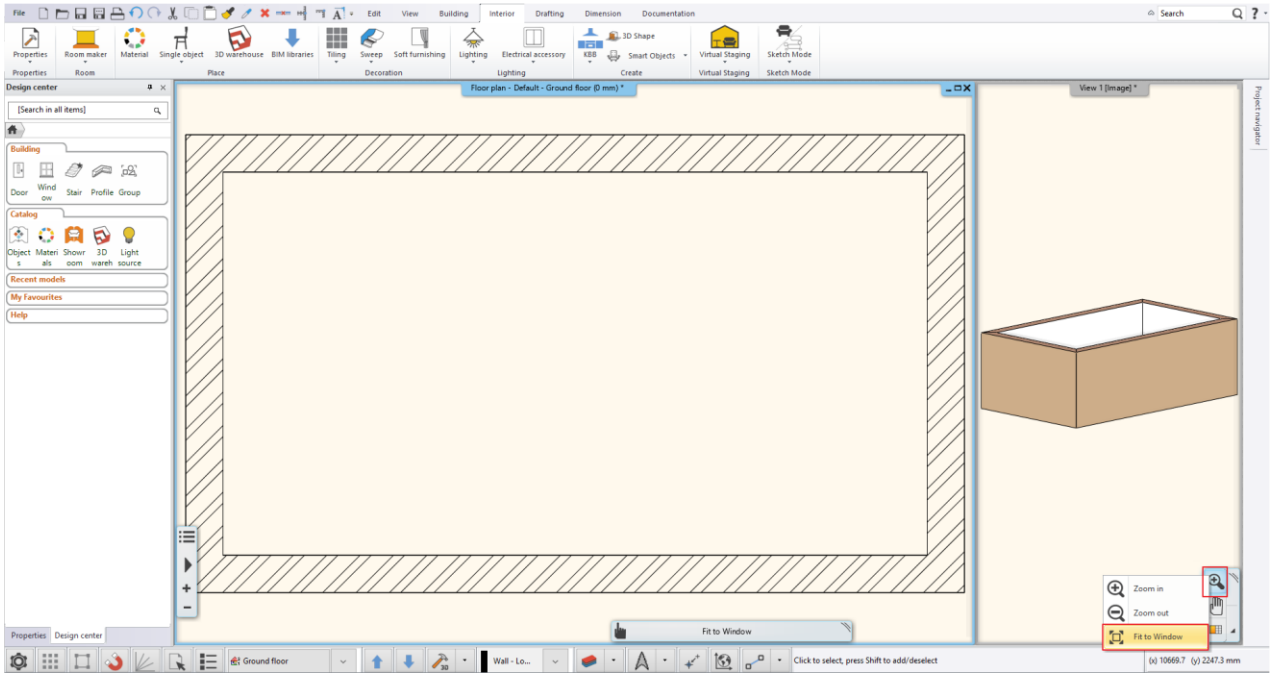
- Choose in the upcoming dialog the room shape: **Rectangle.**
- Create your room with exact room internal measurements: A: 7160 mm, B: 3900 mm.



The values represent the internal wall lengths.

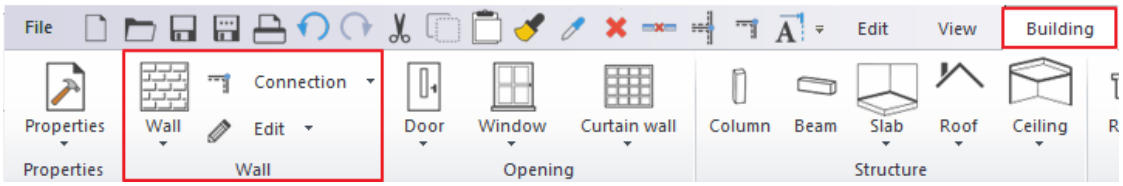
- Wall properties: Thickness: 380 mm, Wall height: 2700 mm.
- Press the *Close* button and place the room shape on the drawing area with mouse left click near to the origin.

Your screen should look as follows: If you see your design partly, click on the top magnifying glass icon on NaviBar and choose the Fit to Window button to have the optimal view.

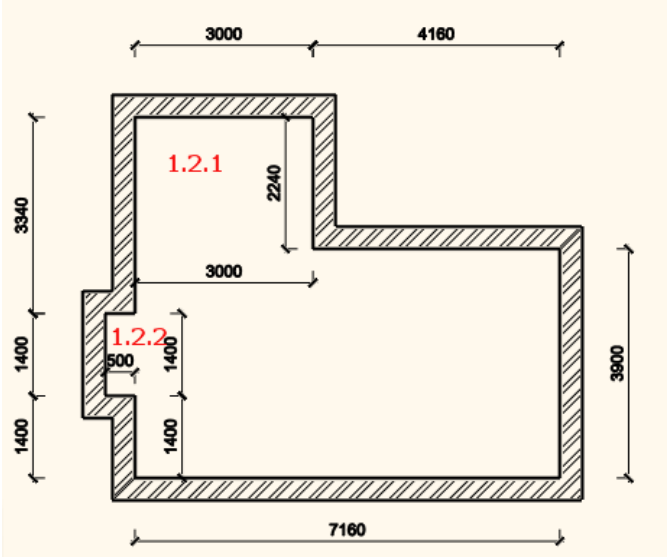


1.2. Editing wall

- The wall editing commands are located in the **Ribbon Bar / Building / Wall panel**.



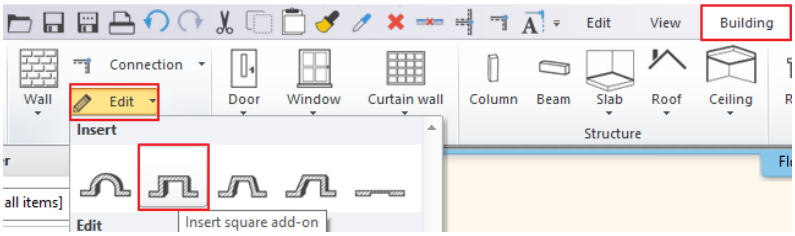
- Room extensions and another wall editing are most easily created in the 2D window.



1.2.1. Add Rectangle extension to the room

Create a rectangle form room extension (1.2.1) on top left corner of the room with room internal measurements: A: 3000 mm, B: 2240 mm.
The values represent the internal wall lengths.

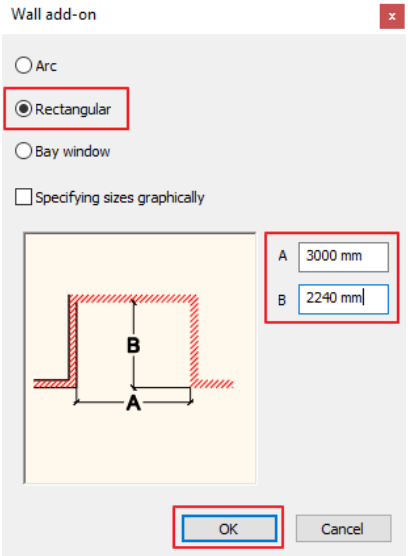
- Click on **Ribbon Bar / Building / Edit / Insert / Insert square add-on** command.



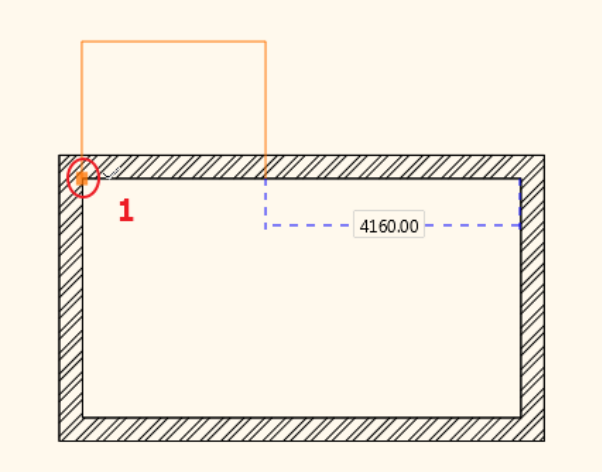
- Choose the room extension type: Rectangular.

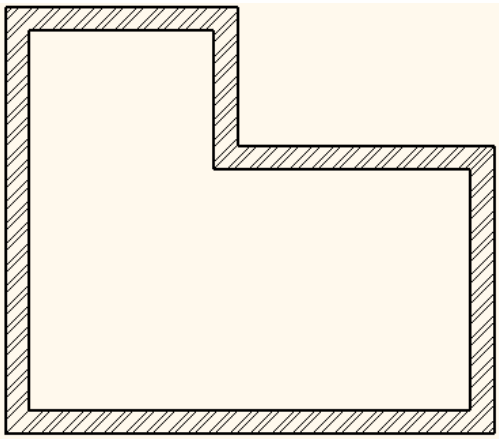
The room extension sizes can be defined by graphically or numerically.

- We choose the numerical way and type the value of **A:** 3000 mm and **B:** 2240 mm. OK.



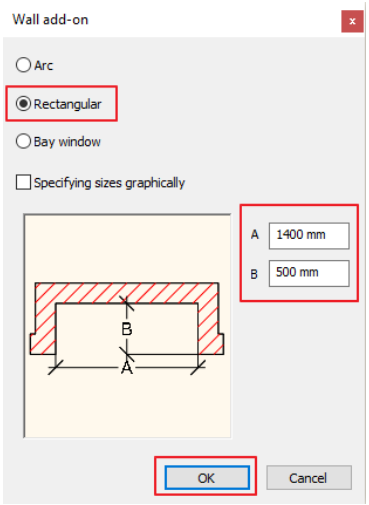
- Move the cursor on the wall (1) on which you will insert a rectangle extension.
- Click on the start point of the wall.





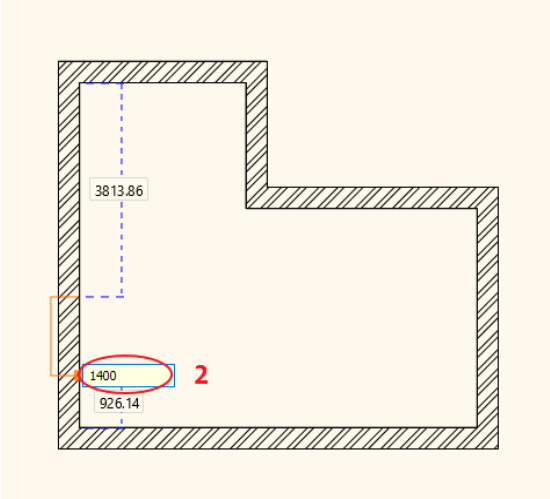
1.2.2. Add next Rectangle extension

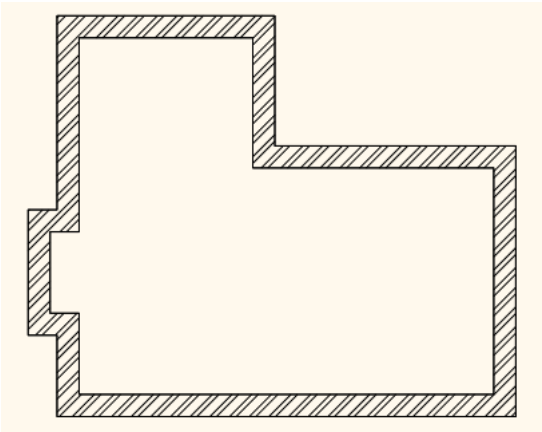
Create another rectangle form room extension (1.2.2) on left side of the room with room internal measurements: A: 1400 mm, B: 500 mm. It starts from the room inside left corner at 1400 mm.
The values represent the internal wall lengths.



- Click on **Ribbon Bar / Building / Edit / Insert / Insert square add-on** command.
- Choose the room extension type: Rectangular.
- We choose the numerical way and type the value of A: 1400 mm and B: 500 mm. OK.

- Move the cursor on the wall (2) on which you will insert a rectangle extension.
- Type the room extension distance: 1400 from the wall corner point. Enter.



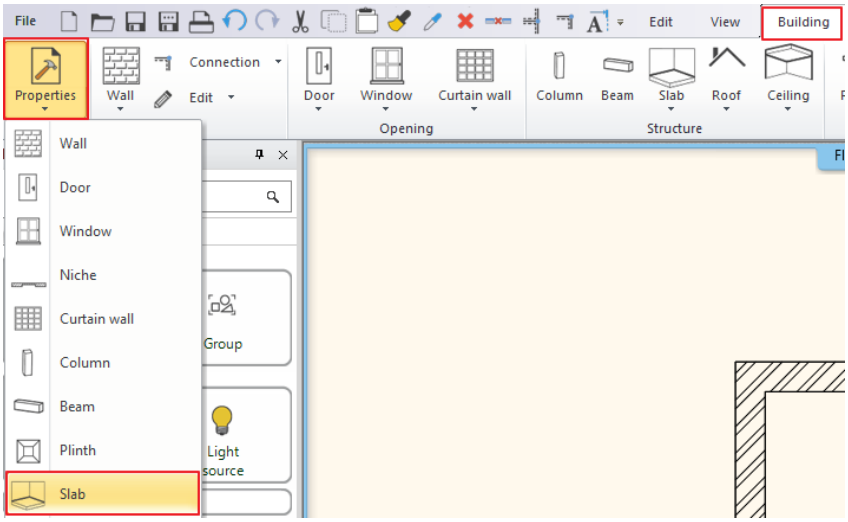


1.3. Floor definition

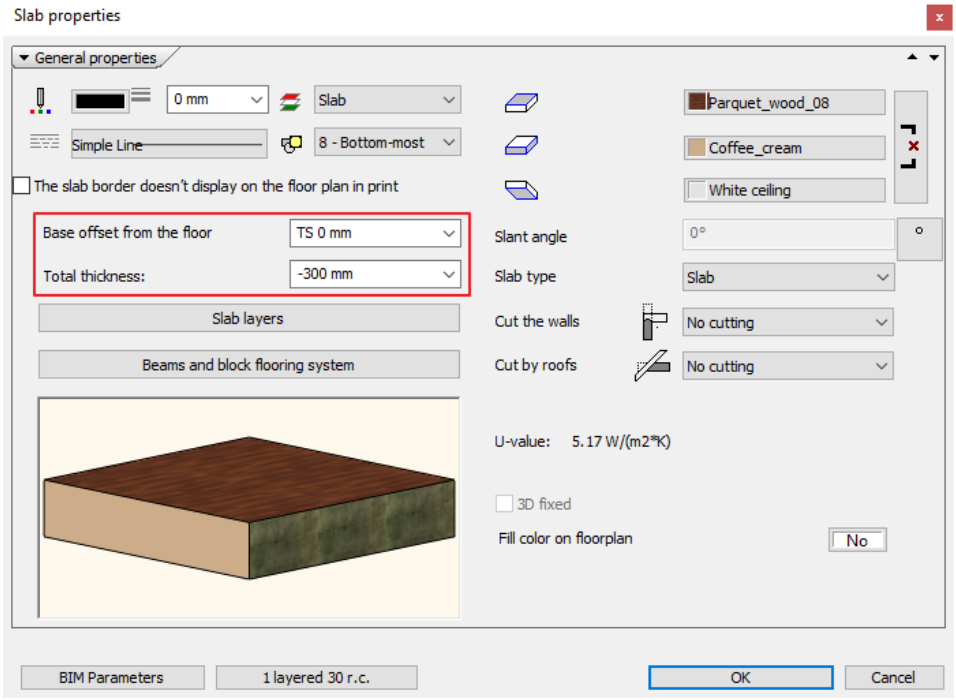
1.3.1. Setting floor style

Check the slab properties before you create the floor.

- Define floor properties: **Ribbon Bar / Building / Properties / Slab.**



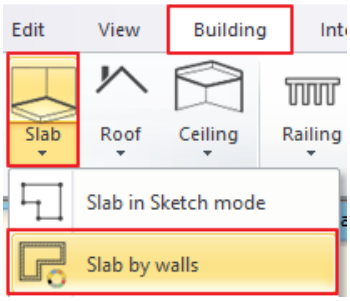
- Set up these values in the dialog:
- Base offset from the floor: 0 mm; Total thickness : -300 mm.

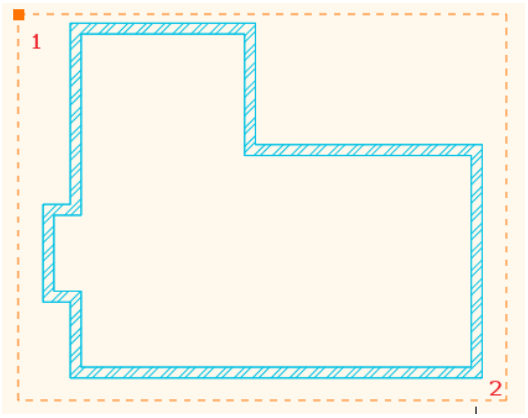


1.3.2. Create floor

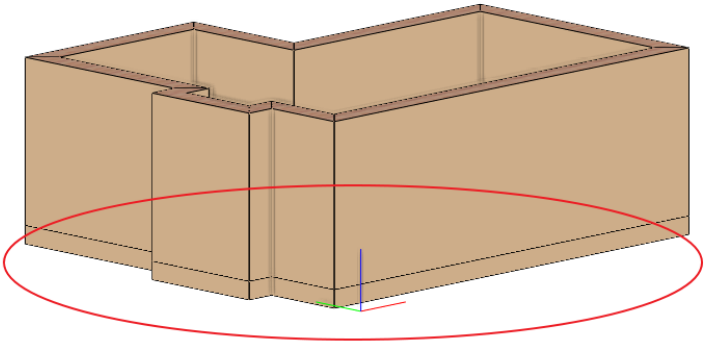
The "Slab by walls" tool is very convenient, you just need to select the walls and the slab will be created along the outer contour.

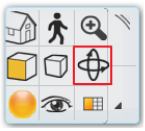
- Select the command: **Ribbon Bar / Building / Slab / Slab by walls**.
- Select all the walls with a selection window. Click on the screen two diagonal coordinates that forms an enclosing box around all items (1,2).





- Click on the two opposite corner points of the selection rectangle and hit Enter to finish to close the command.
- The program creates the floor and generates it in 3D view as well.





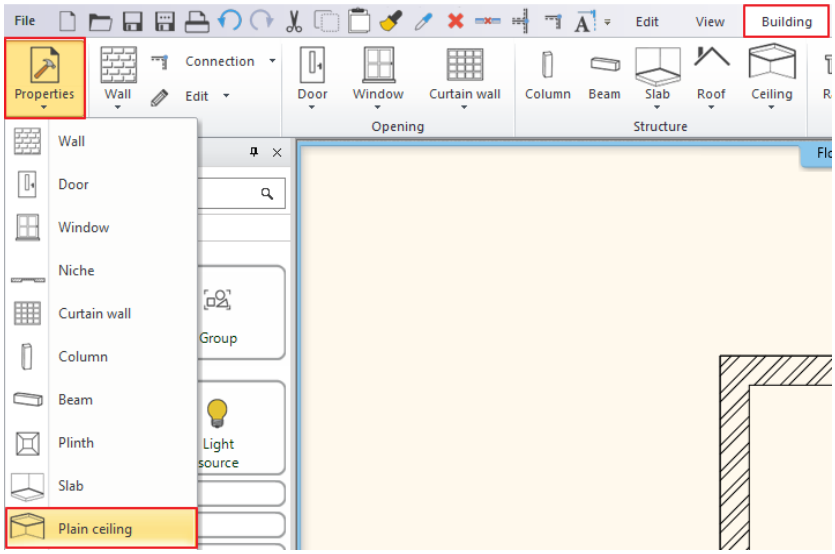
The slab is ready and you see it in the 3D view under the walls. Activate the 3D window with a click inside the window and try to rotate it clicking on the NaviBar – Rotate button.

1.3.3. Add Ceiling

Now we will create the ceiling.

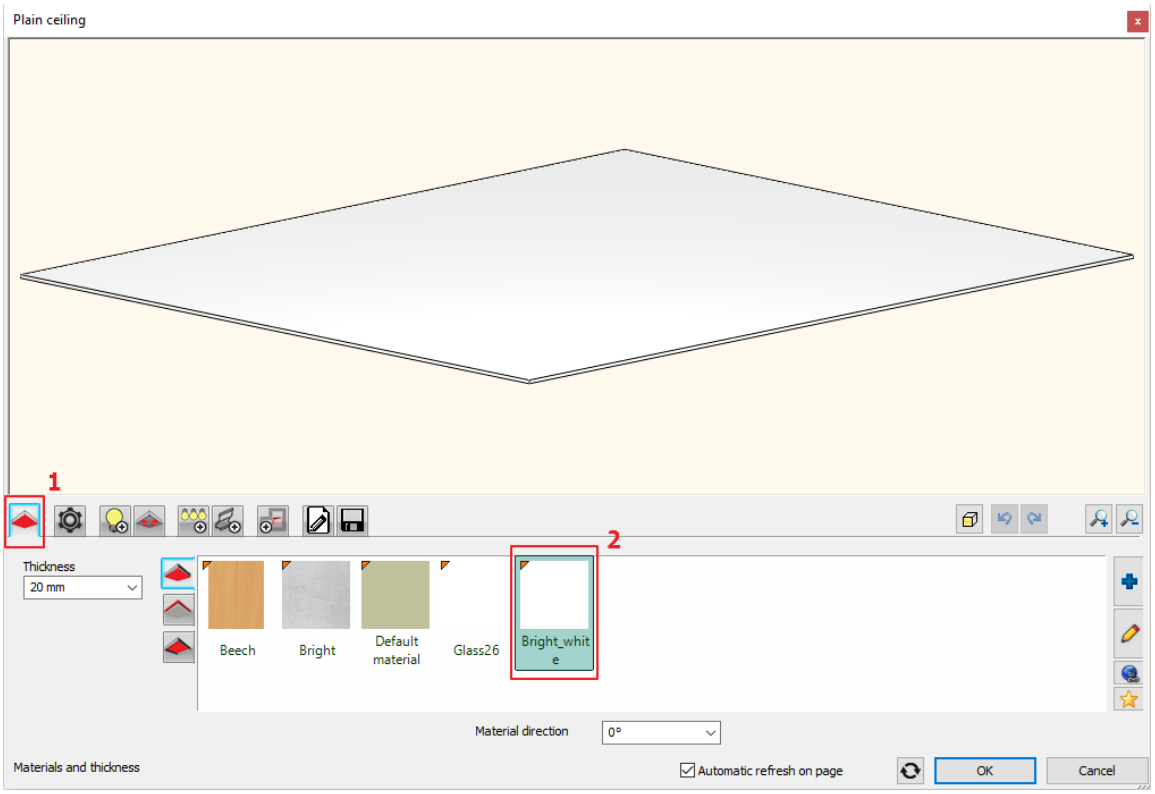
First of all set the Plain ceiling properties.

- Click on the **Ribbon Bar / Building / Properties / Plain Ceiling**.

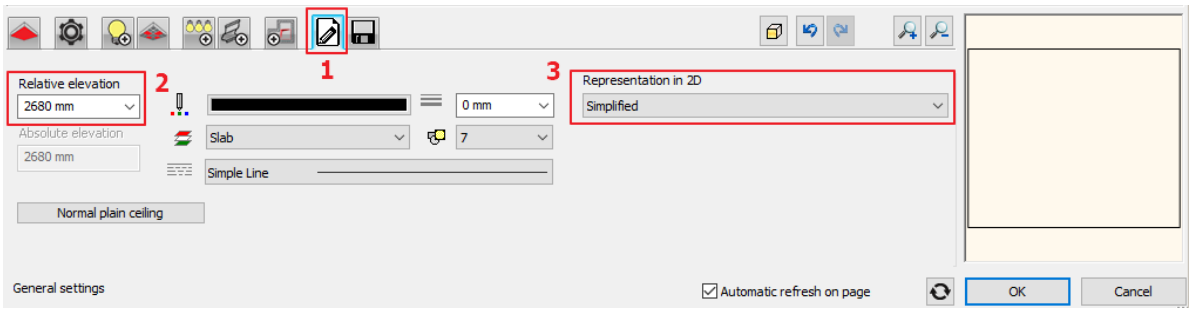


- The Plain ceiling properties window will appear on your screen. Set the following values in the dialog window:
- Click on the Top Material icon to change the material (1).

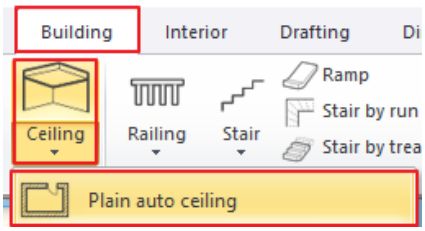
- Change bottom material to Bright White (2).

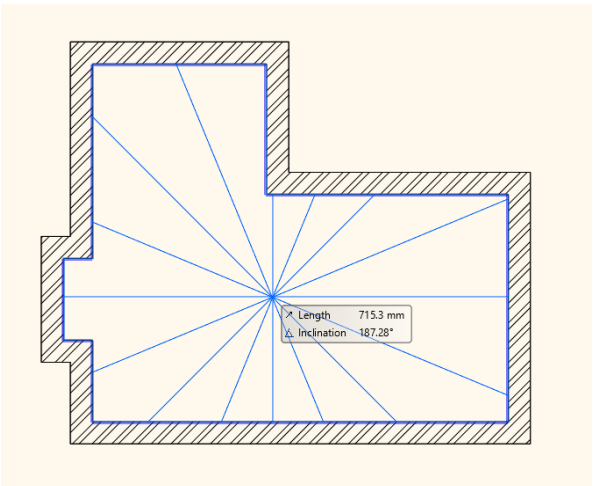


- Click on the General settings icon (1).
- Change the Relative elevation to 2680 mm (2).
- Choose Simplified option (3) for the 2D representation.

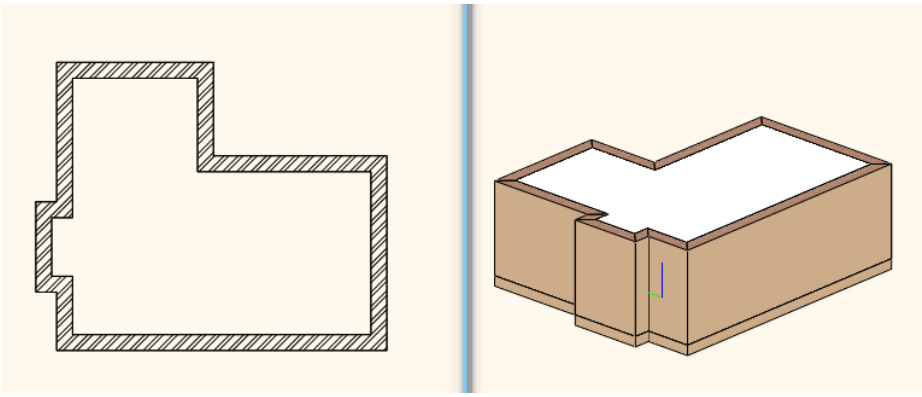


- To place the ceiling activate the 2D window with a click inside the floorplan.
- Select the command: **Ribbon Bar / Building / Ceiling / Plain Auto Ceiling**.
- Click inside the room.



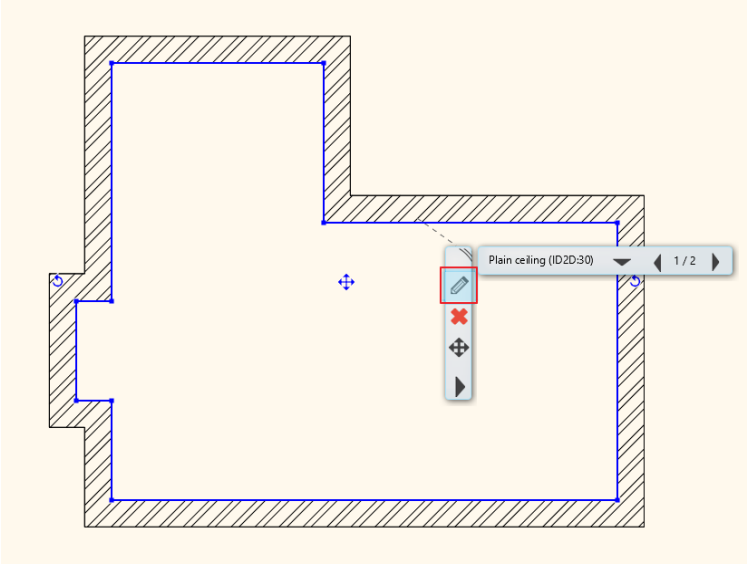


- Finally press the Enter key to close the command. The program creates the ceiling and generates it in 3D view as well.



- Click on the ceiling and click on the pencil marker.

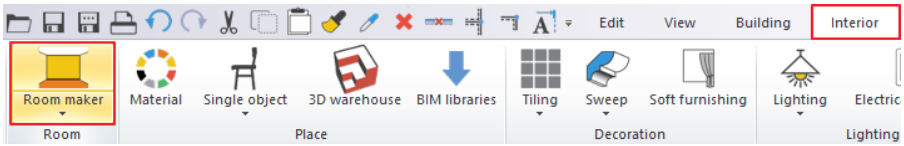
  The ceiling properties dialog appears. Here you can change the ceiling properties as well.



1.4. Room Maker

Room Maker is an all-in-one design tool that highly speeds up the interior design starting from an empty room. Start off by placing doors and windows. Then you can decorate the room with your choice of items very quickly.

- Start the command: **Ribbon Bar / Interior / Room Maker**.

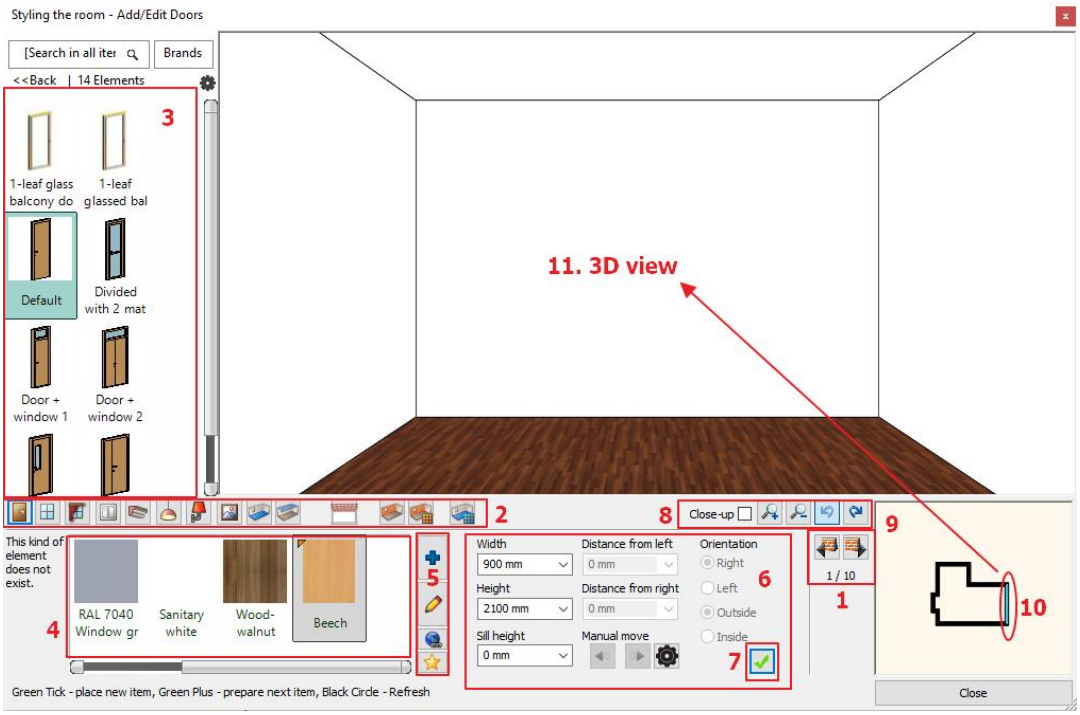


- Click inside the room shape on the floor plan.

1.4.1. Room Maker – Interface Overview

The Room Maker dialog appears on your screen. The Room Maker recognizes the room and you can navigate from wall to wall. Use the zoom buttons to zoom in and out if necessary.

1. Wall finder
2. Toolbar
3. Type finder
4. Texture finder
5. Add new material
6. Properties
7. Insert new
8. Zooming
9. Undo/redo
10. Floor plan
11. 3D view



1.4.2. Room Maker – Interface

1. **Wall finder**: The room will turn to the left / right and displayed frontal to the selected wall. You work on this wall or some cases on floor or ceiling.
2. **Toolbar**: The container for interior design items. One of them is always active and Room Maker works with the selected one.
3. **Type finder:** It is the integrated version of the Design Center to choose items.
4. **Texture finder**: It enables to see the last used textures in the Favourites box.
5. **Add new material**: Choose from the library or create new one.
6. **Properties**: This value are used when you insert a new item or modify it.
7. **Insert new**: You can insert a new item with a click on the Green Tick.
8. **Zooming**: Zoom in or zoom out the 3D view. In order to get a close-up view of the selected item click in the Close-up checkbox.
9. **Undo / redo**: Deletes the last change done reverting it to the older state. Redo reverts the effects of the undo. You can undo and redo up to 16 actions.
10. **Floor plan**: The floor plan that focuses on the selected item (highlighted).
11. **3D view**: Three-dimensional view facing to the selected wall/floor/ceiling.

1.4.3. Add Doors

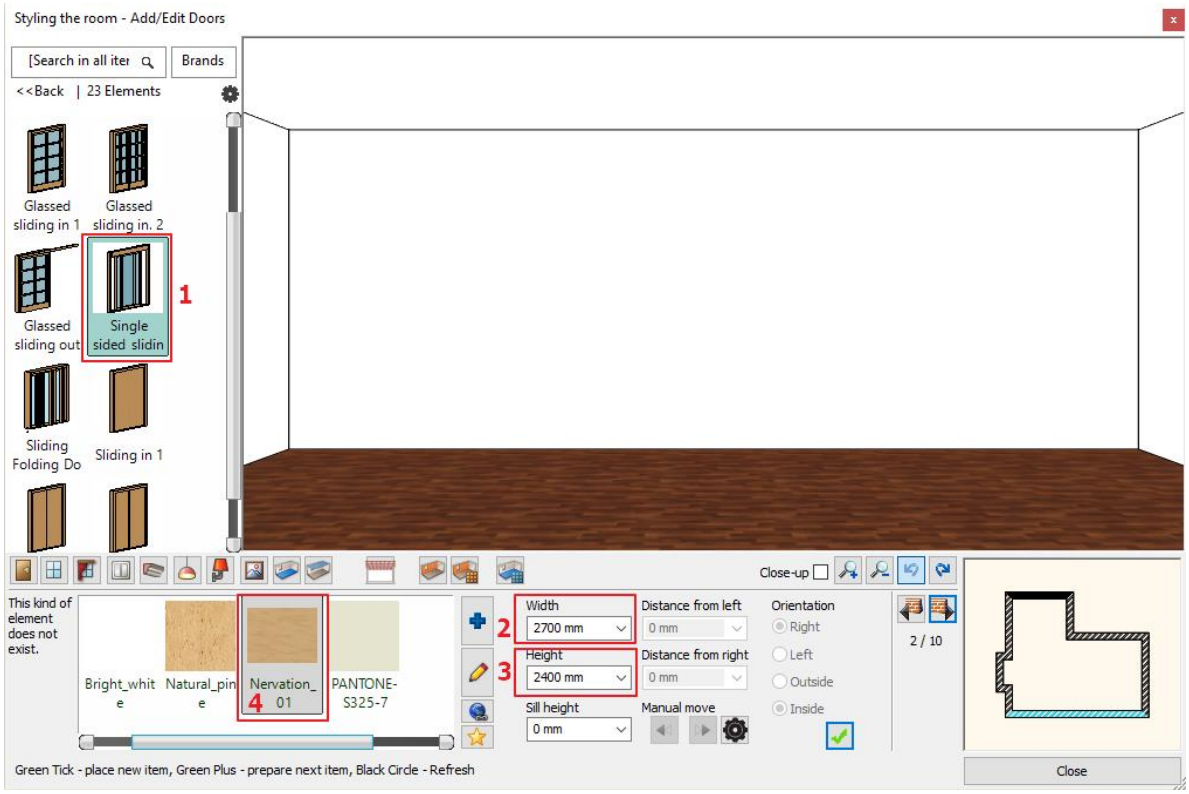
First door

With Wall finder you can switch from wall to wall. We always work on the opposite wall.

We place a "**Single sided sliding door"** on the wall with the length 7160 mm.

- Select the wall with the length 7160 mm clicking on the Wall finder button.
- Select the door: **Type finder / Indoor / Sliding**.
- In the Type finder-Design Center click on the Back button and select the first line as "Search in all items".
- Type the door name partly in the search field : "Single sided".
- Click on the marked type in the search result list (1).

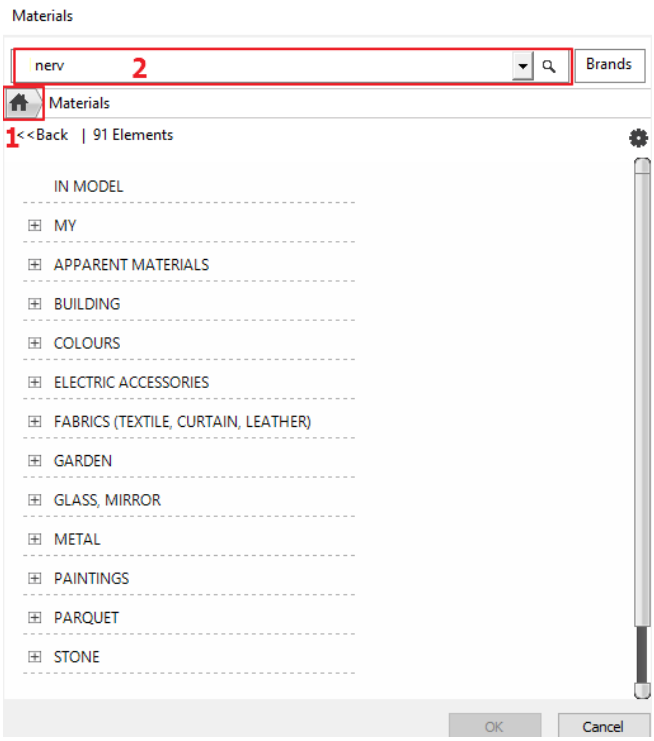
- Change the properties of the sliding door : Width: **2700** mm Height: **2400** mm (2,3).
- Select "Nervation_01" from the favourites (4).



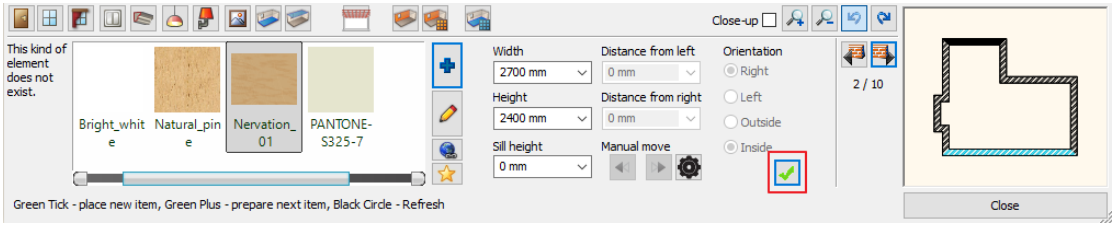
Very probably the “Nervation_01” is missing from the favourites so must add it with the **Add new material** button .

You will see the Design Centre that contains all material types.

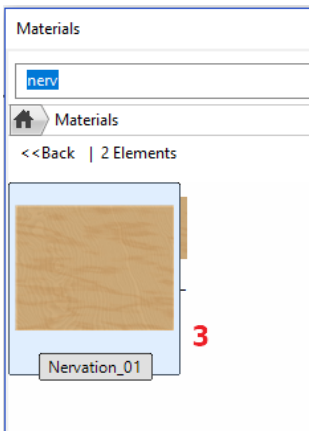
- Click on the Home button (1) and select the first line as “Search in all items”.
- Search for the desired material by typing the first part of the material name (2) : Nervation.
- Select the appropriate material from the list (3).
- Click on the Add new material button.

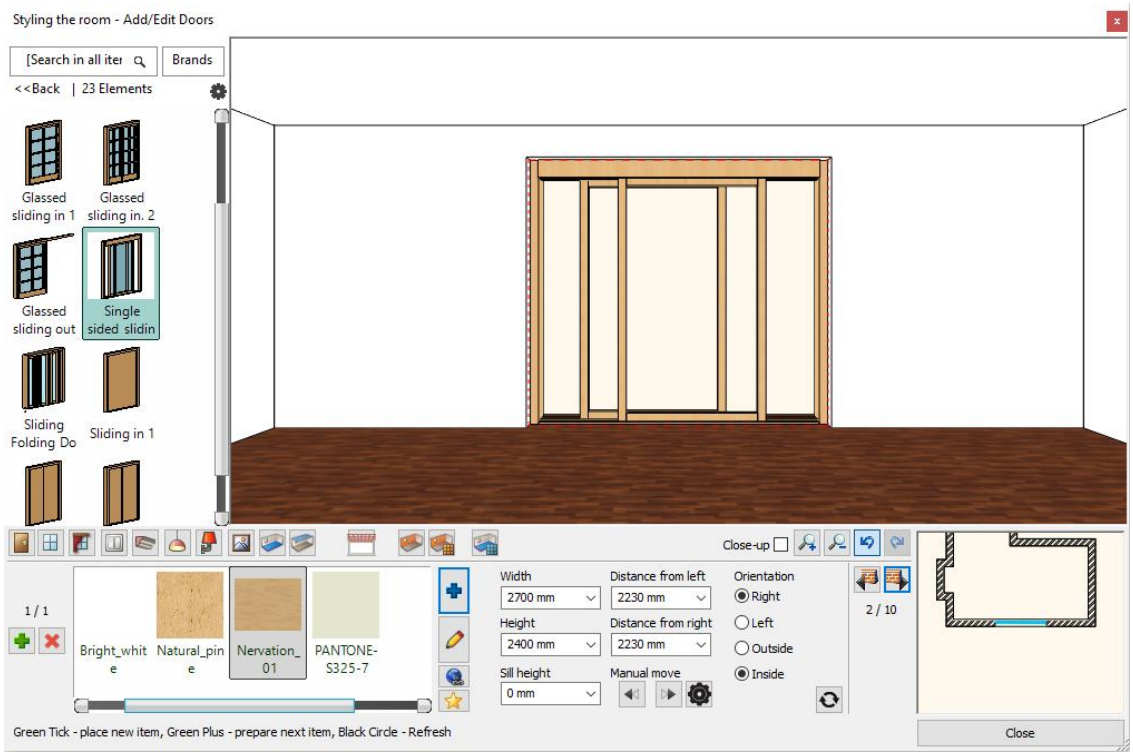


- Click on Green tick.



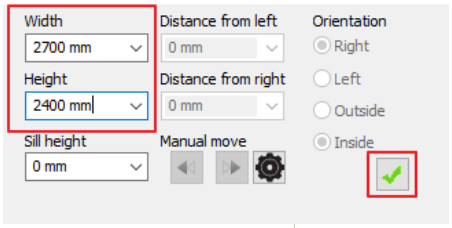
The door is placed in the wall centre point.

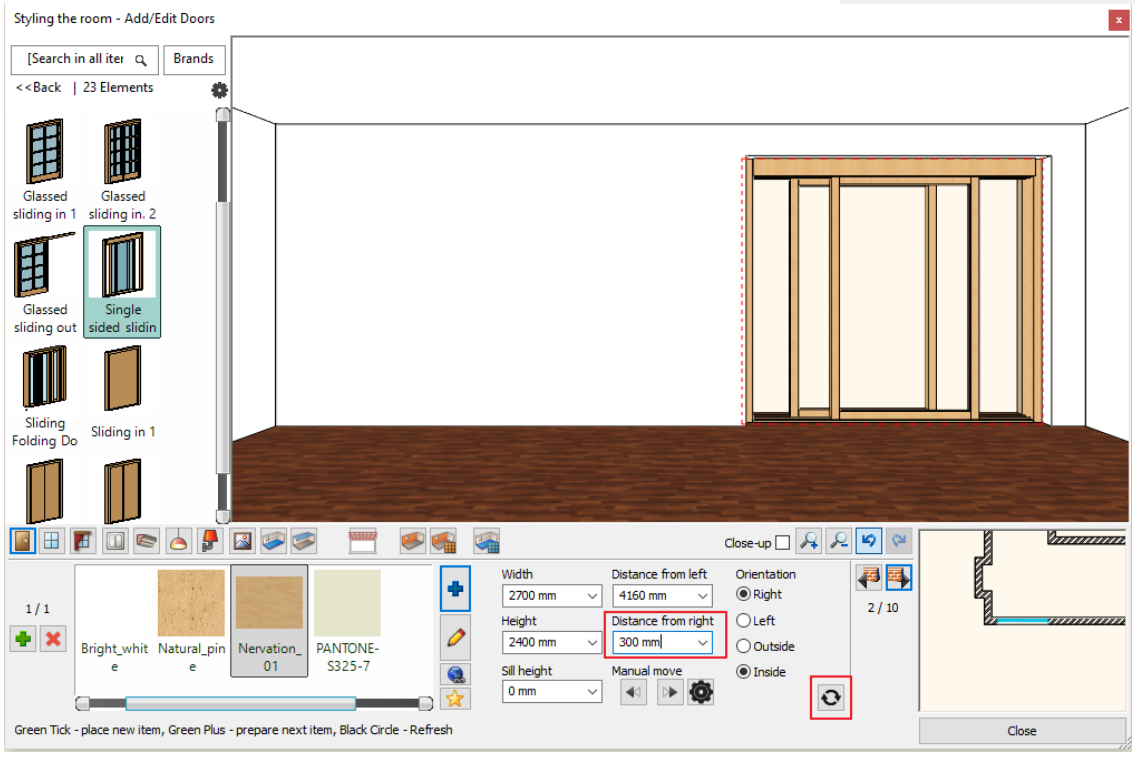




Once the door is in the wall, you can change its distance from the corners.

- Change right distance to 300 mm and press Enter or Update icon.

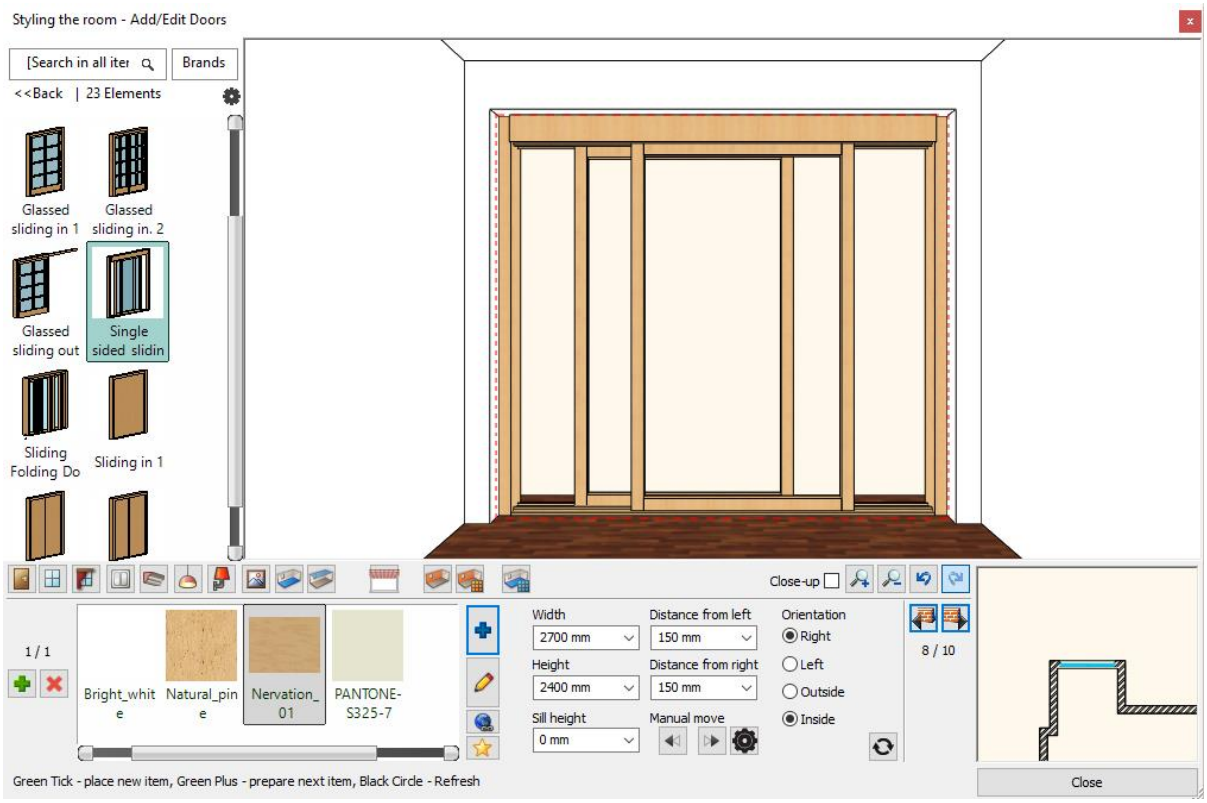




Next door placement

- Select the wall with the length 3000 mm clicking on the Wall finder button and you will place the next door on it.
- Select the same door type, "**Single sided sliding door"** and change properties: Width: 2700 mm Height: 2400 mm.

- Click on Green tick –the door is placed in the wall centre point.

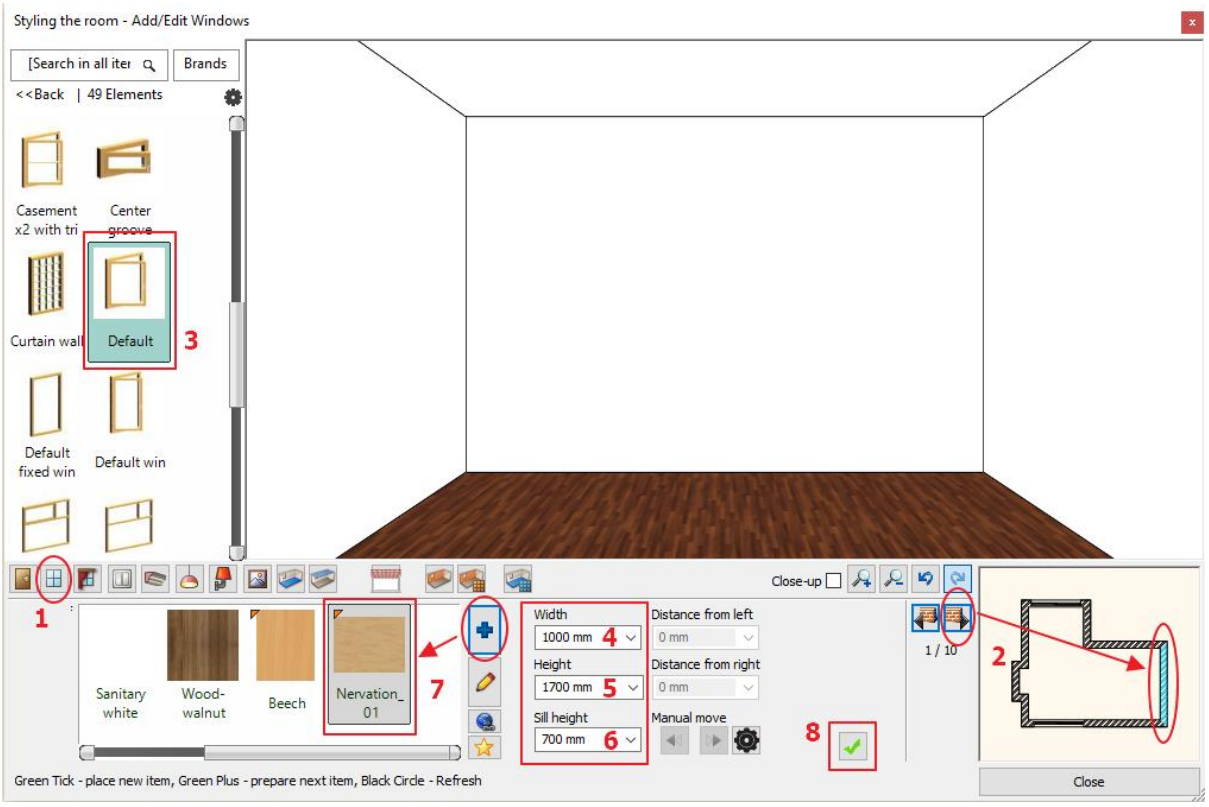


1.4.4. Add Windows

First window

Place 3 windows on the wall with the length 3900 mm.

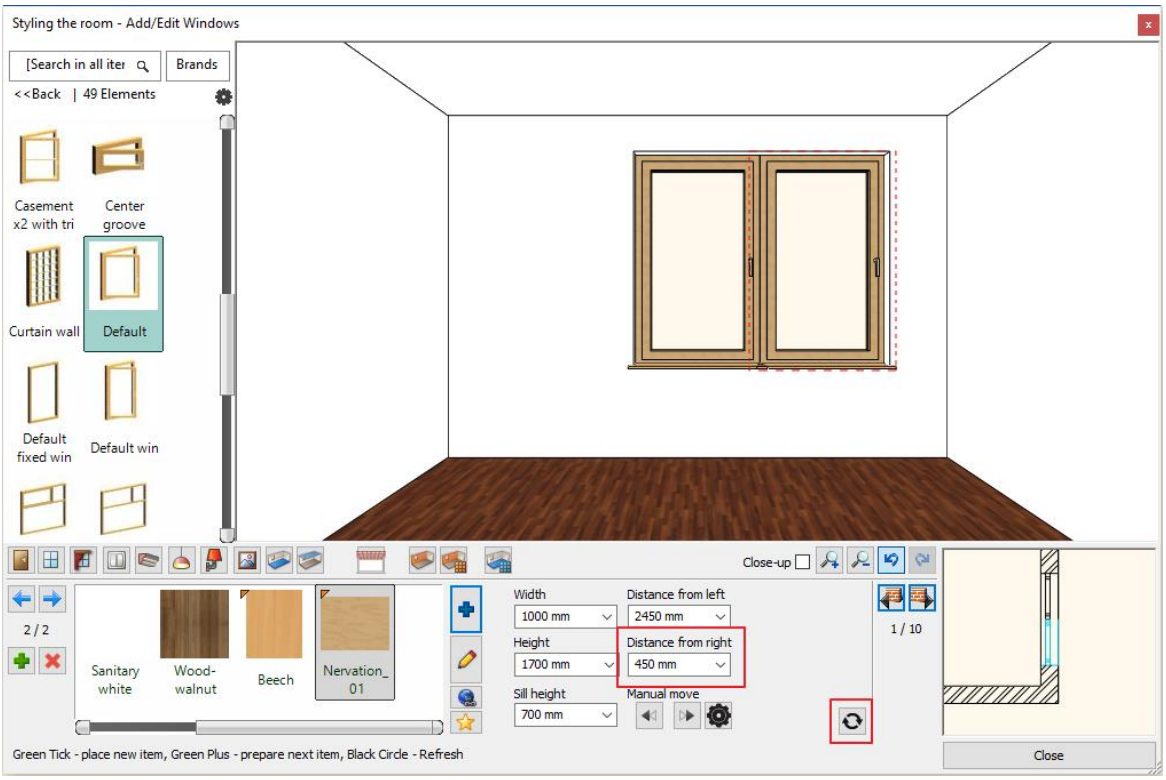
- Press on the Toolbar the window icon (1). Select the indicated wall with Wall finder (2): We place the first window on this 3900 mm long wall.
- Choose Default type from the favourites (3) and change properties: Width:1000 mm, Height: 1700 mm, Sill height 700 mm, (marked as 4,5,6,).
- Click on the *Add new material* button (7).
- And select “Nervation_01” from the Material library.
- Click on Green tick (8) – the window is placed in the wall centre point.



Second and third windows

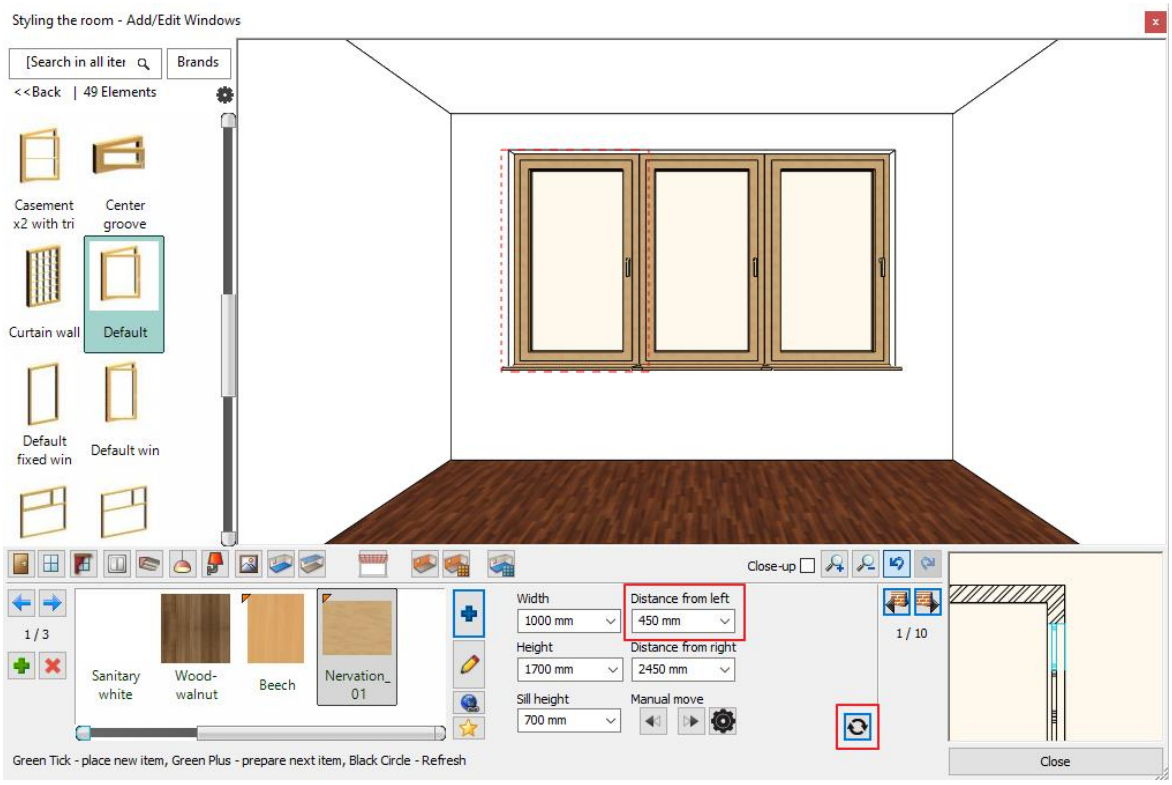
Place the second window on the same wall:

- Press the Green Plus first to prepare the next window.
- Click on Green tick – the window is placed on the wall where it is possible.
- When you placed the second window you have to change its "**Distance from right**" value to 450 mm and press Enter or Update icon.



Place the third window on the same wall:

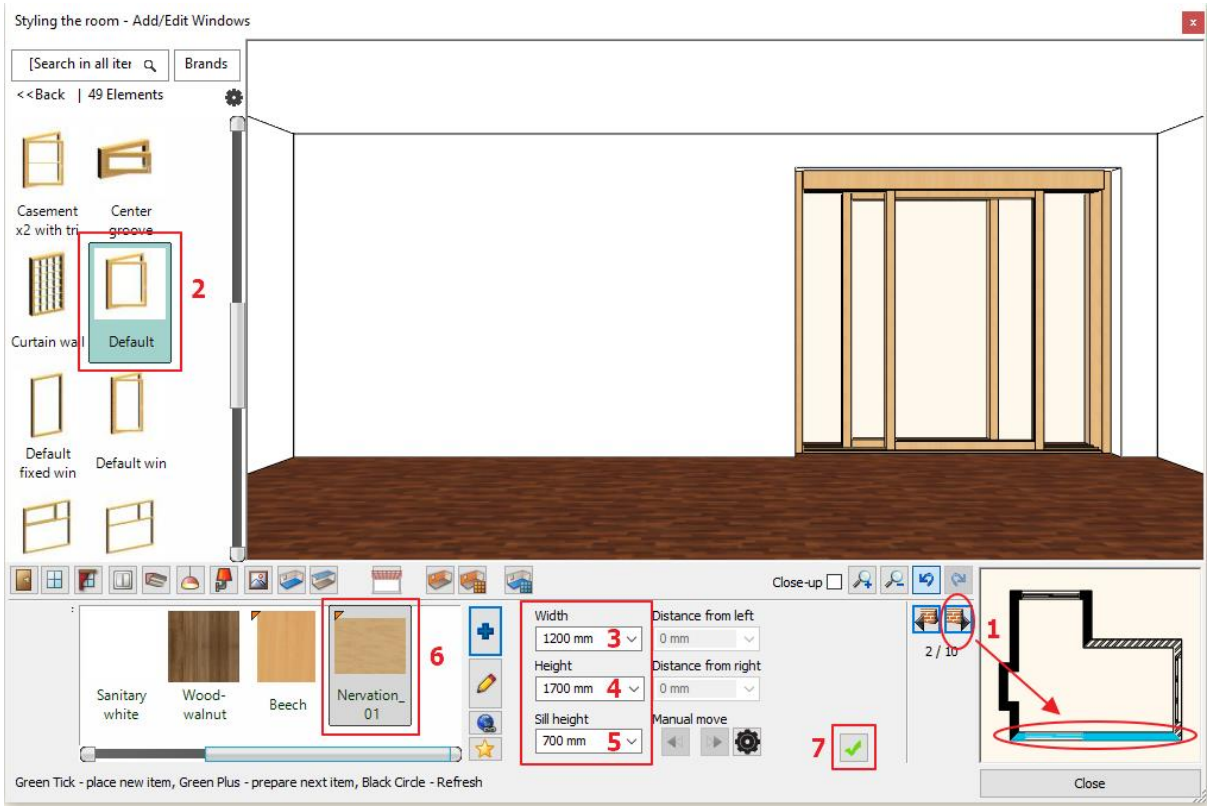
- Press the Green Plus first to prepare the next window.
- Click on Green tick – the window is placed on the wall where it is possible.
- Change its "**Distance from left**" value to 450 mm and press Enter or Update icon.



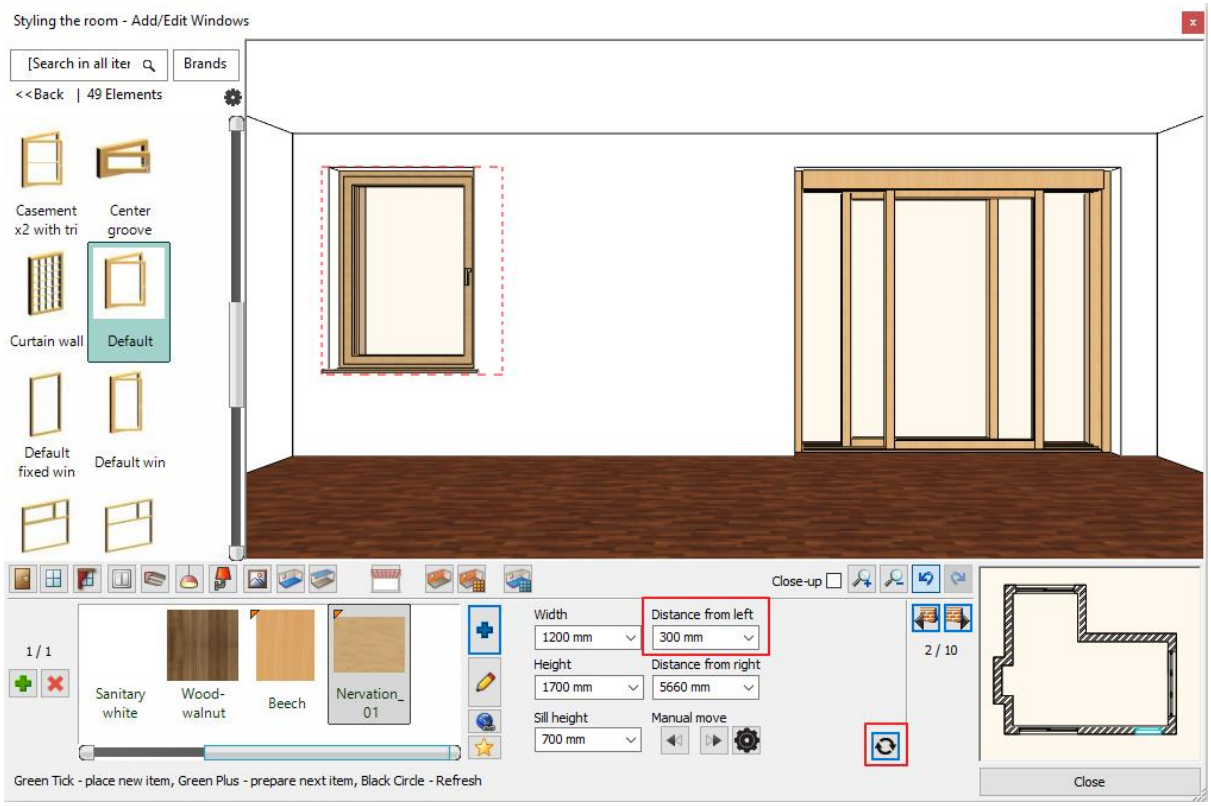
Window on another wall

Place one window on the wall with the length 7160 mm:

- Select this wall with clicking on the Wall finder button (1).
- Choose Default type from the favourites (2) and change properties:
  Width: 1200 mm, Height: 1700 mm, Sill height 700 mm, (marked as 3,4,5).
- Select "Nervation_01" from the favourites (6).
- Click on Green tick (7) –the window is placed in the wall centre point.



- Change left distance to 300 mm and press Enter or Update icon.



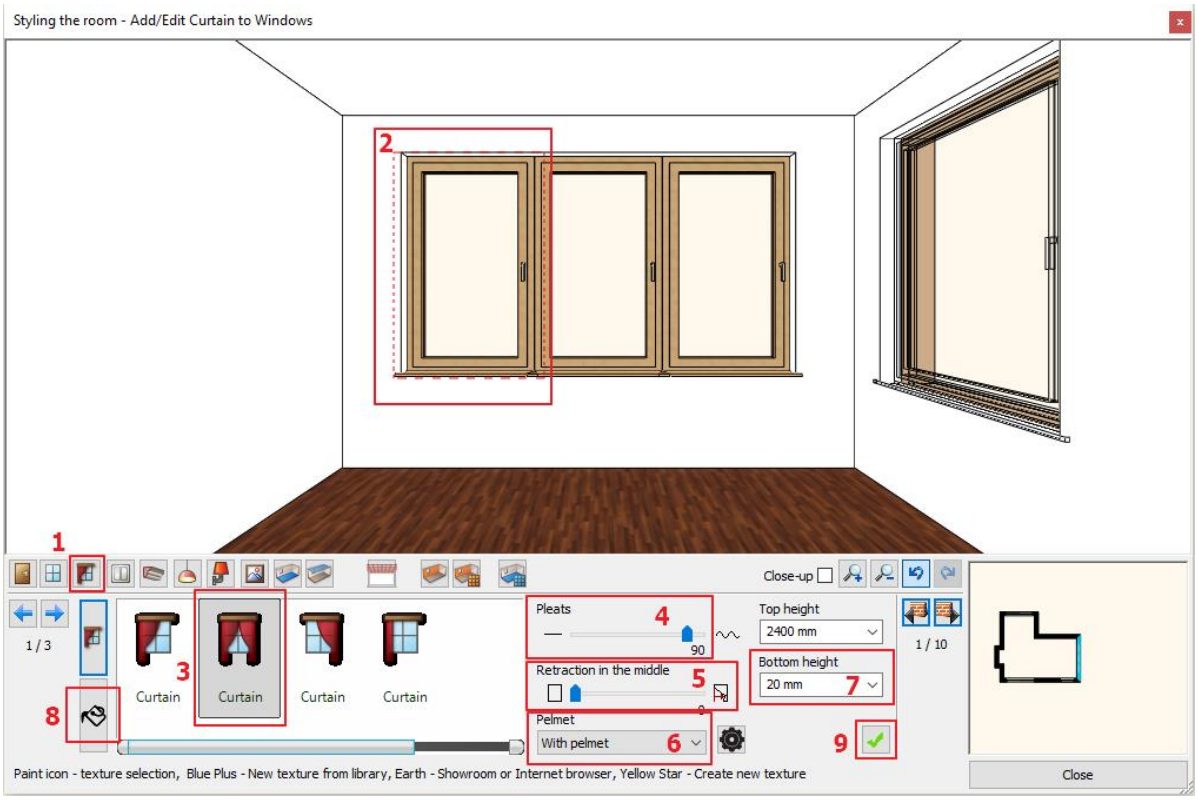
1.4.5. Add Curtains

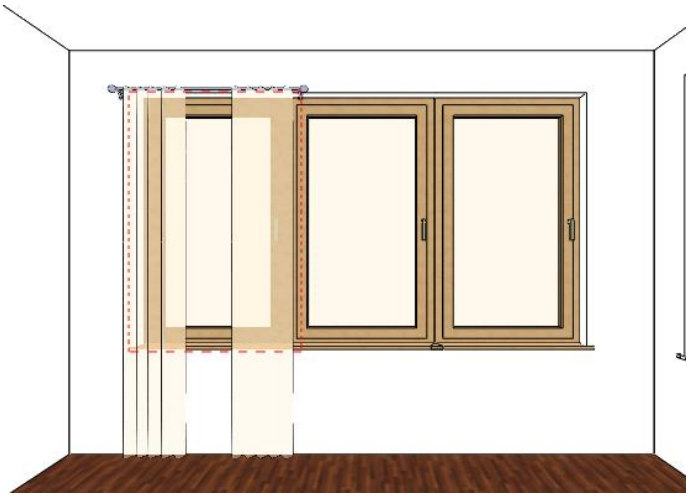
ARCHLine.XP offers a wide variety of window treatments. Select a curtain for example and customize it. There are many ways to choose textiles and other materials. You can use texture finder materials or create unique ones. You can download material from the ARCHLine.XP Showroom by selecting from the manufacturer's catalogues or importing from the manufacturer's website.

Curtain 1

Place the 3 curtains in front of the windows:

- Select the indicated wall with Wall finder.
- Press on the Toolbar the curtain icon (1). Click on the left window (2).
- Select the second curtain type from the favourites (3) and change properties: Pleats: high (90), Retraction in the middle: no (0), With pelmet, Bottom height: 20 mm (4,5,6,7).
- Click on the Texture (8) and select “Curtain 002”.
- Click on Green tick (9) – it will place the curtain in front of the window.

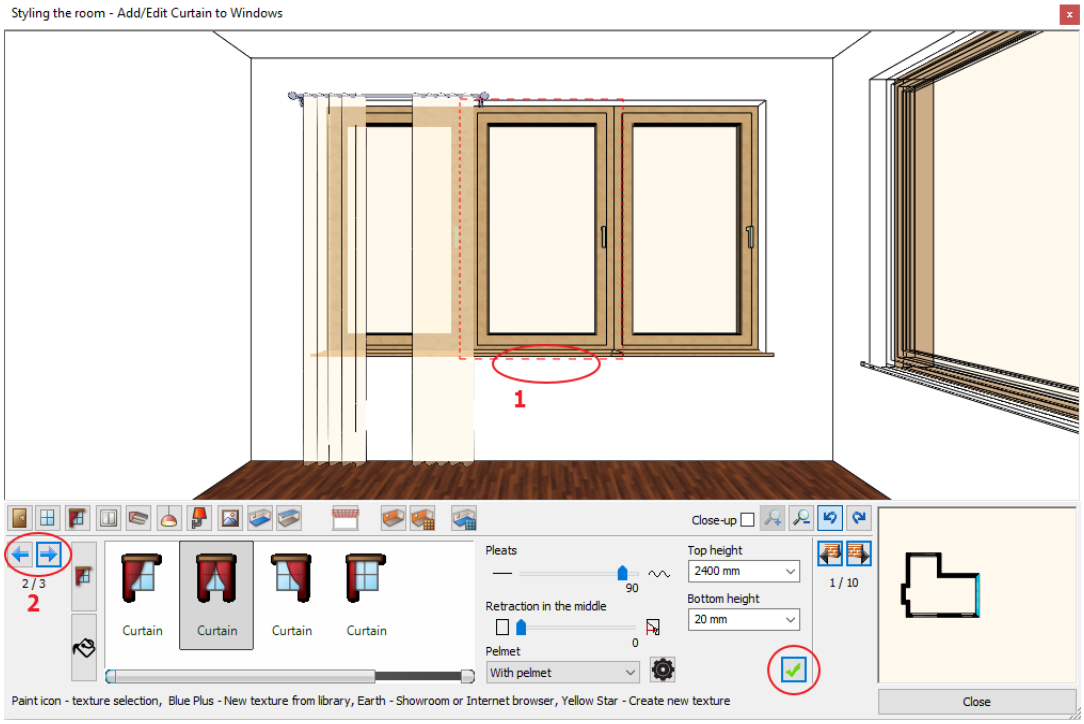




More curtains

There are two ways to select the second window:

- (1) click on the window or
- (2) click on the blue arrow on the dialog left side to select the consecutive window.
- Click on Green tick – it will place the curtain in front of the window.



Curtain on the fourth window

Place one curtain on the wall with the length 7160 mm with already set properties.

- Click on Green tick to place the curtain.

Curtain material modification – Optional

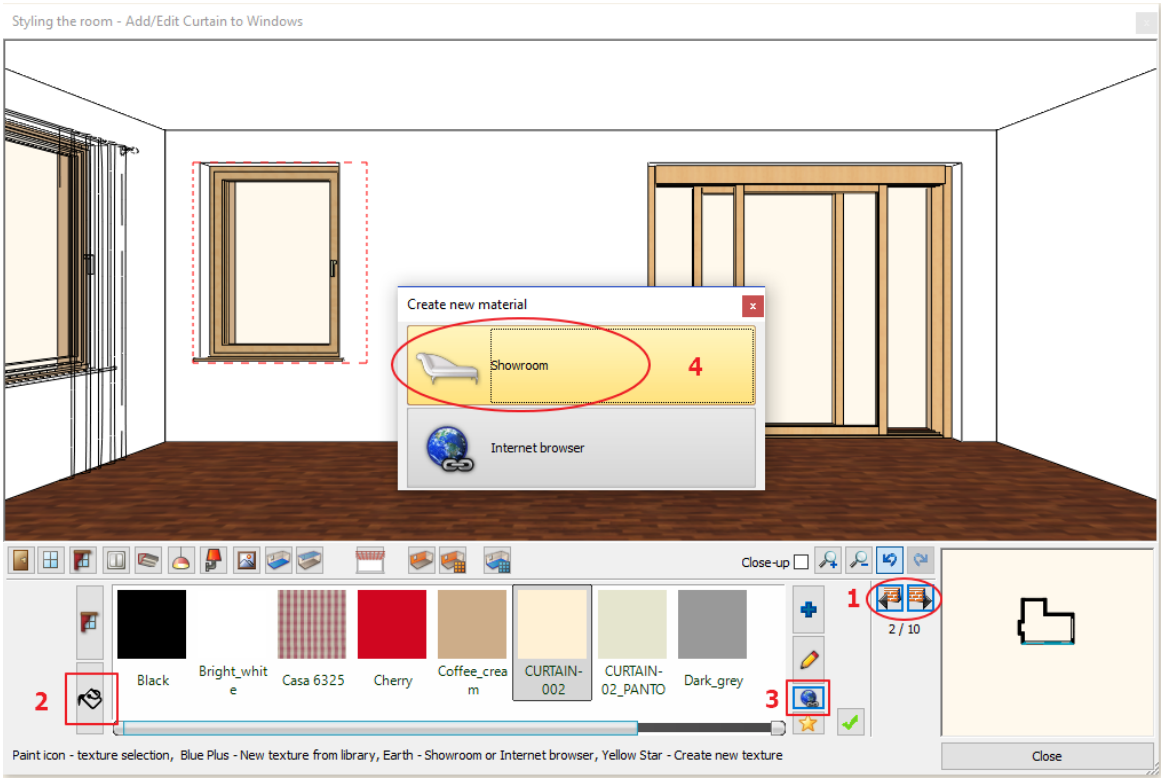
There are many ways to bring in new fabrics and other materials when you need them.

You can use pre-installed materials, create a custom one or you can also download from a website or from the ARCHLine.XP Showroom.

Place now the next curtain on the window you find on the wall with length 7160 mm with a new fabric downloaded from the Internet Showroom*:

- Select this wall with the length 7160 mm with clicking on the Wall finder button (1).
- Click on the Texture button (2).
- Click on the Internet button (3).

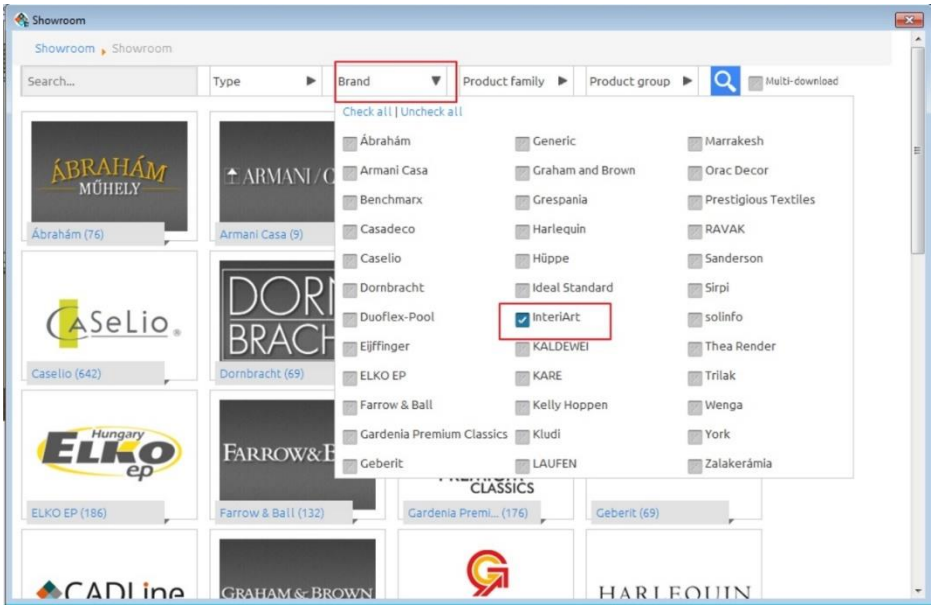
You have two choses: to select a pattern from the ARCHLine.XP Showroom or from the Producer website using the Internet browser:



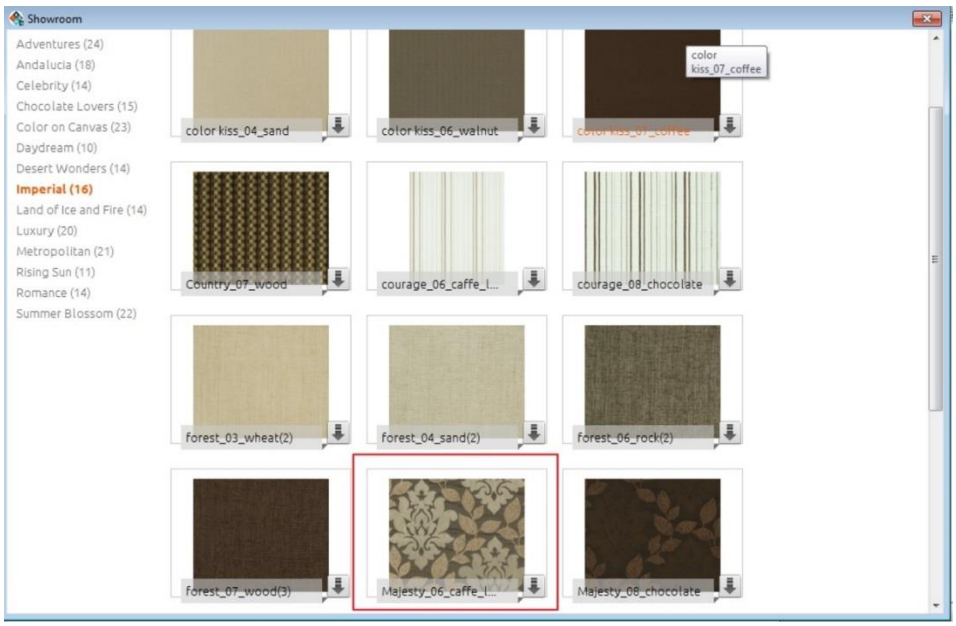
Pattern from the Showroom

The ARCHLine.XP Showroom is a collection of fabrics, lamps, furniture and other ARCHLine.XP items delivered to you by manufacturers. Just find a fabric, click the "Download" button and start using it.

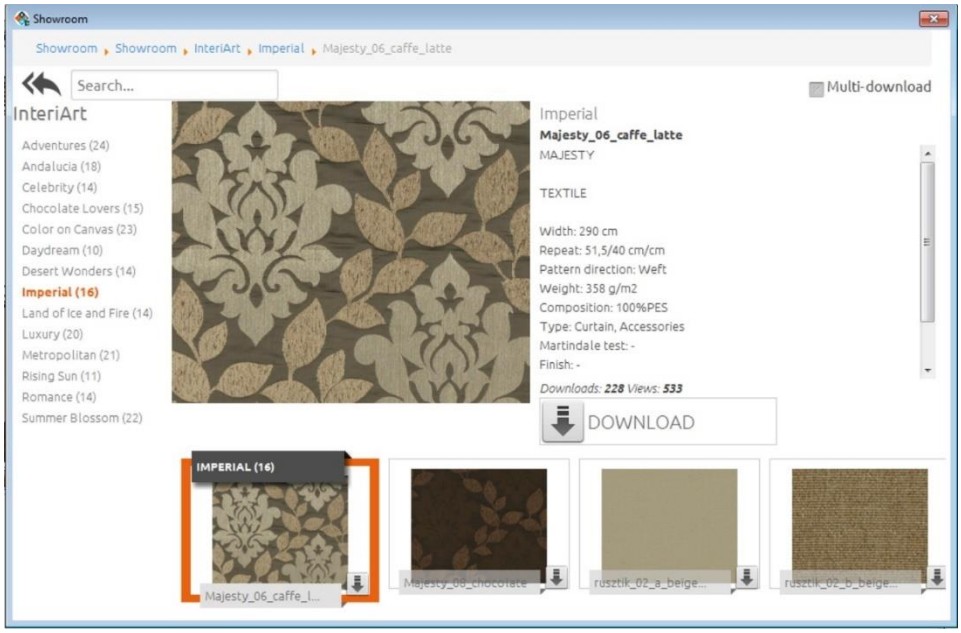
- Choose Showroom (4). Your browser opens the ARCHLine.XP Showroom.
- Select the Fabrics, wallpapers, etc. category and open the InteriArt family.
- Select the Imperial product line.



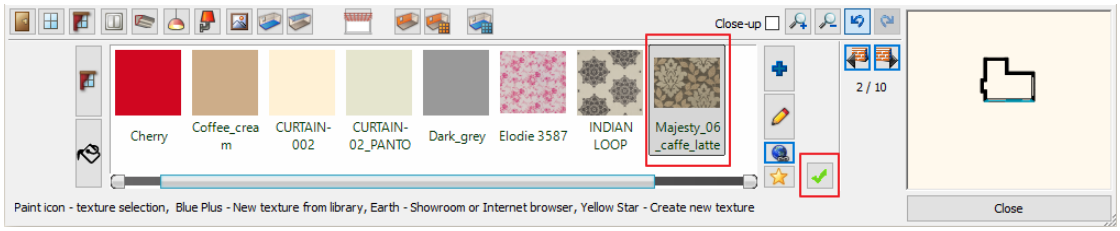
- Select the fabric named Majesty_06_caffee_latte.



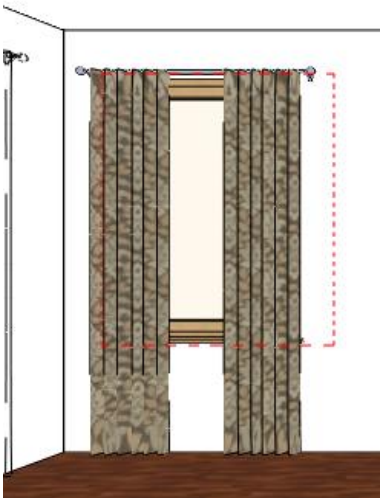
- Click on Download button.



- The fabric is added to the favourites list in the Room Maker.



- Click on Green tick –the curtain is placed in front of the window.



1.4.6. Change Curtain fabric - Optional*

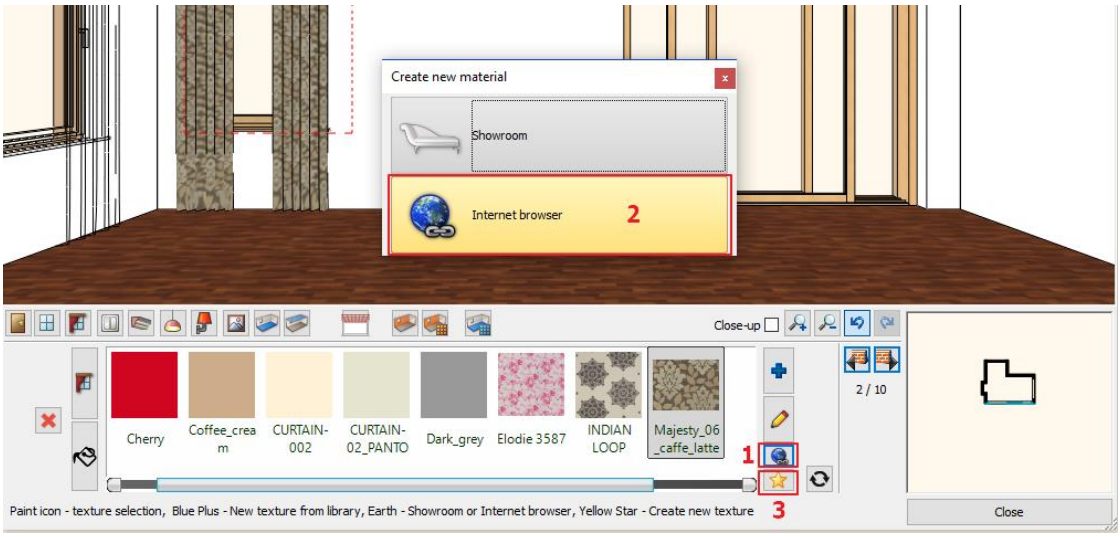
Beside Showroom you can also import fabrics from the producer's website.

Import pattern from the producer website

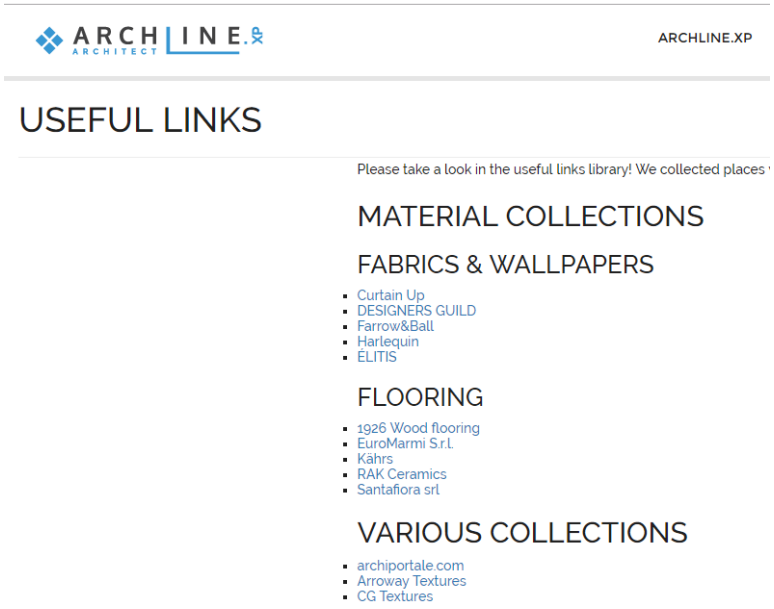
*This topic is optional as requires Internet connection to import fabric from Producer website.

Now we change the fabric of the last curtain to Sanderson fabric.

- Click on the Internet button (1) and choose Internet browser (2). Click on the Internet browser icon.



Your browser opens the ARCHLine.XP® Useful links website: www.archlinexp.com/useful_links

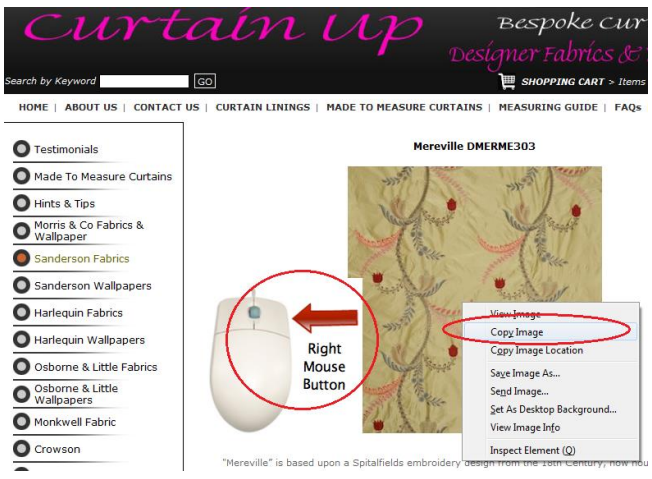


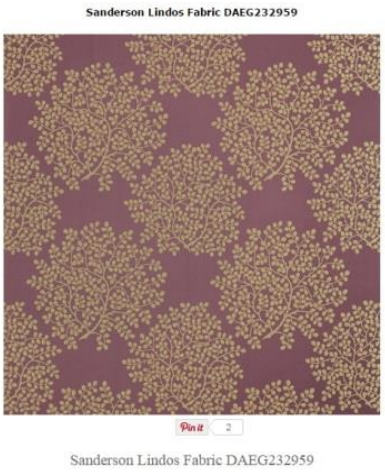
In our example we go to Curtain Up website to select the Sanderson Aegean Fabrics.

The way how to choose the desired fabric pattern:

- You can insert directly the link of the producer website into the browser field or **go to Curtain Up website** to select a Sanderson fabric. Choose Lindos Fabric. Click on the image, it will be enlarged.

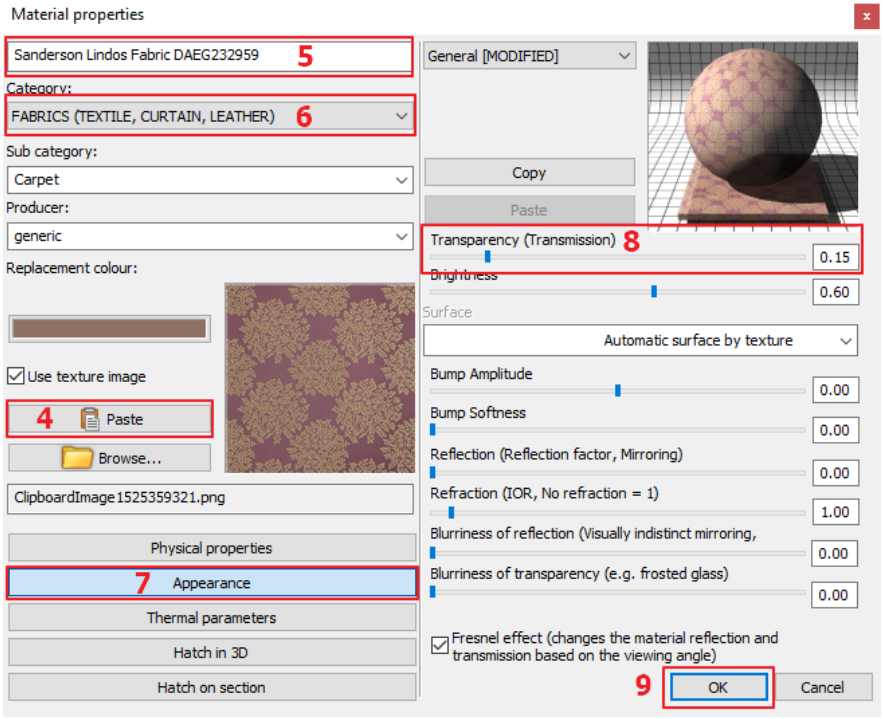
- Now right click on the big image, and choose “Copy image” command.

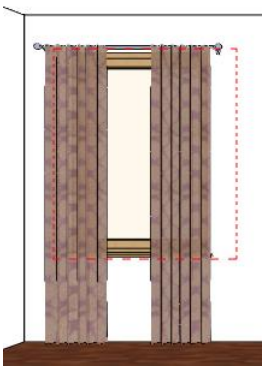




- Return to Room Maker and select New material icon (3).
- Press the Paste button (4). The image will be copied into the dialog.
- Type the name or copy and paste from the website into the name field (5).
- Select the curtain category to qualify the texture quality (6).

- Next set the appearance properties (7): Move the Transparency slider (8) to the left because this fabric is not transparent.
- Click on OK (9) to close the dialog. The new fabric is added to the favourites list in the Room Maker.



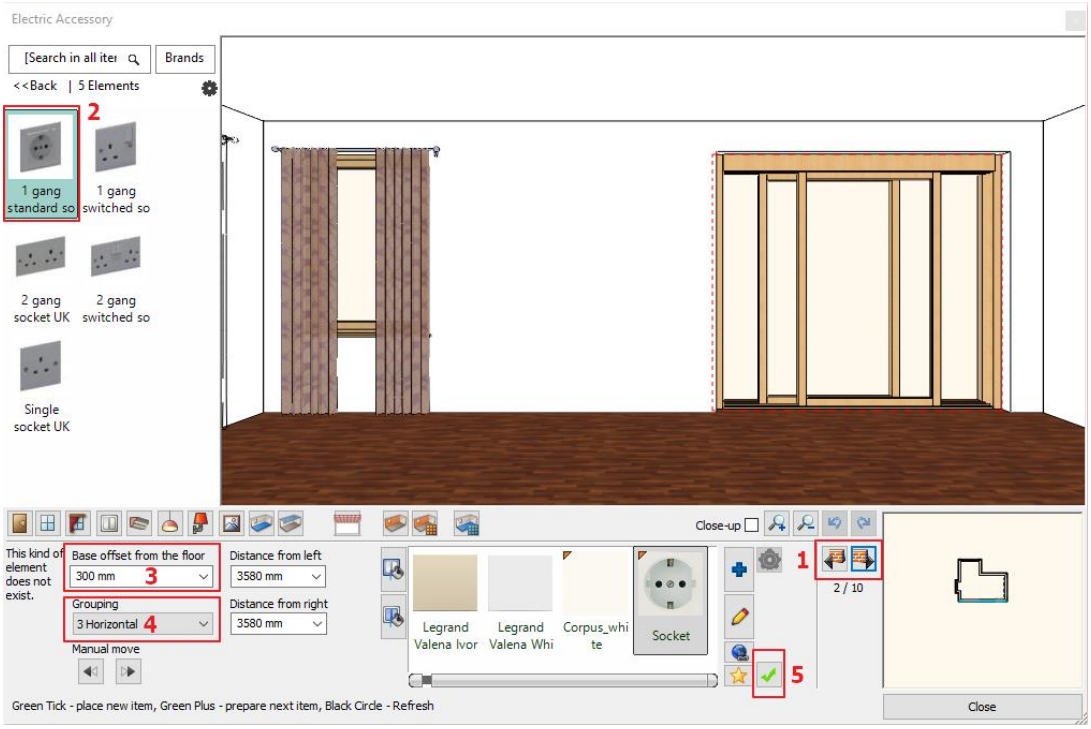


- The curtain takes the new fabric.

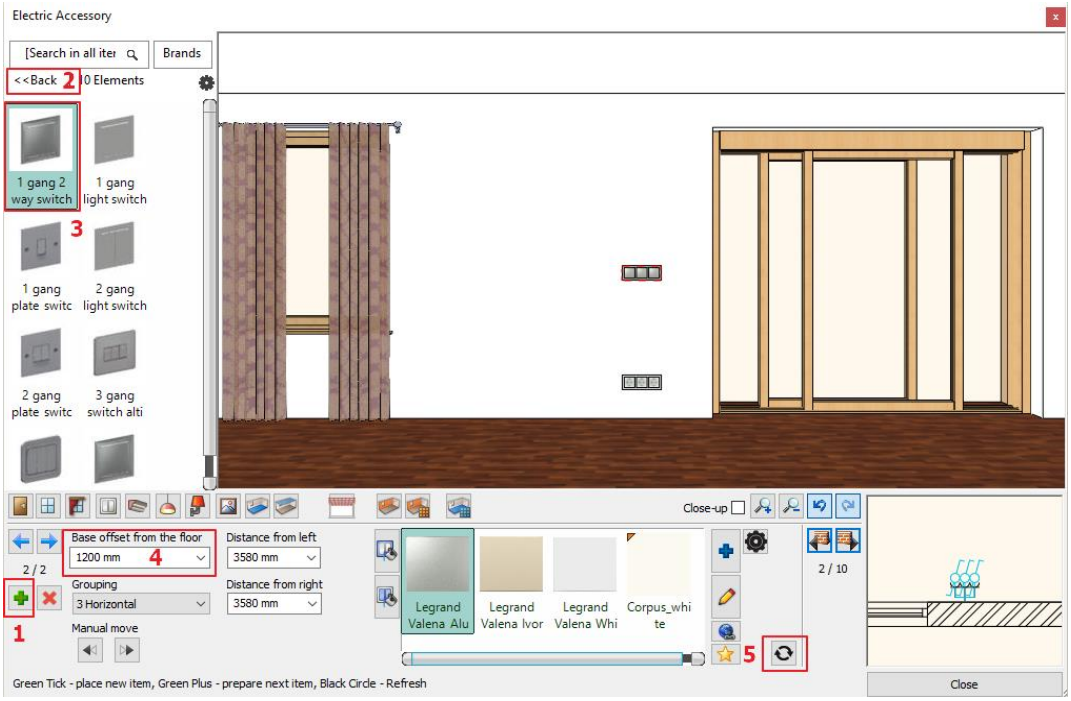
1.4.7. Add Light Switches & Sockets

Select an item and set up the properties of it and place a socket on the wall with length 7160 mm.

- Select the 7160 mm long wall with Wall finder (1).
- In the Type finder-Design Center select Socket outlets and select the “1 gang standard socket” (2).
- Change properties: Base offset from the floor: 300 mm (3).
- Change properties: Grouping 3 Horizontal (4).
- Click on Green tick (5) – The socket is placed on the wall.



- Click the Green Plus button (1).
- Go back (2).
- In the Type finder-Design Center select Switch outlets and select the “1 gang 2 way switch” (3).
- Change properties: Base offset from the floor: 1200 mm (4).
- Click on Refresh button (5) – The switch is placed on the wall.



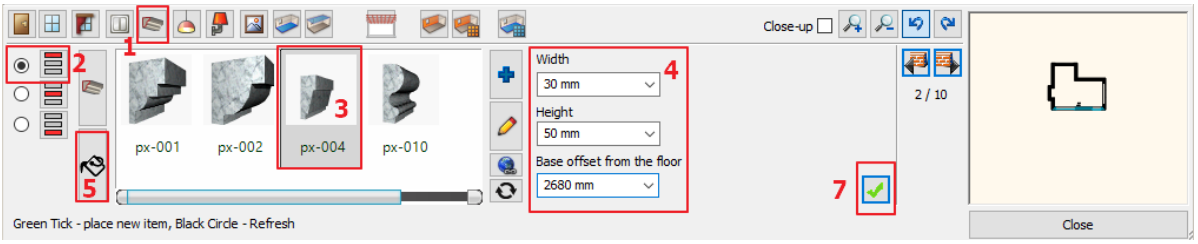
1.4.8. Add Profiles

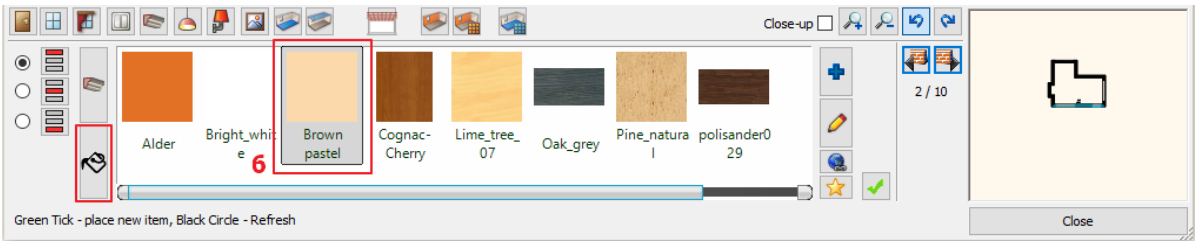
You can add decoration profiles to a room using the "Profiles" page of the Room Maker.
Select a cross section and customize its width, height and the distance from the floor level.

Crown moulding

Place crown moulding that goes around the room.

- Press on the Toolbar the Profiles icon (1).
- Choose the profile option (2).
- Select the “px-004” profile from the favourites (3) and change properties: Width: 30 mm, Height: 50 mm (4), Distance from the floor: 2680 mm.
- Select a material for the profile: Click on the Edit material (5) and select “Brown pastel” (6).
- Click on Green tick (7) – it will place the crown moulding around the room.





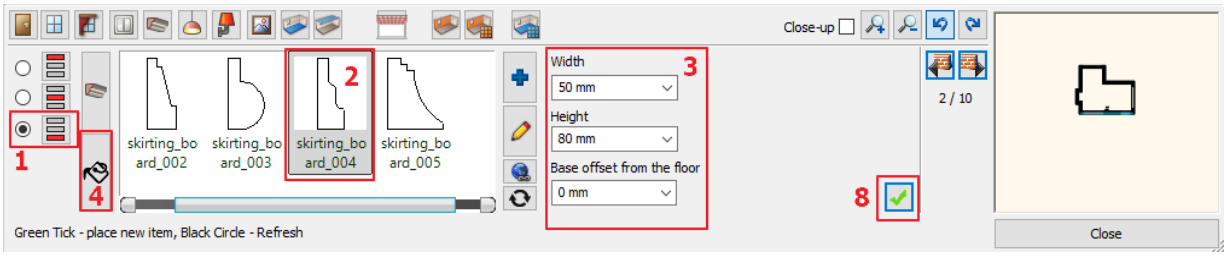
Skirting Board

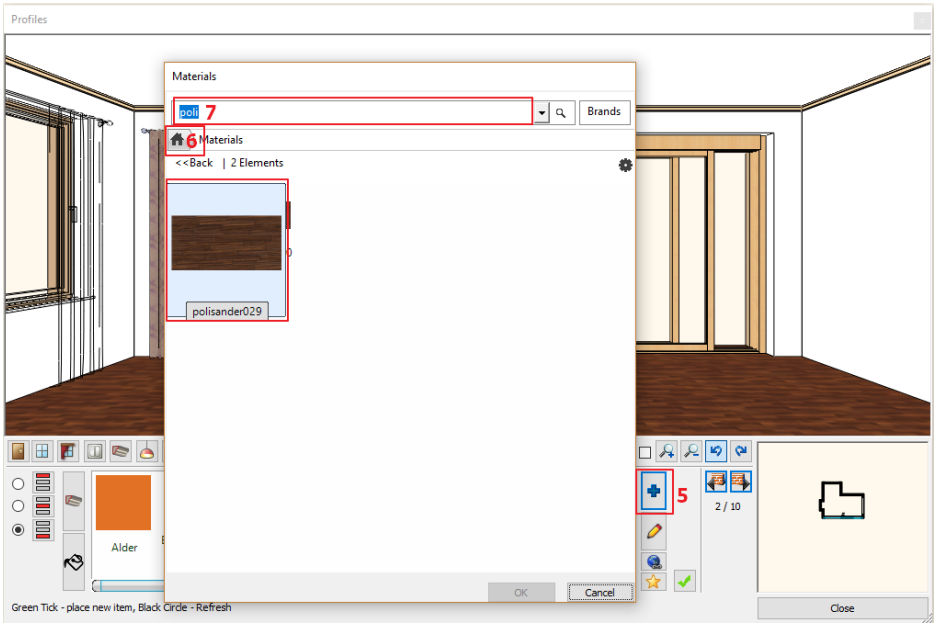
Place skirting board that goes around the room except the doors.

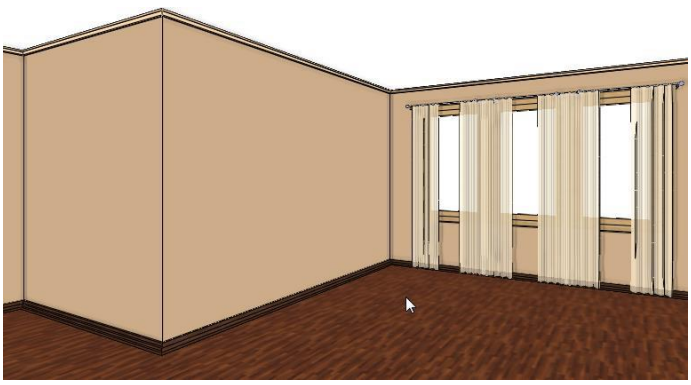
- Click on the Skirting Board icon on the left (1).
- Select the “skirting_board_004” profile from the favourites (2) and change properties: Width: 50 mm; Height: 80 mm, Distance from the floor: 0 mm (3).

Very probably the Polisander_029 is missing from the favourites.

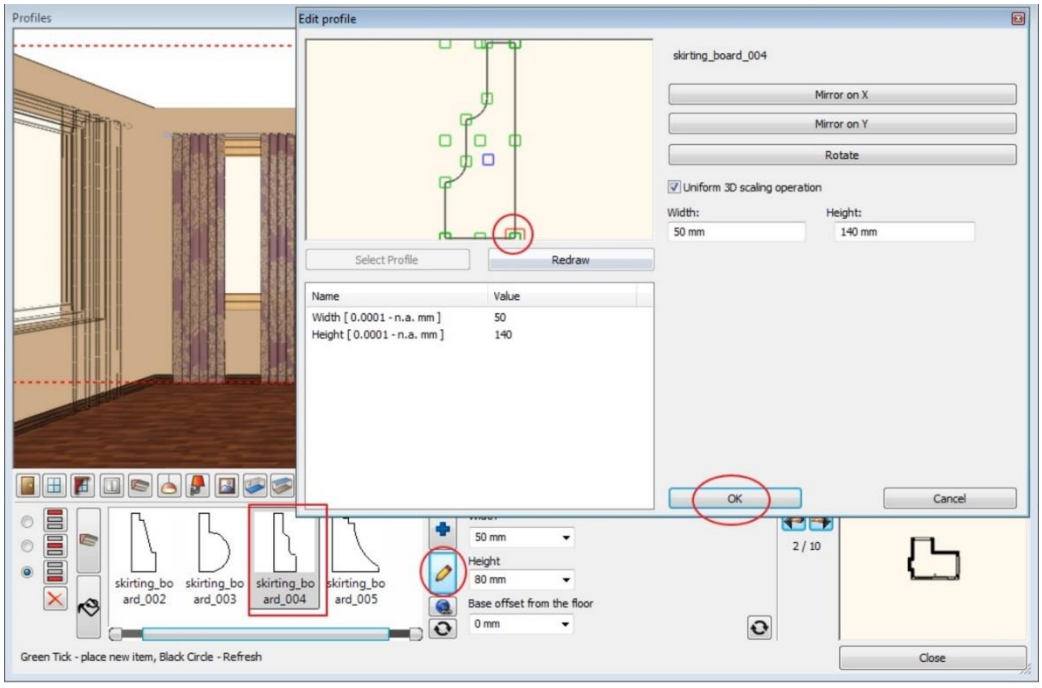
- Click on the Edit material (4) and click on New materials (5) – the Blue plus button.
- You will see the Design Centre that contains all material types. See below.
- Click on the Home button (6) and select the first line as “Search in all categories”.
- Search for the desired material by typing the first part of the material name (7) : Polisander029.
- Select the appropriate material from the list.
- Press OK to close the dialog. The selected texture will be placed in the favourites list in Room Maker.
- Click on Green tick (8) – it will place the skirting board around the room.







Attention!
If you find the skirting board on an improper position you should check the profile reference point. Click on the Edit button (pencil icon) and then click on the right bottom corner of the profile to relocate the reference point (small red square). Click OK to close the dialog.



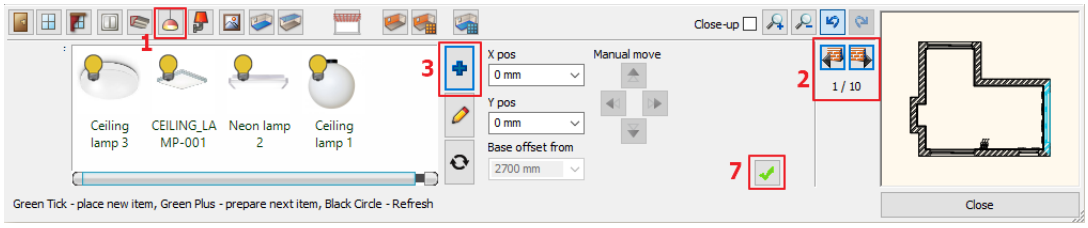
1.4.9. Add Ceiling lamps

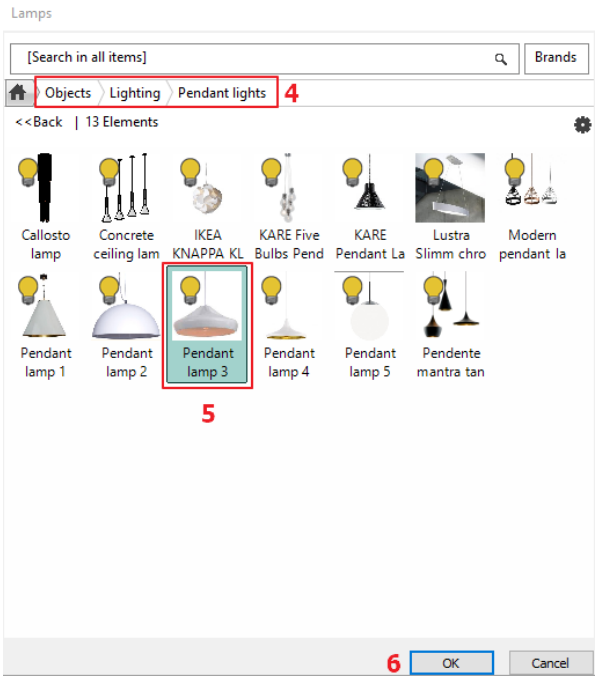
Click on the "Ceiling lamps" page to insert one or more lamps to the ceiling surface.

You can select pre-defined lamps from the libraries of ARCHLine.XP and of course you can also import or create a completely new one.

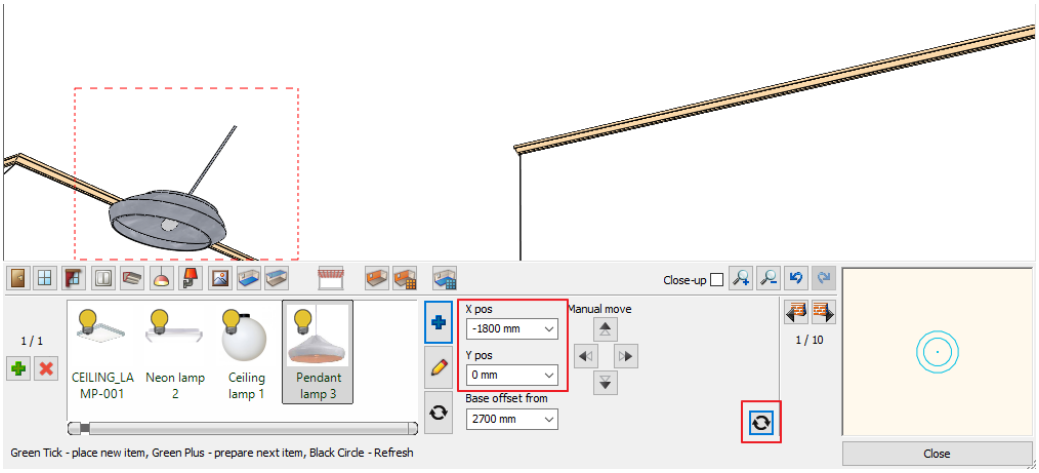
Place lamp on ceiling.

- Press on the Toolbar the Ceiling lamps icon (1).
- Select the 3900 mm long wall with Wall finder (2).
- The “Pendant lamp 3” is missing from the favourites so must find it with pressing the Blue plus button (3).
- Search in the object library**: Object / Lighting / Pedant lights** (4) and ‘”Pendant lamp 3” (5) than click on OK (6).
- Click on Green tick (7) – it will place the lamp on the ceiling.

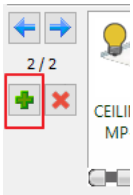




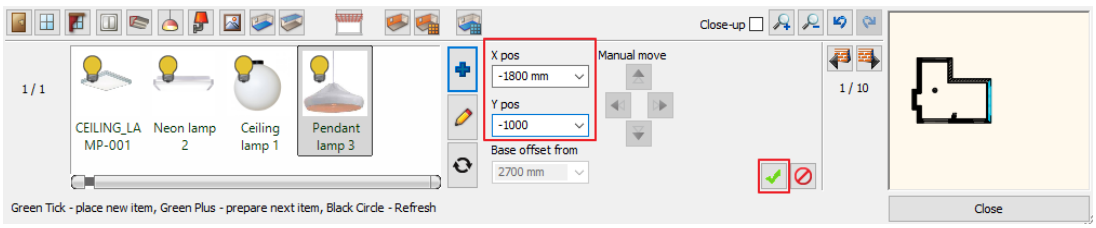
- Change the lamp X position: -1800 mm, Y position: 0 mm.
- Click on Refresh button – it will relocate the lamp on the ceiling.



- Add another lamp: Press the Green Plus to prepare the next lamp:

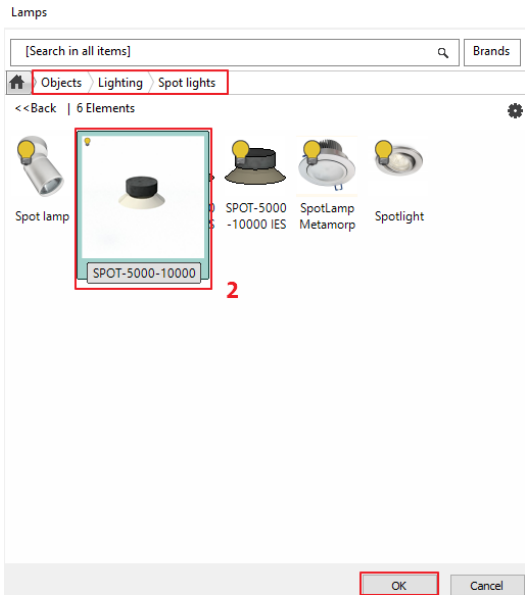


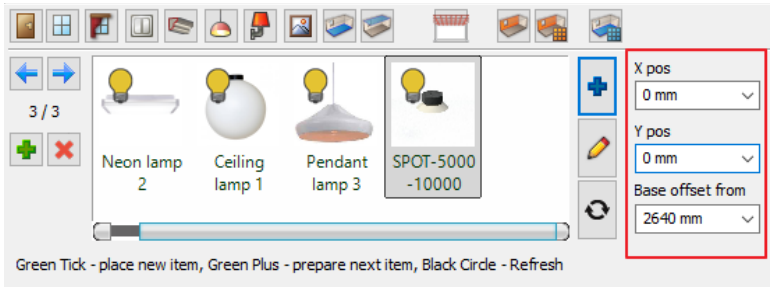
- X position: -1800 mm, Y position: -1000 mm.
- Click on Green tick – it will place the second lamp on the ceiling.



Add a Spot lamp

- To add another one, just click on the "Insert new" button Press the Green Plus (1).
- Choose the “Spot-5000-10000” from the favourite (2).
- Set the position: 0 mm, 0 mm and
- Click on Green tick – it is placed in centre of the ceiling.

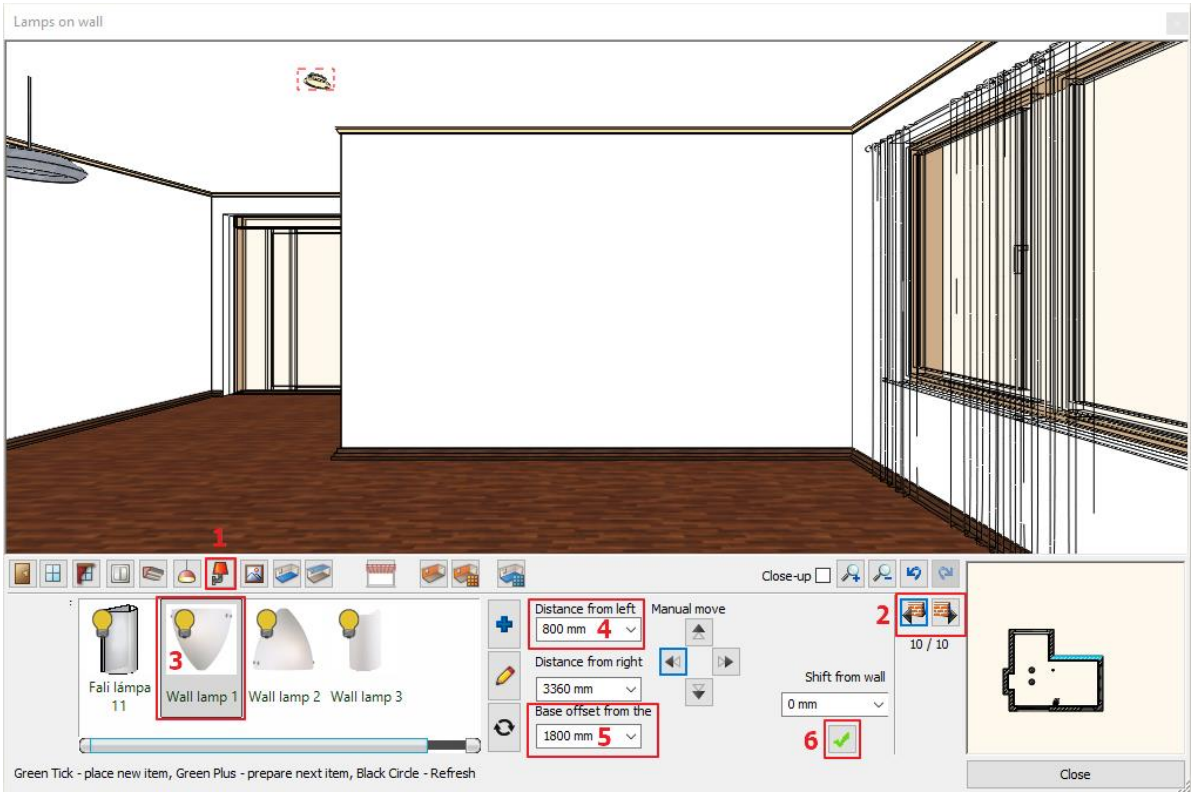




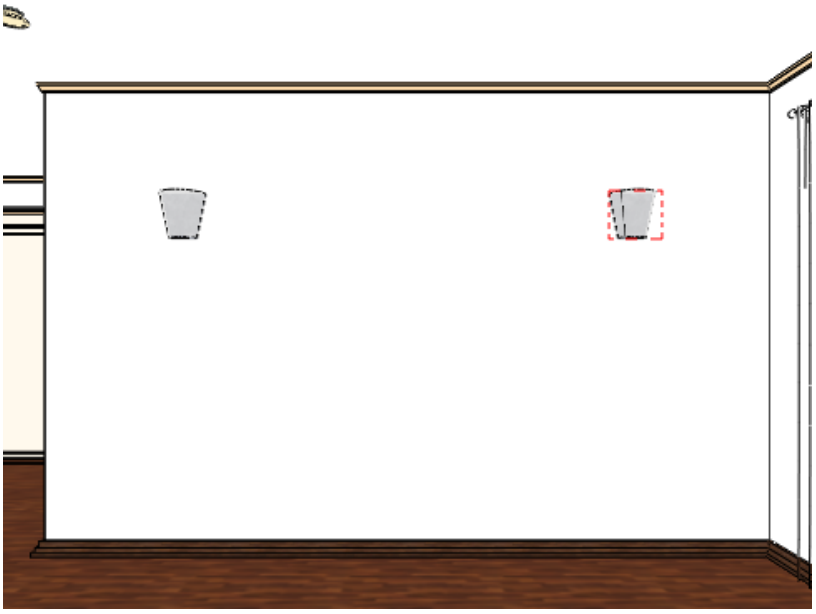
1.4.10. Add Wall lamps

Similar to the ceiling luminaires you can position lamps on the surface of the selected wall.
Change the distance from the wall corners and from the floor level and create the lamp.

- Press on the Toolbar the Wall lamps icon (1).
- Select the side wall marked as (2) with Wall finder (2).
- Choose ”Wall Lamp 1” (3) from the favourites and change properties: Distance from left: 800 mm (4), Distance from floor: 1800 mm (5).
- Click on Green tick (6) – it is placed on the wall.



- Press the Green Plus to prepare the next light: Distance from right: 800 mm.
- Click on Green tick– it will place the next lamp on the wall.



1.4.11. Add Painting

Place pictures, posters and other decorative panels on the wall surfaces.

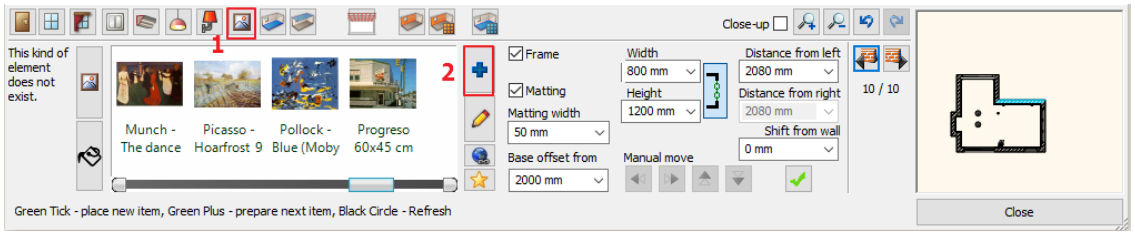
1st Picture:

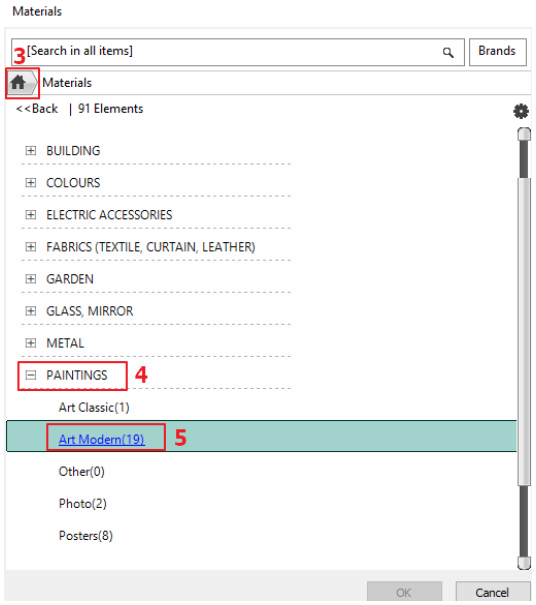
- Press on The Toolbar the Picture on wall icon (1).
- Choose ”Ship” from the favourites.

Very probably the Ship is missing from the favourites.

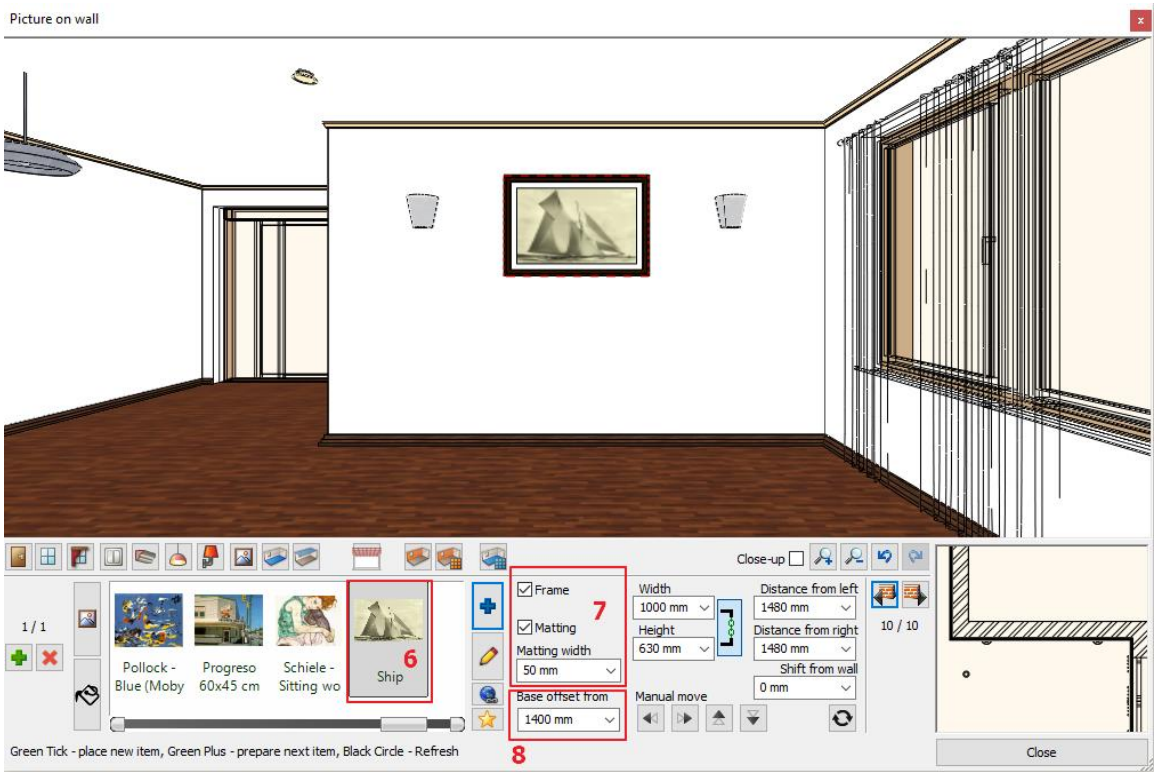
- Click on the New materials – the Blue plus button (2).

- You will see the Design Centre that contains all material types.
- Click on the Home button (3) and select the first line as “Paintings” (4).
- Select the Art Modern category (5): Ship.
- Click on the marked type in the search result list.
- Press OK to close the dialog. The selected texture will be placed in the favourites list in Room Maker (6).





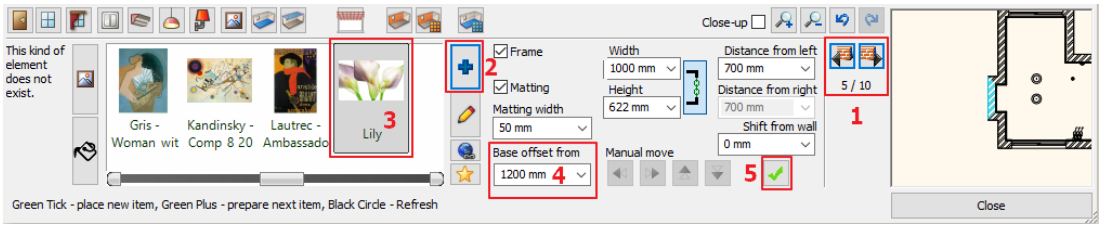
- Change properties: Frame: ON, Matting: ON, Matting width 50 mm (7).
- Change the Base offset from value to 1400 mm (8) and click on the "Create" button.

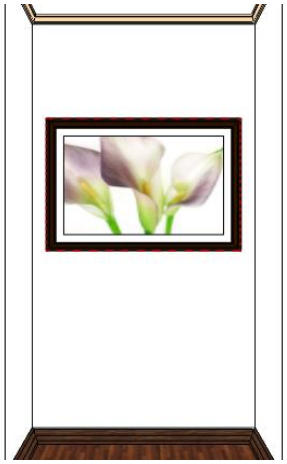


Navigate to another wall to hang another image on it.
Import a painting or browse an existing one and select it.

2nd Picture:

- Place another painting on the wall with the length 1400 mm. Select this wall with clicking on the Wall finder button (1).
- Choose “Lily” (3) from the library (2) and change properties:
- Change the Base offset from value to 1200 mm (4) and click on the "Create" button (5).

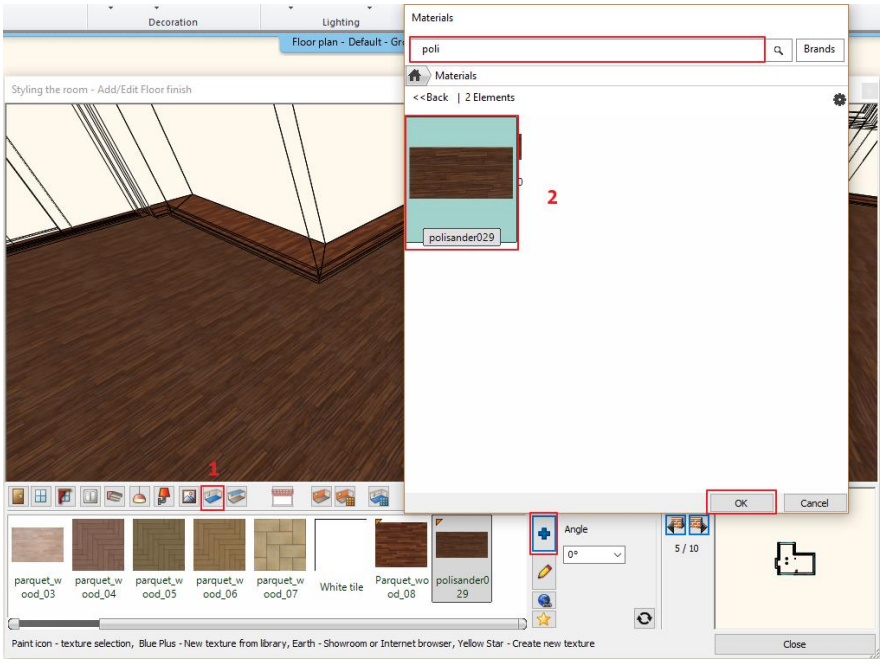




1.4.12. Finishing Touches - Floor

The floor material is very simple to change: just select a material and it automatically appears on the floor surface.

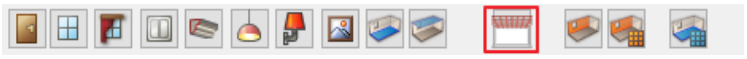
- Press on the Toolbar the Add/Edit Floor finish icon (1).
- Choose “polisander029” (2) from the library. It will apply the selected material on the floor.



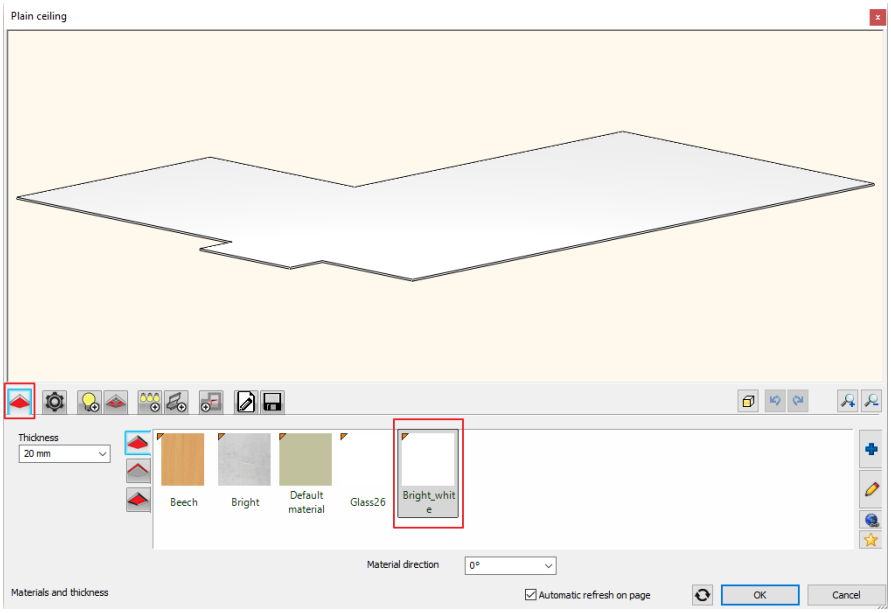
1.4.13. Finishing Touches – Ceiling

The same way you can change the ceiling material as well.

- The command is very similar to floor material. Press on the Toolbar the Ceiling Material icon.



- Click on the Modify command .

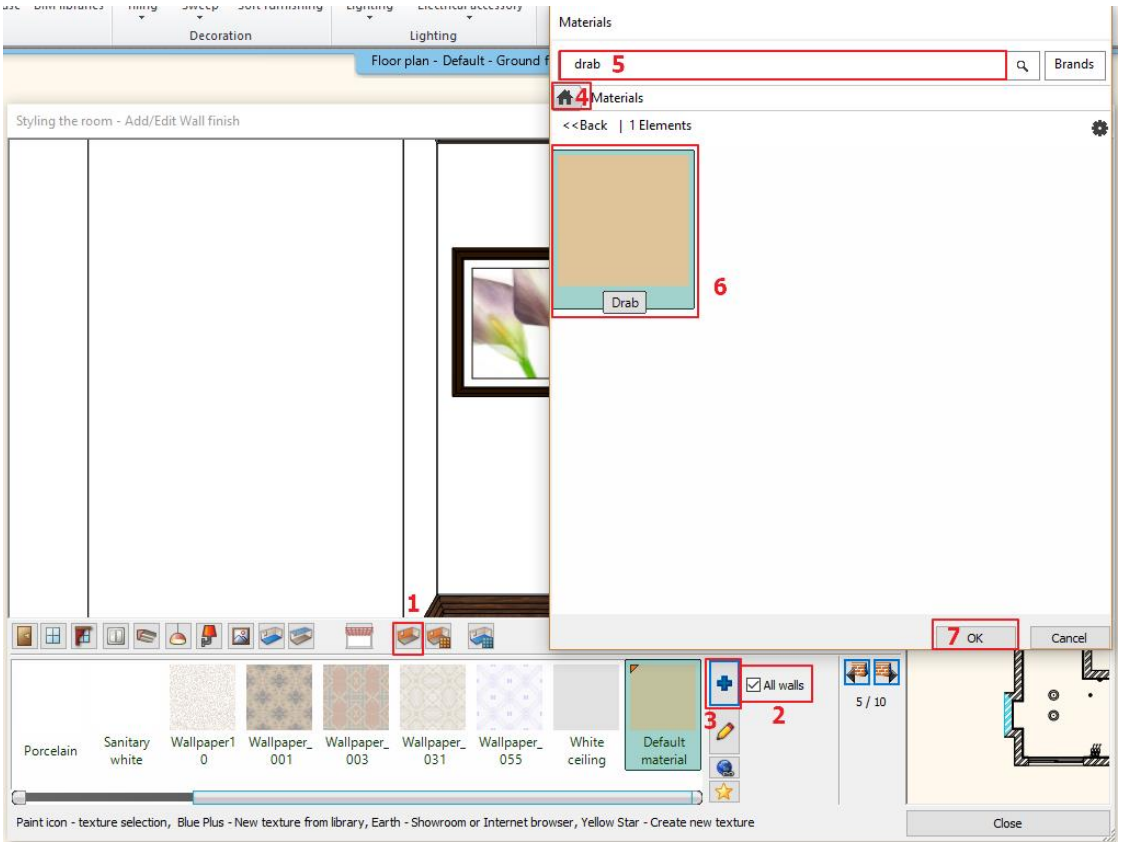


It will apply the selected material on the ceiling.

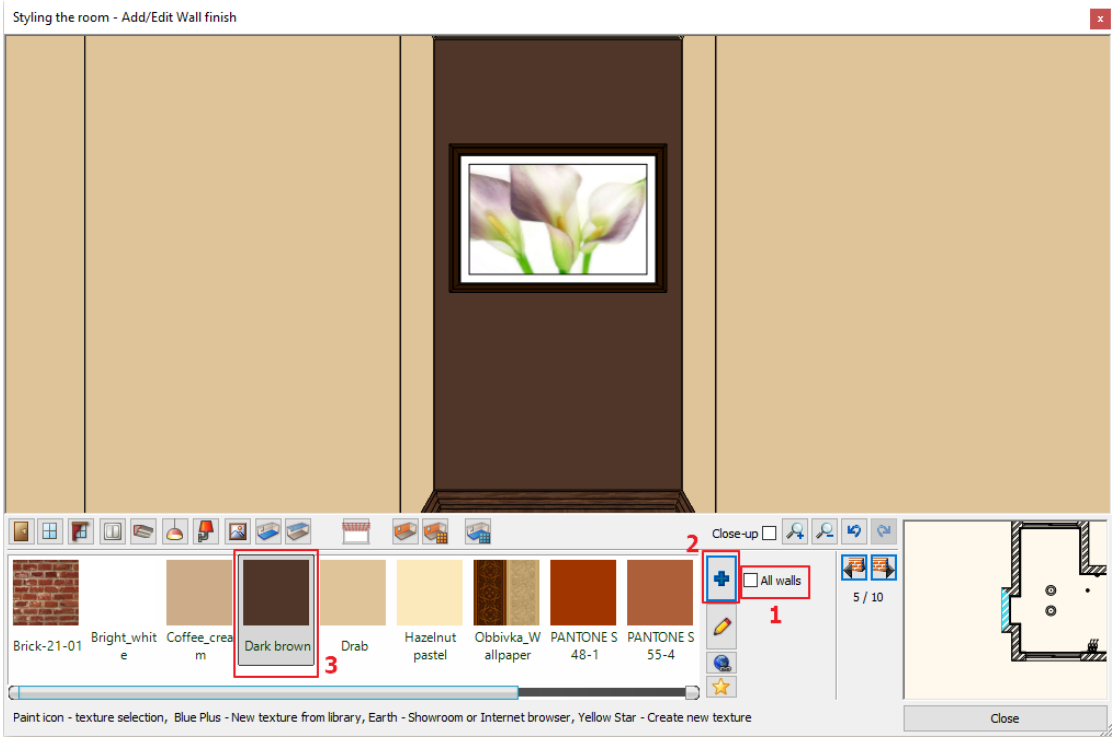
1.4.14. Finishing Touches – Walls

Walls can be changed one by one or all at the same time.
We are going to set “Drab” colour for all walls after that set “Dark brown” colour for the wall with the painting of the Lily.

- Press on the Toolbar / Add / Edit Wall finish icon (1).
- Enable the "All walls" option (2).
- Select a colour that is probably missing from favourites. Click on the Blue plus button (3). You will see the Design Centre with all textures.
- Click on the Home button (4).
- Type the name in the search field: Drab (5).
- Click on the marked item “Drab” in the search result list (6).
- Press OK to close the dialog (7). The selected texture will be placed in the favourites list in Room Maker and will be applied to all wall right away.



- Switch off the "All walls" option (1).
- Select “Dark brown” colour that is probably missing from favourites. Click on the Blue plus button (2). You will see the Design Centre with all textures.
- Click on the Home button. Type the name partly in the search field: Dark.
- Click on the marked item “Dark brown” in the search result list.
- Press OK to close the dialog. The selected texture will be placed in the favourites list (3) in Room Maker and will be applied to the wall right away.



- Close the Room Maker to finish the work.

1.5. Perspective 3D views

Now you have a detailed 2D drawing and the 3D model of it.

- Click on the 3D model window and the "Magnify Window" button of the Navigation bar to enlarge the model.

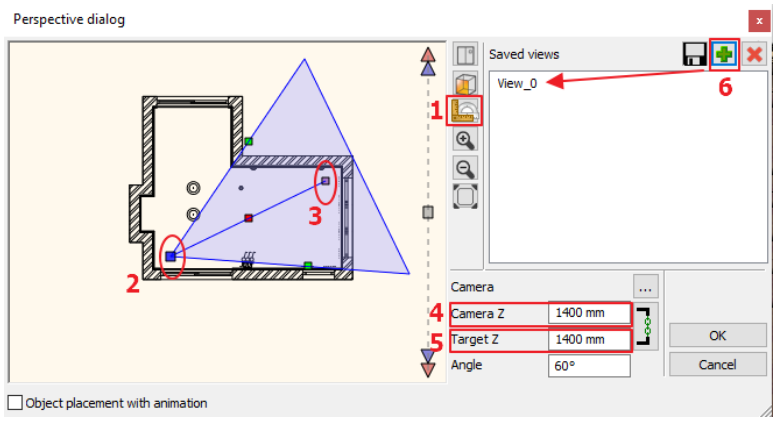
- Similar to the 2D content you can pan and zoom the 3D content as well.

It is recommended to save some perspective views now. These saved views make easier later to overview your room inside.

- Click on the Navibar Perspective view icon. Define and save 2 views in the upcoming dialog.

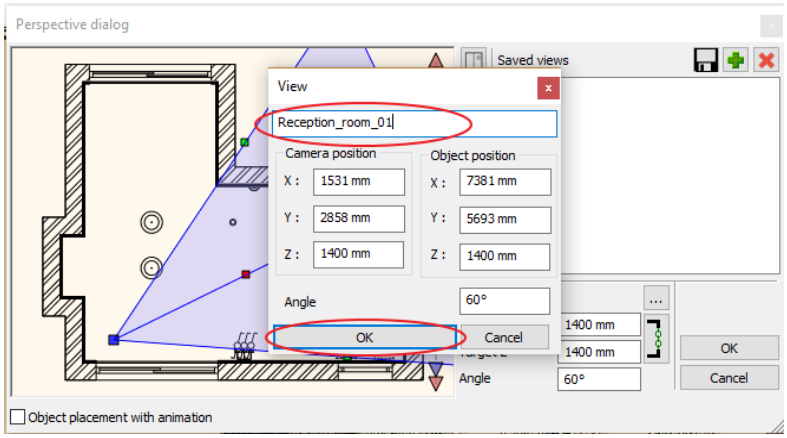
Perspective view dialog

- Click on the floor plan icon (1) below.
- Then click on the camera point (2) and drag it near to the room bottom left corner.
- Now click on the target point (3) and drag it near to the opposite corner.
- Set up these elevation values in the dialog: Camera Z: 1400 mm (4) and Target Z: 1400 mm (5).



When you are ready click on the green plus sign and the view is saved with the name View_0 (6).

- Repeat it once again to define other perspective view. Save it again with green plus.
- Clicking on twice to the name and you can rename the view. Press OK to close the dialog.



Later you can navigate through your saved views easily clicking on the blue arrows:

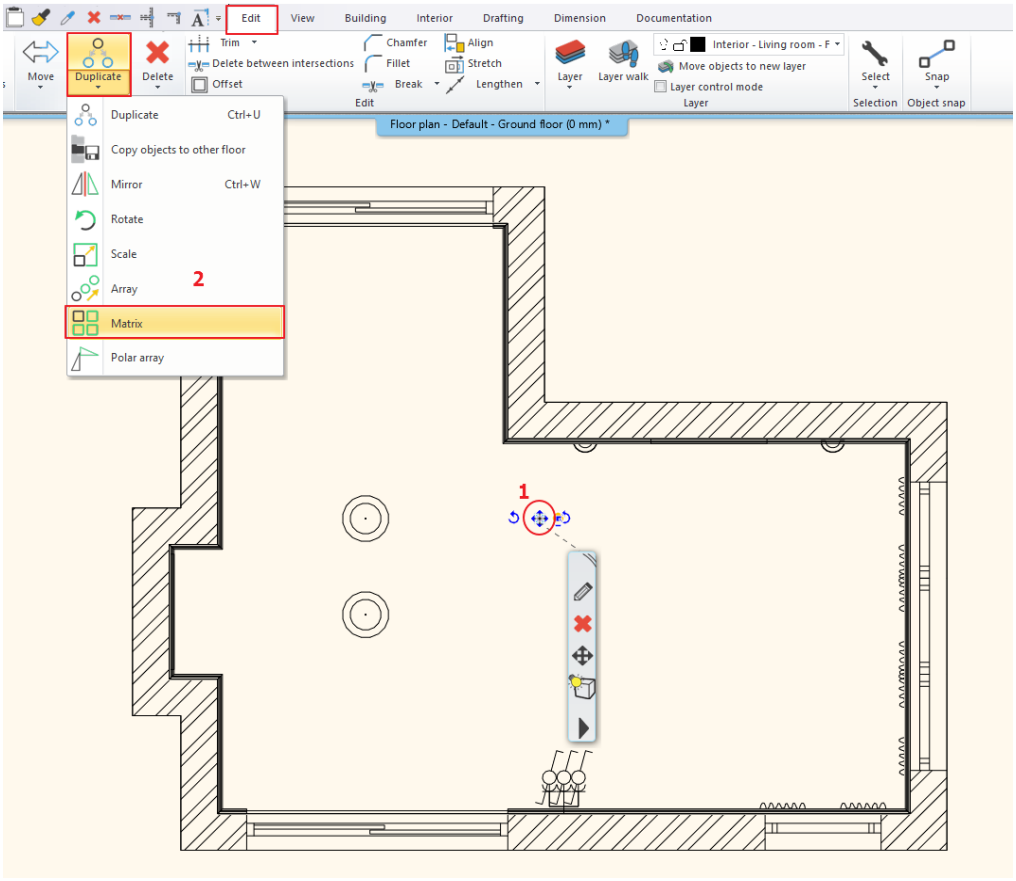
1.6. Lights editing - create copy

Activate and enlarge the 2D drawing when you would like to work on it.

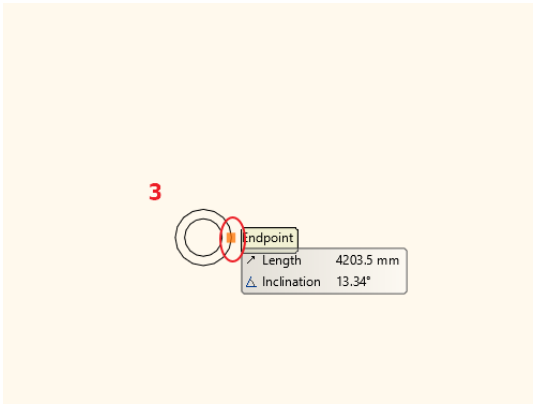
When you click on any drawing item (a wall or a lamp for example) it will be selected. Selected items are represented with different colour and you can see the floating menu bar and a few makers around them. If you click on a node marker you can move or make a copy of the selected lamp for example. Just move the mouse to the desired direction and type the distance and hit the Enter key.

In our example we will use other method to create the copy of the lamp. We will create the 5 copy of the Spot lamp in one step:

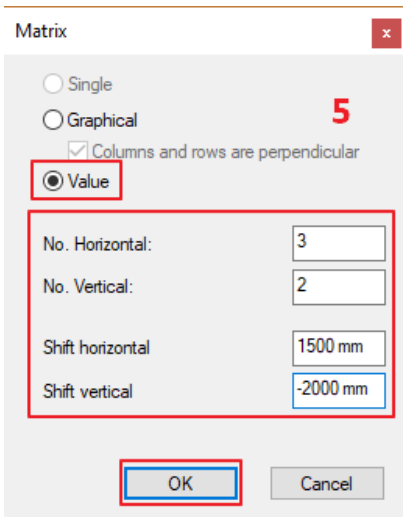
- When the Spot lamp is selected (1) click on the **Ribbon Bar / Edit / Duplicate / Matrix** command (2).



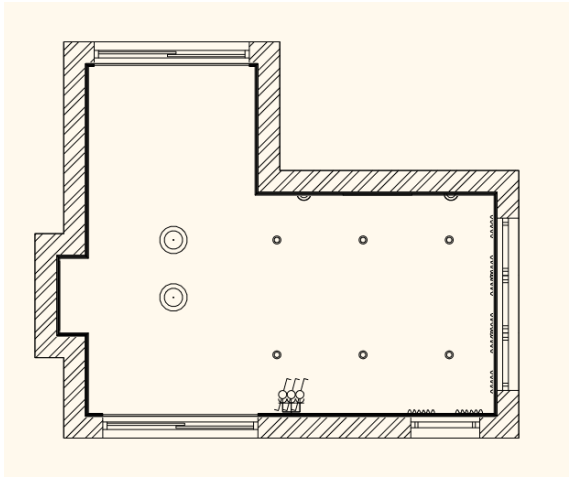
- Click on the endpoint of the lamp (3). This point will be the base point of the displacement.



- In the dialog choose the Value option.
- Set the No. horizontal: 3, and No. of vertical: 2.
- The distance between the lamps 1500 mm and -2000 mm (5). OK.



- Move the cursor to the right to define the horizontal direction.
  Other 5 lamps will be placed.

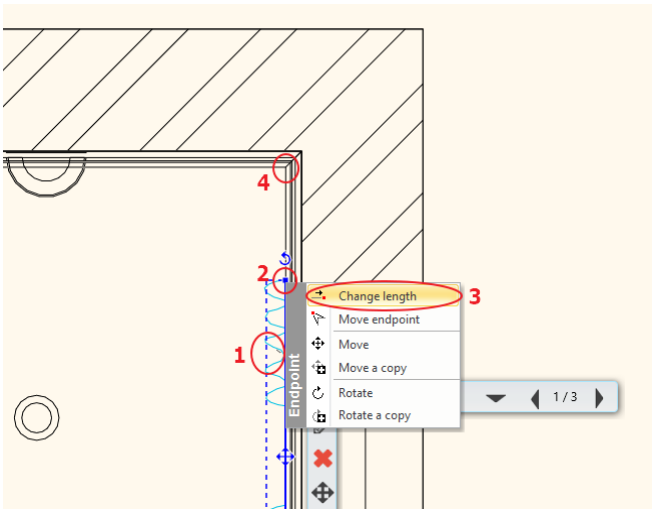


1.7. Curtain editing

We are going to change the width of the curtain in order to cover the wall from the corner to the corner.

- Zoom in the floor plan focusing on the curtains and click on the first curtain (1).
- The curtain is highlighted now. Click on the blue dot marker on the top (2). Select the "**Change length"** command from the upcoming menu (3).
- Extend the curtain till the wall corner (4).
- Repeat the command for the last curtain to extend it till the opposite wall corner.

Your screen should look as follows:



1.8. Furniture

Now we will furnish the room.

On the left hand side you can find the Design Center. In the Design Center you can find building parts, groups, symbols, objects, furniture, materials and many more for your design.

You can browse the libraries or search an item by using the search field. Select an item to see the details of it.

The list of Furniture's to search in the Object library:

Cabinet 01, Carpet 05, Silla chair, Coffee table 05, Glass eating table, Sofa 06, Sofa 05, TV stand, Vase01, Reading Lamp, Pillow, Flower 2, Candle11, Bamboo, NEG TV Te1

Place Furniture:

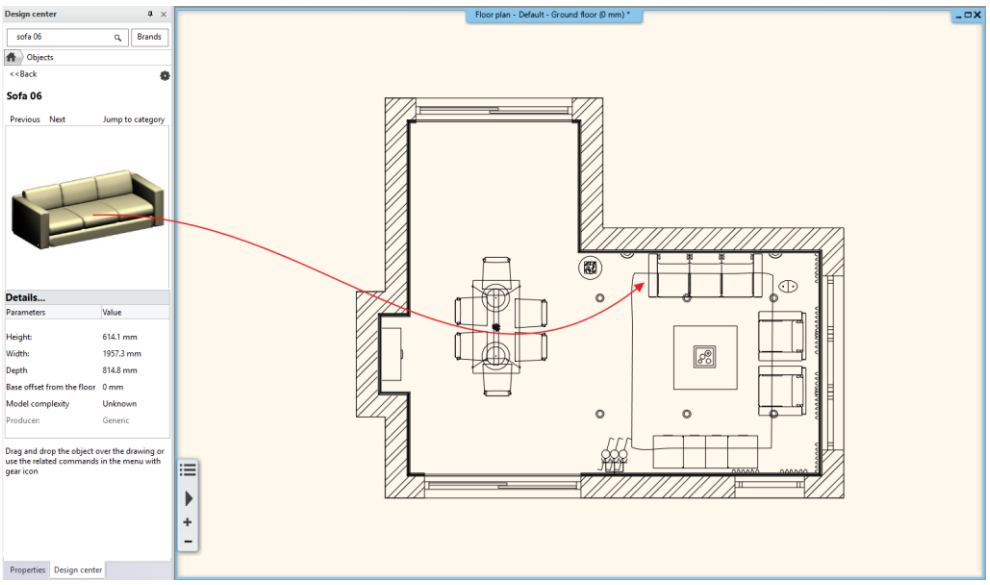
We will place furniture from the Object library of Design Center to the floor plan using the drag and drop method.

Place the sofa

- Click on the Design Center tab and Objects – and search for Sofa 06.
- Click on the *Sofa 06* - The details of the sofa appear.

Before place the object you have to check and set the elevation of it from the floor.

- The sofa elevation should be 0 mm.
- Click on it and place it on the floor plan using drag and drop method. Enter.



The basic sequence of drag-and-drop is:

- Move the mouse to the object.
- Press, and hold down the left button on the mouse, to "grab" the furniture.
- "Drag" the furniture to the desired location.
- Release the left button.
- Move the cursor on the right position and click.

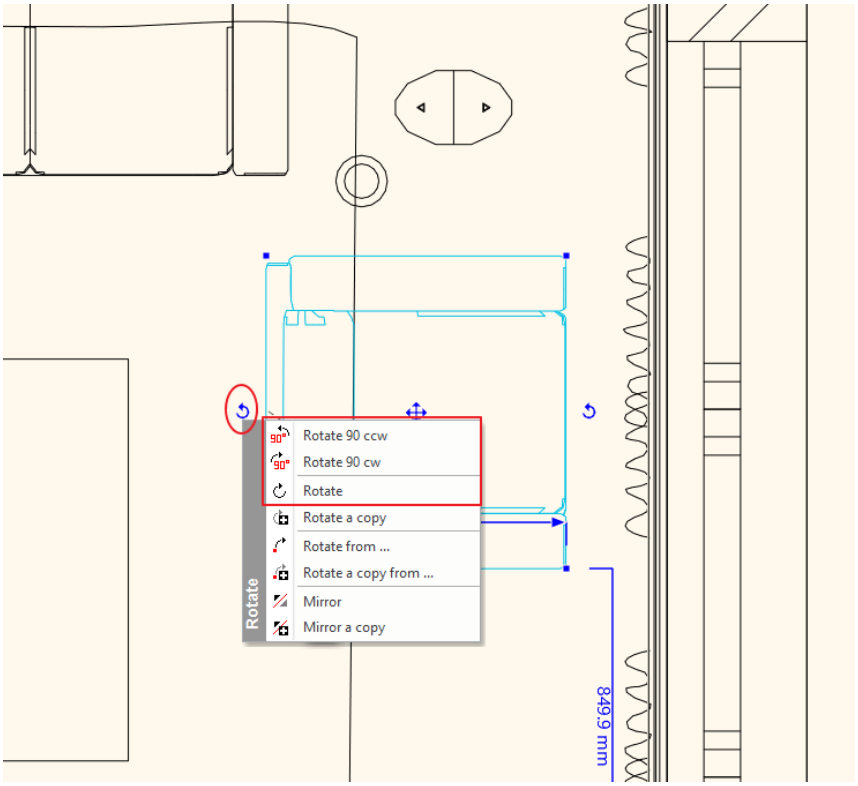
Find and drag and drop other items on your drawing.

Editing furniture

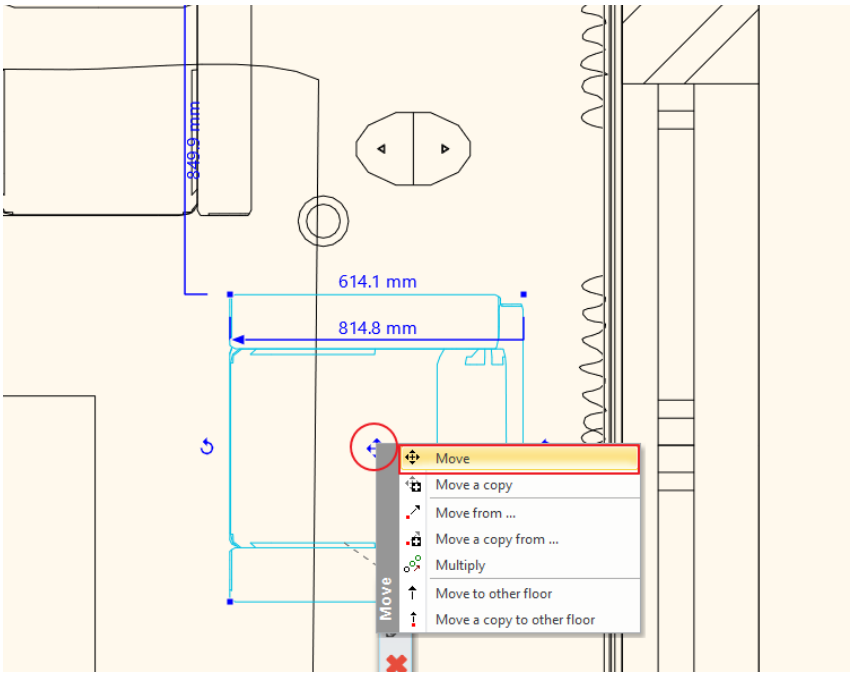
Now, we will rotate and move the furniture to the appropriate place on the floor plan.

We will rotate the armchair by 180 degrees:

- Click on the armchair. The armchair is highlighted now. Click on the rotation marker. Select the *Rotate* command from the upcoming menu.
- Rotate it graphically by 180 degrees.
- The armchair will be rotated.

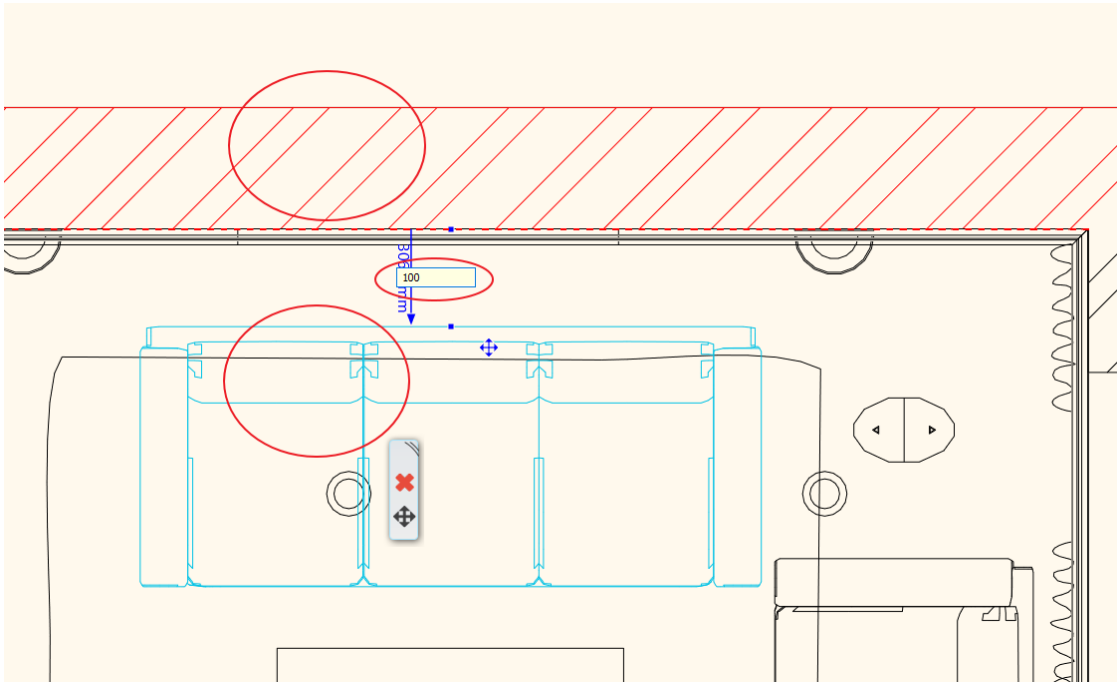


- Click again on the armchair.
- Click on the *Move marker*.
- Choose the *Move* command and move it on the right place near to the wall.



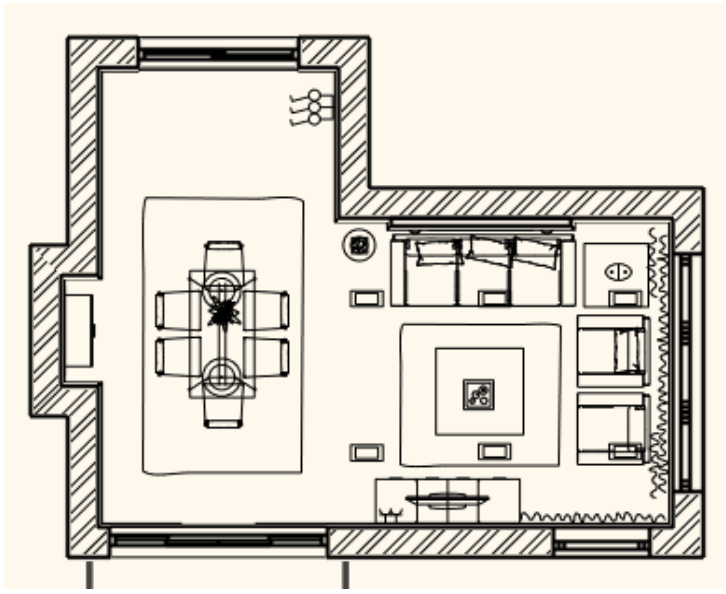
Now we are going to move the sofa 100 mm from the wall:

- Click on the wall.
- Press the CTRL key, hold it and click on the sofa. The wall colour is red and the sofa colour is blue. It means the distance will be calculated from the wall and the sofa (blue element) will be moved.
- Click on the dimension text and
- Type 100 mm. Enter.



- Continue the previous method for other furniture to place them to the right place.

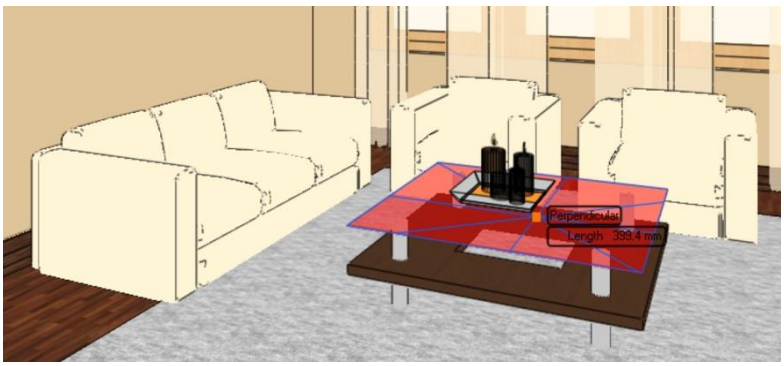
  Your screen should look as follows:



Place Objects in 3D:

- To place an object on an existing 3D surface first activate the 3D window.
- Find an object and drag and drop it into the 3D view.
- ARCHLine.XP recognizes the 3D surfaces.
- Click on a surface where you would like to place your object.
- Move the object and click again to place it.

  Repeat these steps to bring even more objects into the 3D interior.



1.9. Documentation

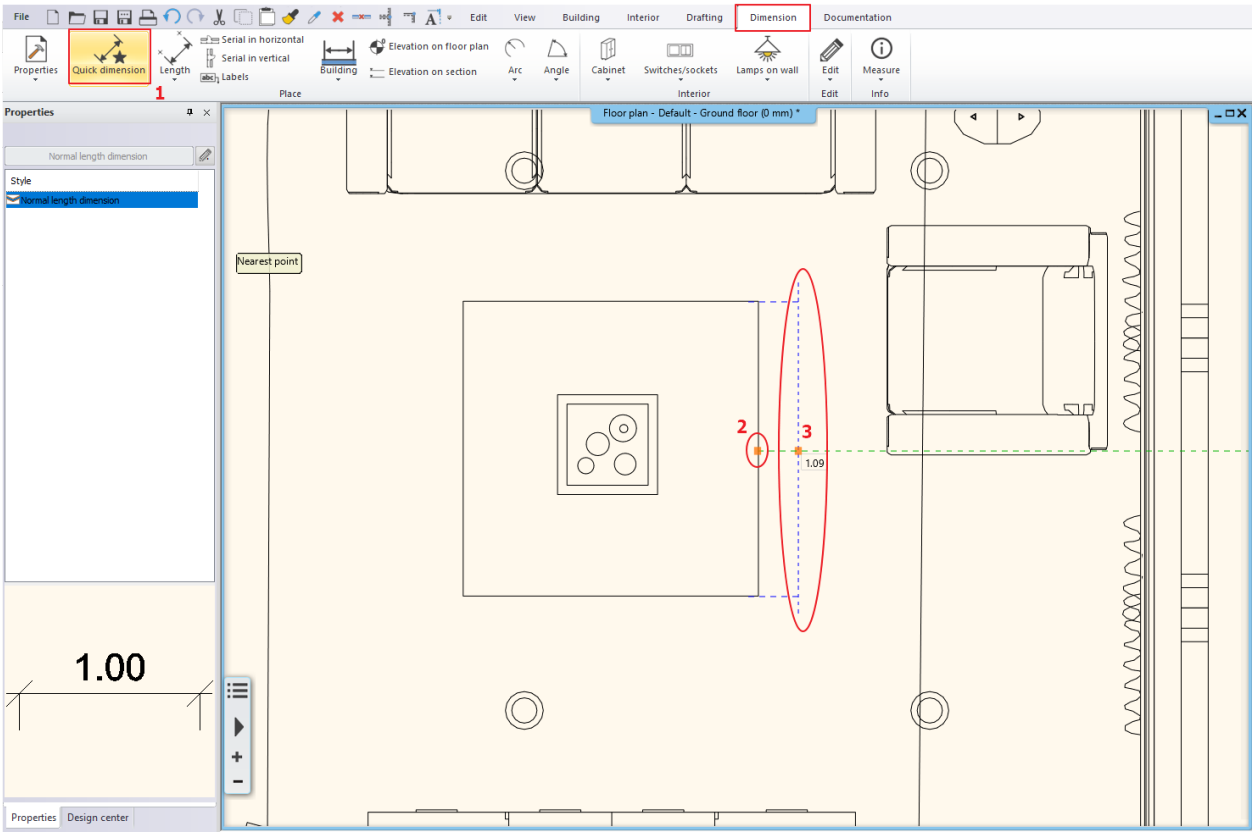
So far, we prepared the (2D) floor plan and the 3D model of our furnished room. We continue our design with the documentation. For this we will need the dimensioned floor plan and wall elevation views, or a textured floor plan.

1.9.1. Dimension

Quick Dimensions:

To measure different elements independently we use the “Quick dimension” from the “Dimension tool”.

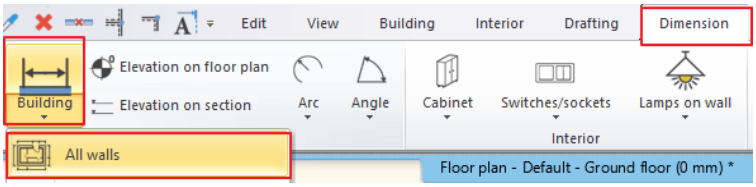
- Choose the **Ribbon Bar / Dimension / Quick Dimension** command (1).
- First click on the element (2) and place the dimension line (3).



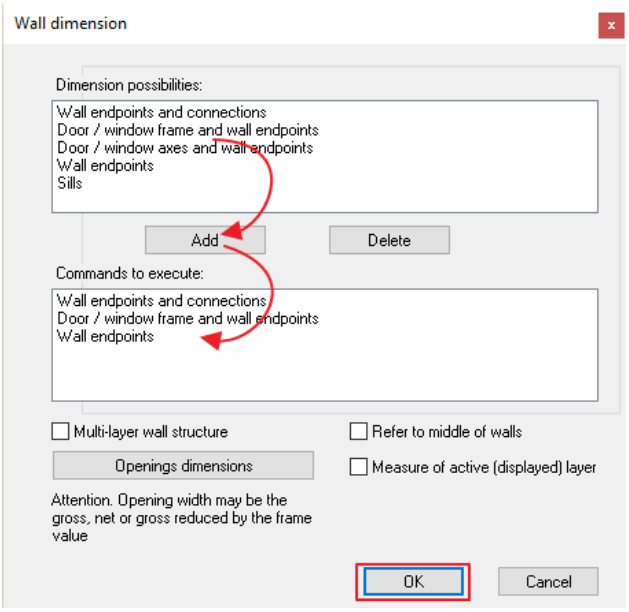
Wall dimension

Now we create all walls and openings dimension in one step.

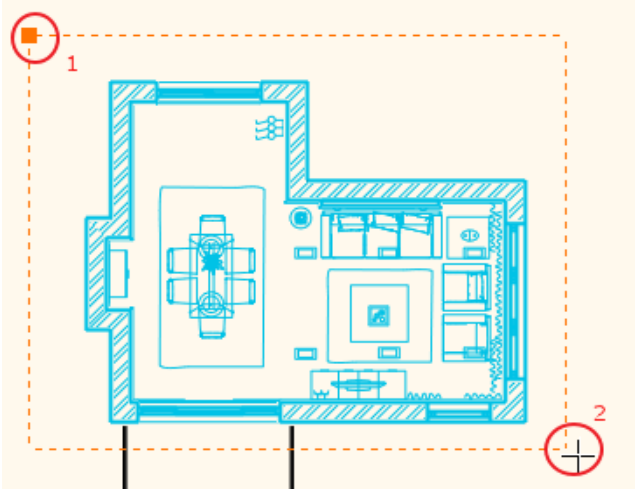
- Open in the **Ribbon Bar / Dimension / Building** menu and choose “All Walls” command.

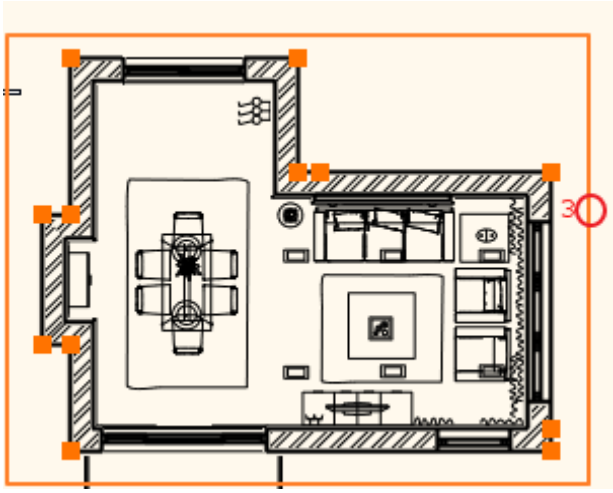


Start the "Wall dimension" tool and select the dimensions that you would like to create.

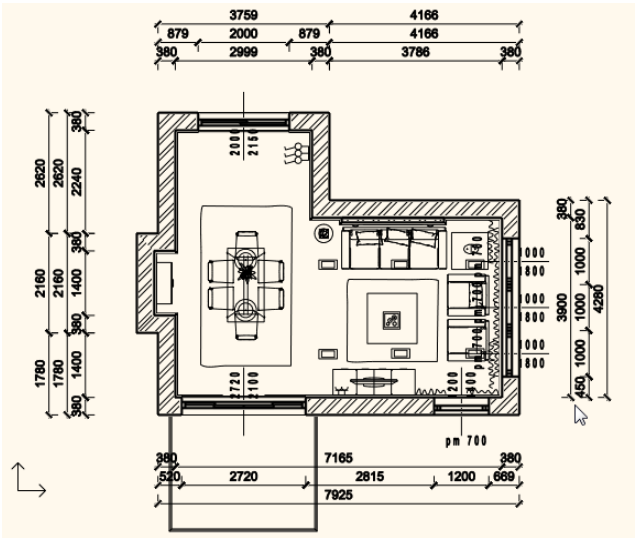


- Add them to the list and click OK.
- Zoom in the floor plan focusing on the room and select all items with two clicks that forms an enclosing box around all (1,2).
- Press ENTER.
- Now move your mouse to position the first dimension string and click again (3).





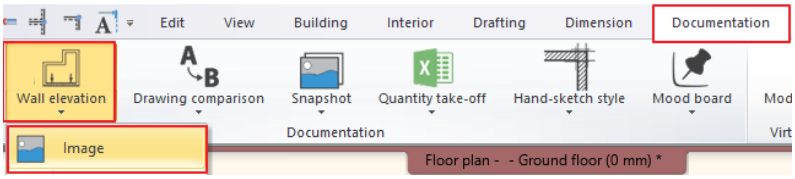
- Your screen should look as follows:



1.9.2. Wall elevation view

We are going to create coloured visualization of the wall elevation view.

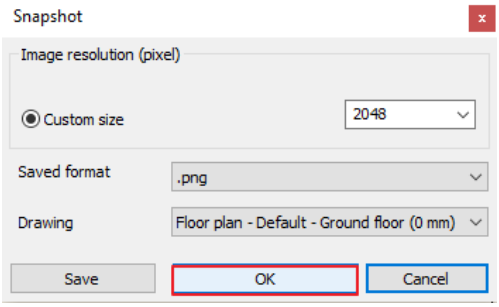
- Click on the **Ribbon Bar / Documentation / Wall elevation / Image** command



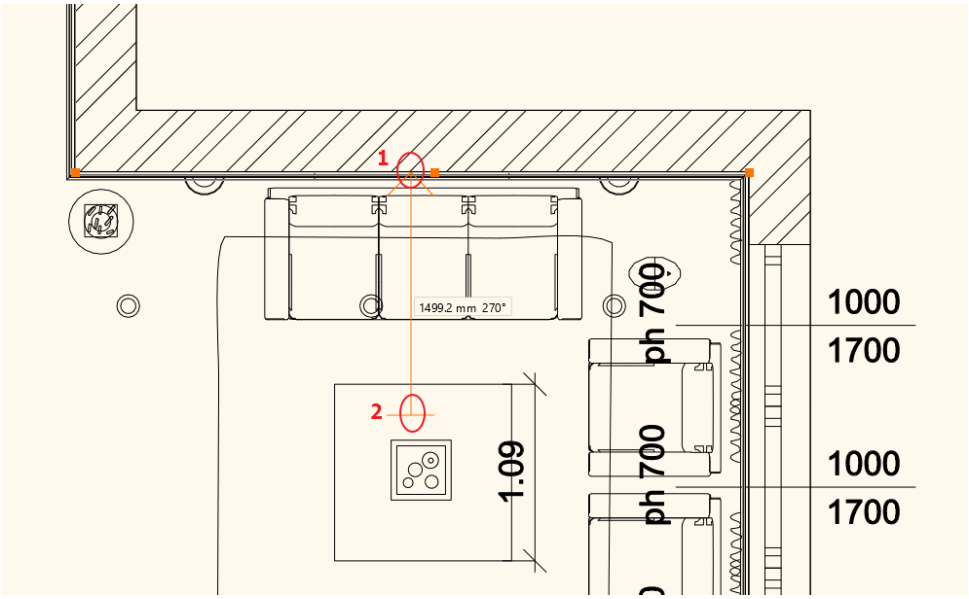
.

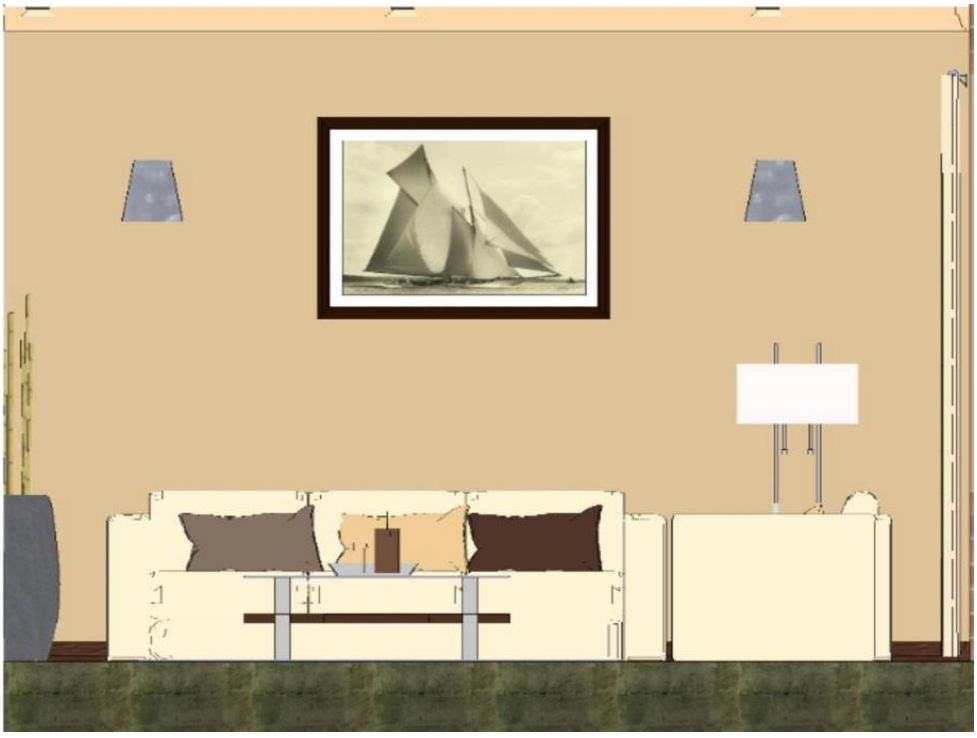
- Click on the internal part of the wall (1).
- Move the orange arrow and click on the desired point (2). The blue rectangle appears.
- Click on the Enter.

- The Snapshot dialog appears. Click OK.



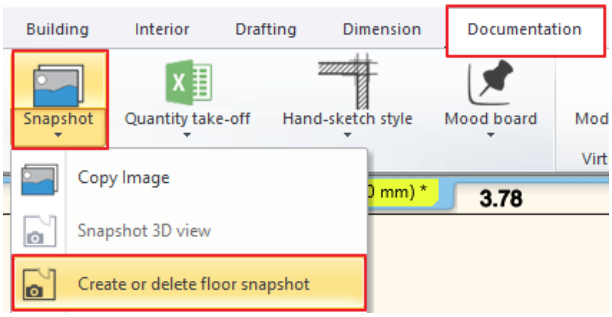
- The wall view is placed. Clicking on the image boundary move it on the appropriate place.
- Repeat the previous method for all walls.
- Use the dimension command to quote it.





Create coloured floor snapshot

- To visualize the floorplan with texture choose the **Ribbon Bar / Documentation / Snapshot / Create or delete floor snapshot** command.

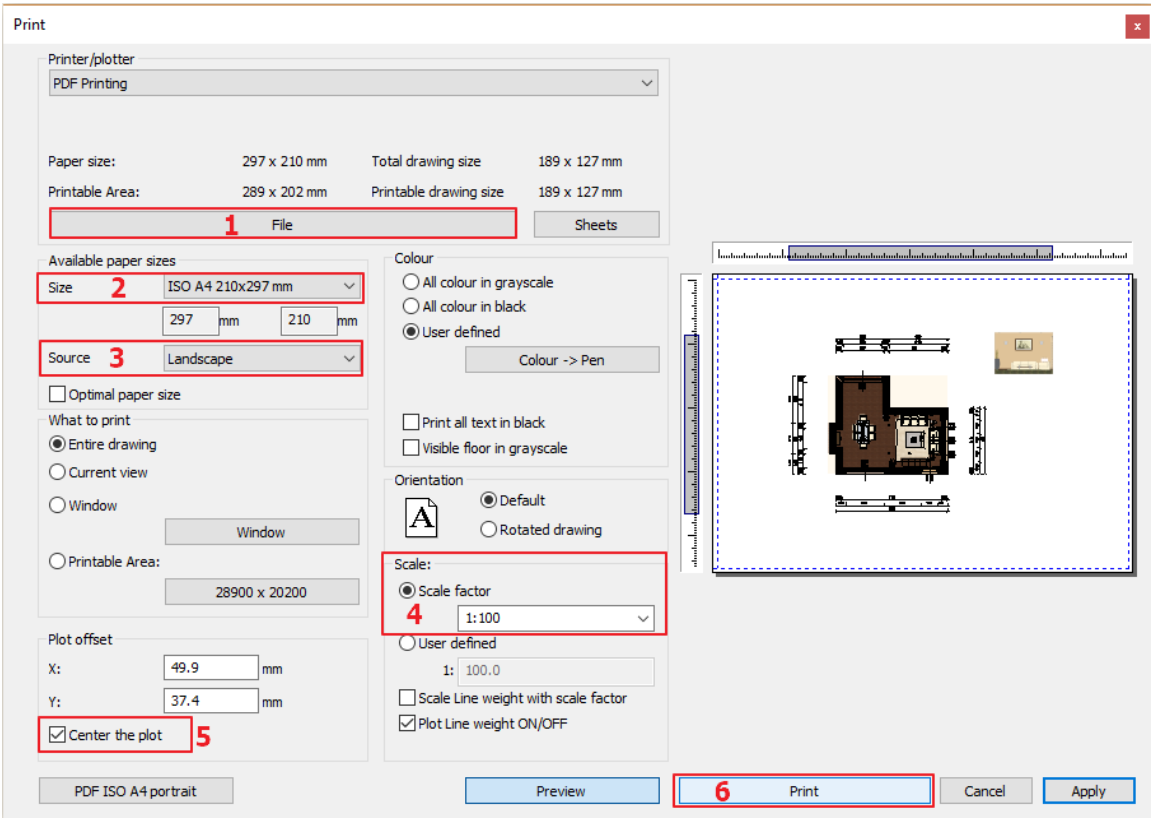


- Enter cutting elevation value, and then press OK.
- Than you will visualize the floorplan with texture.

1.10. Printing

We are going to print the floor plan in PDF file.

- Choose the Print icon from the File menu or the Ribbon Bar.
- Choose the PDF printing option.
- Click on the File button to define the path and the name of the PDF file (1).
- Set the paper size (2) and the orientation (3).
- You can define the scale factor (4) and align the content to the centre of the page (5).
- Finally click on the Print button (6), and the created PDF displays in a new window.

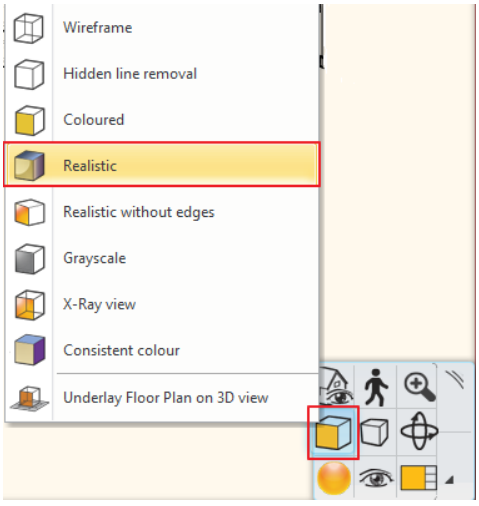


You can also print the perspective views or elevation views you create.

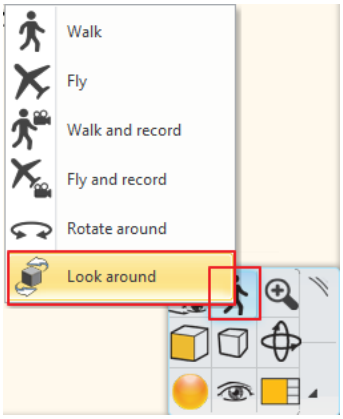
1.11. Visualization

In the 3D window there are lots of variety of ways to display the model. So far we used the coloured 3D model preview.

- Activate the 3D window.
- Now select the “Realistic” option to get a more realistic representation of the 3D model.



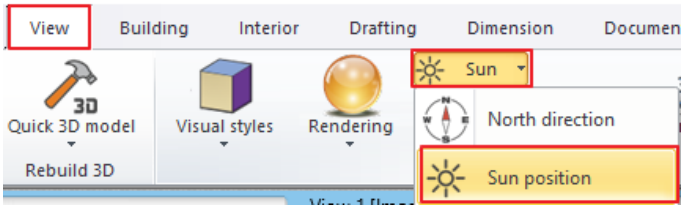
- Now we define a “Centre view” in the Perspective dialog.
- Set the perspective view: the camera is in the middle of the room and look around.



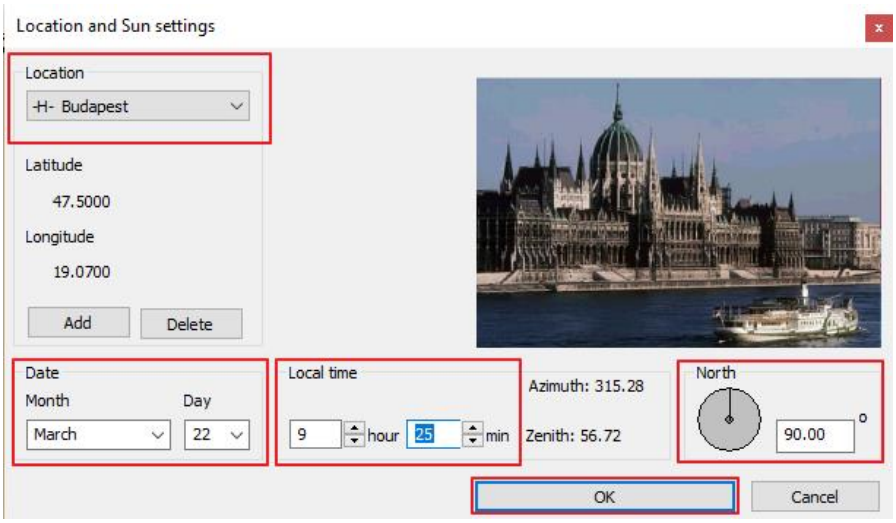
1.11.1. Shadows

You can visualize the 3D model with shadow effects.

- First activate the Sun setting tool from the **Ribbon bar / View / Sun / Sun position** option.



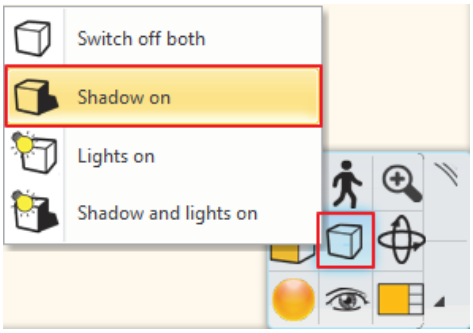
The exact shadow calculations will be given after setting the location, the date, the time and the north direction.



- Set the date: 22 March
- Set the time: 9:25 am
- Set the north direction: 90. OK.

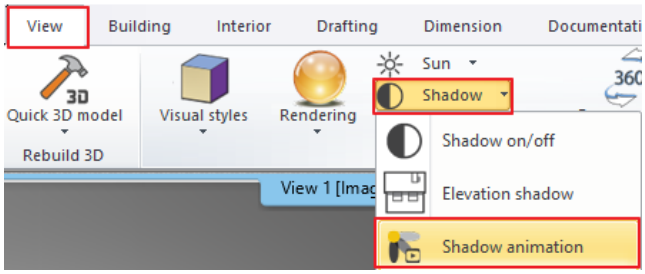
Choose the appropriate perspective view clicking on the blue arrows:

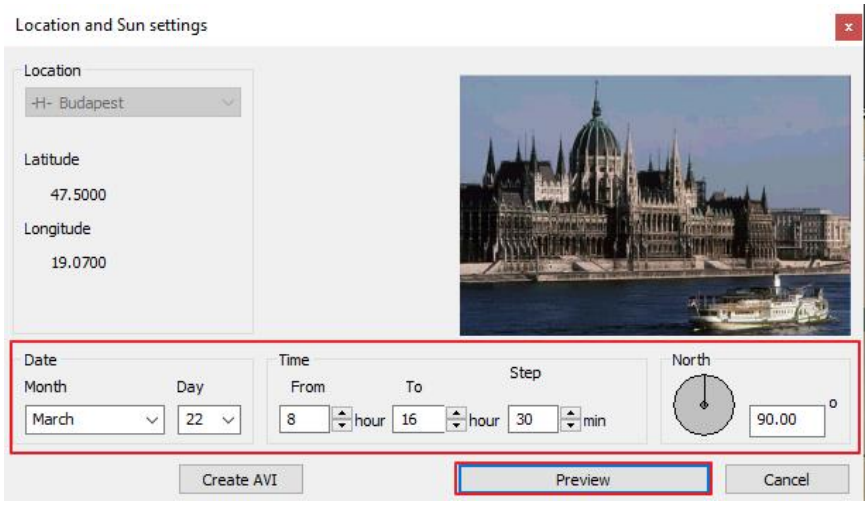
- After that switch on the shadow affect.



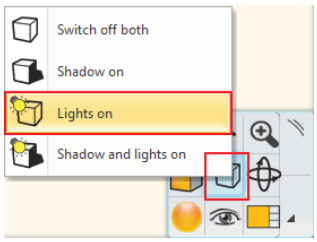
Your screen should look as follow:

If you set a time period you can create a “Shadow animation”. You can also visualize the light effect in the 3D model:





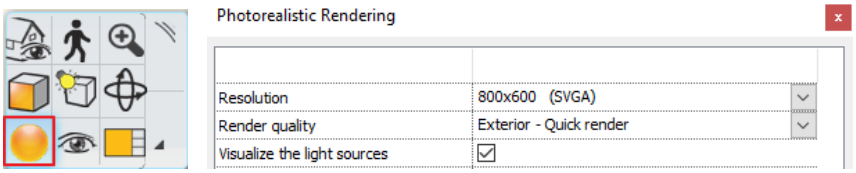
- Click on the Light on icon on the Navibar.

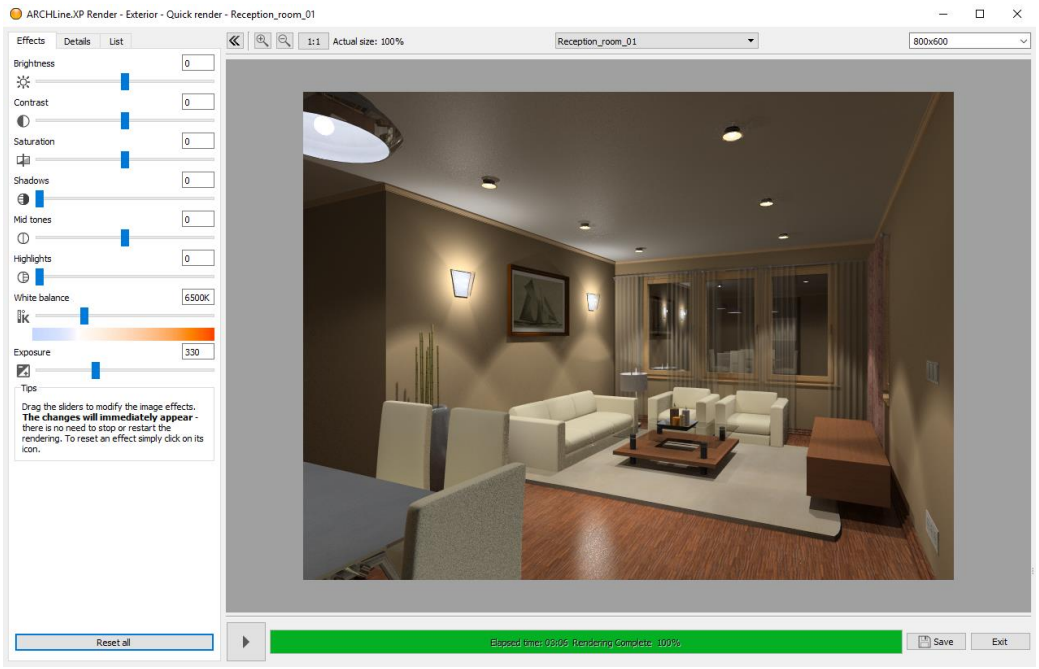


1.11.2. Rendering

Finally we create Photorealistic Renderings. We suggest to use only the low resolution and low quality for the first rendering.

- Click on the Rendering icon on the Navibar.





Based on the rendering result make changes in the model and do the rendering again.
If you are satisfied with the previous rendering image then you can increase the quality and the resolution in the Rendering setting.

When the rendering is complete, save it in the actual state. Modify the effects if you need and then re-save the image. This way you can compare the different versions.

Using this method you can save time.

Workshop 2: Foundation

2. Workshop: Foundation

2.1. Introduction

This tutorial will introduce the general management and editing basics of ARCHLine.XP®.

The goal of the tutorial is to help learning the general appropriate tools and concepts for everyday work in an easy to follow and logical way.

We recommend this tutorial for everyone:

- who took part on one of the trainings of ARCHLine.XP® and who is curious to know how to use the software in the future
- who is about to take part on advanced trainings
- who would like to learn the tools that are necessary when drawing a completely general layout

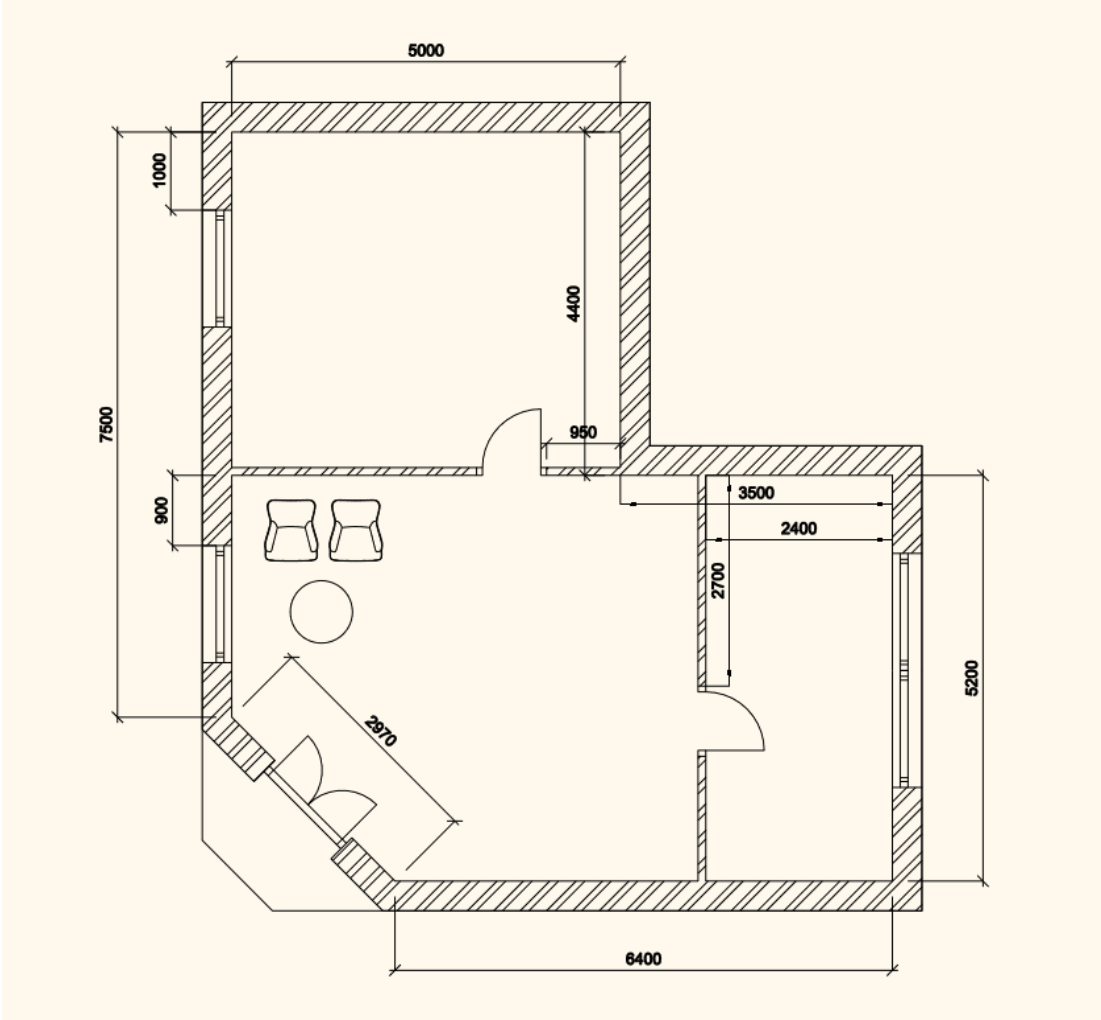
ARCHLine.XP® is compatible with Windows operating system and it is using the terminology of it when talking about menus and icons and other interface elements.

This is true when we talk about how to create, select, edit items or clicking (left mouse button) to launch a command (for example by clicking on an icon or selecting one from the menu), and to print on printers installed in Windows.

The tutorial goes through the basic functions of the software, the knowledge of which is necessary to solve design tasks and to effectively use the program.

The software is far more powerful than what you will learn from this tutorial. You can learn about additional features by using the built-in "Help" and attending the courses and trainings or by experiencing by yourself.

In this tutorial we will create the following layout:



2.1.1. Welcome Dialog

When ARCHLine.XP® starts you can start a new project on the Welcome dialog by clicking on the New Project button.

The Welcome dialog automatically opens when you are starting ARCHLine.XP® or you are about to close an existing project and create a new one.

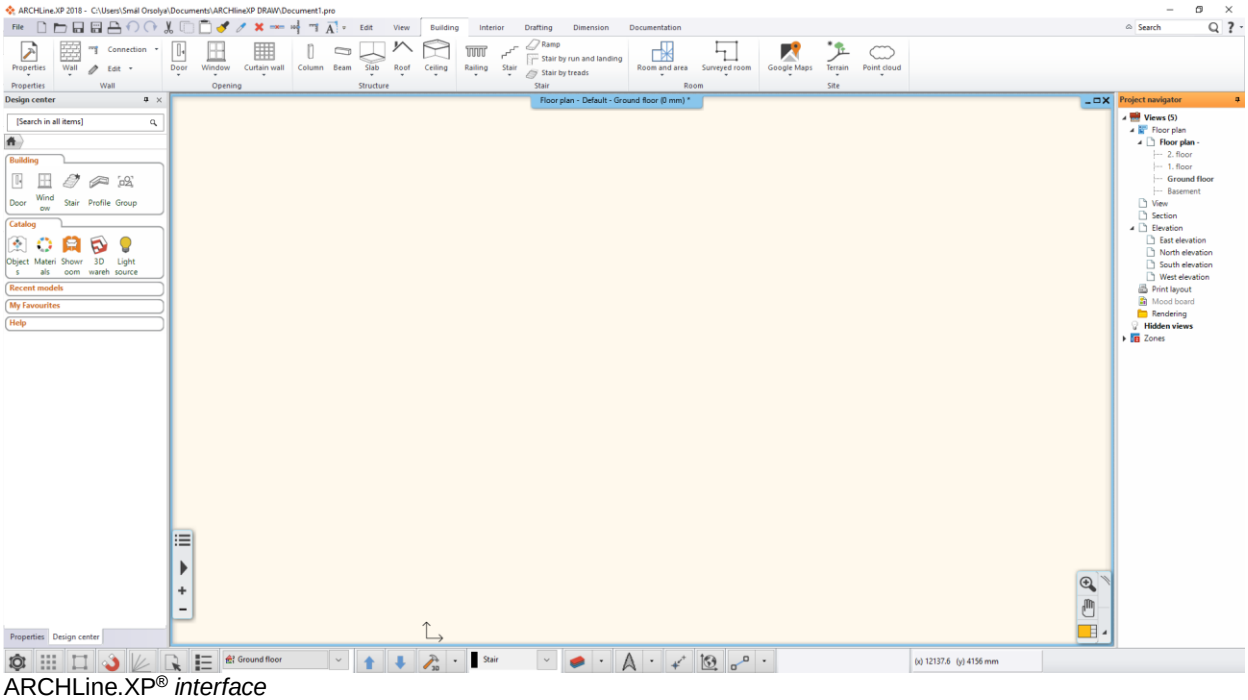
The Welcome Dialog

Start a new project

- Click on the **New project** button in the Welcome dialog.
- This will create a new blank project with an empty floor plan in it where you can begin your work.

2.1.2. Interface

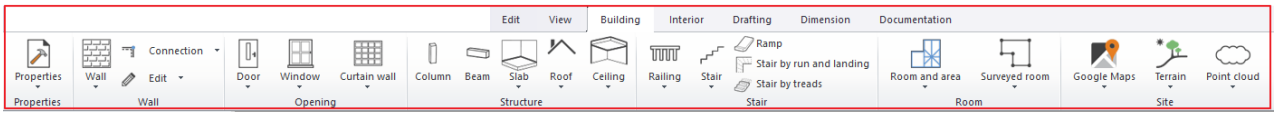
Before starting the actual work it is worth reviewing the ARCHLine.XP® software interface and its main components, thus later in the tutorial it will be easier to associate certain names and concepts to the appropriate parts of the interface.



ARCHLine.XP® *interface*

The ARCHLine.XP® interface has the following different main parts: File menu, Toolbars, Ribbon bar, Design Center, Project Navigator, Coordinate bar (Status bar) and Drawing area.

Toolbars



Ribbon bar

Coordinate bar (Status bar)

For your convenience we suggest you to work with the default layout of ARCHLine.XP®.

If you see any interface other than the default layout, please use the **Toolbars / Default position of Toolbars** command.

The Ribbon Bar

The Ribbon Bar is a comprehensive catalogue of commands using to create objects. They are arranged in groups. It's logical and fast.

2.2. Basic Drafting tools

2.2.1. Drawing in ARCHLine.XP®

Before starting your work, familiarize yourself of drawing with the software. In this chapter you can review all the necessary main concepts. We recommend all readers to read through the following chapter to make the terminology and concepts clear for the following parts of the tutorial.

*The use of the mouse – * Click & Release **

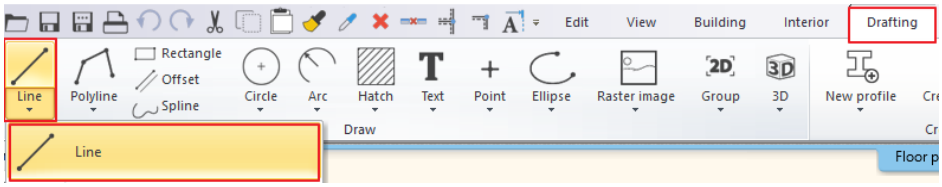
Before starting we have to clarify the meaning of a "Click" in the tutorial – and generally in the software.
A click is defined as**:**

„Click: pushing down and releasing the left mouse button immediately."

First, to learn the process of drawing we will create a few simple lines.

Drafting lines:

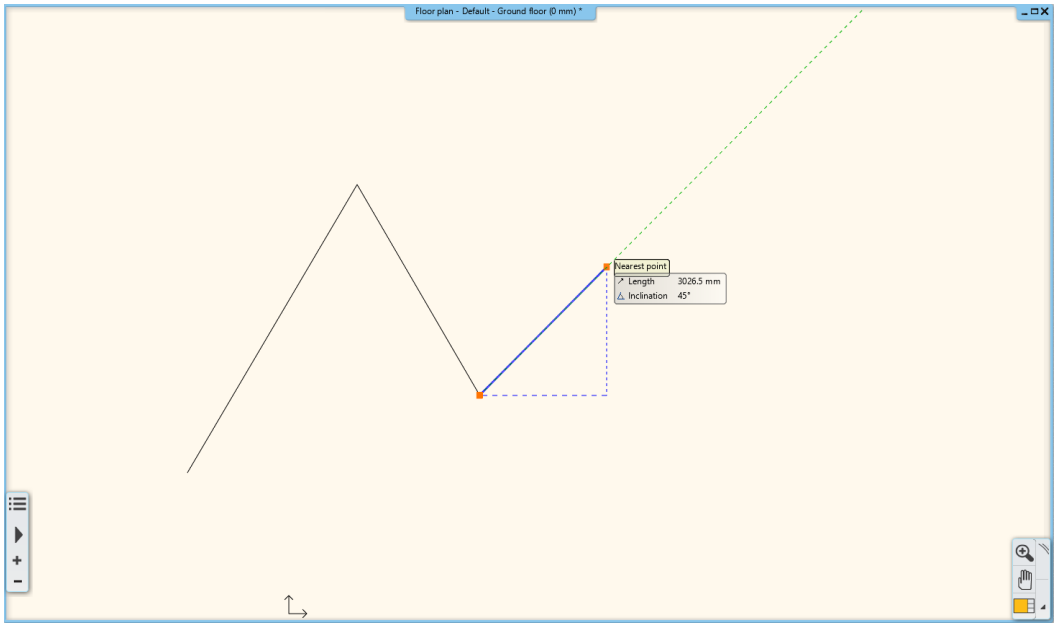
- Click on the Line tool in the **Ribbon bar / Drafting**.



- Then move the mouse over the drawing area. You will see that the shape of the cursor is changed; highlighting that you can draw something.
- Click anywhere in the left side of the drawing area. You just placed the first point of the line.
- Now move the cursor to the right side and click somewhere again. You just drew your first line, which appears as a black solid line.
- Now move the cursor again and you will see that the endpoint of the previous line automatically became the starting point of a new line.
- Now move the cursor to an empty part of the drawing area, and click again. The second line is ready.

You can easily create lines graphically by just “clicking”. Please do it with simple clicks always: hold down the mouse button for a second and immediately release it. This is called the Click & Release technique.

If it is not especially mentioned else in this tutorial, you should ALWAYS use this technique when working. There is no need to use the other mouse button; the left button is the only one that you need, as you might use to do it in other applications such as web browsers and word processor applications.



Exit the tool you are currently using

Since there is a third line automatically started and in this example we're only drawing two lines we have to end the current tool using the Escape key (This is a key on the computer keyboard in the upper left corner labelled as „ESC”.)

- Press the ESC on the keyboard. This will end the command.

Notice that now, when you move the mouse over the work area, the blue line which followed the cursor earlier is disappeared. Instead of it, now the mouse cursor has the shape of a normal arrow again.

When you would like to escape a tool (because for example, you want to start another one), you can always press the ESC key on the computer keyboard while drawing.

2.2.2. Undo and Redo

The software continuously keeps track of the last 16 steps of the drawing process. Until now we have done only 2 steps by drawing our 2 lines. If you want to undo the last line created you have to use the “Undo” command. The “Undo” command steps back 1 step in the order of previously executed commands.

The "Undo" command on the toolbar

- Click on the "Undo" command and it will make the latest created line disappeared.
- Click on the "Undo" again and the first line will also disappear.

Please note that the colour of the "Undo" button is changed to light grey, because there are no more steps that can be undone. Since the software can undo only the last 16 steps, you can't get back to an earlier stage using this tool.
The opposite pair of the "Undo" command is the "Redo"; with that you can redo what was undone; for example you can display it again.

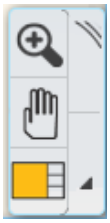
The "Undo" and "Redo" command can be used for corrections of small mistakes, for example when you would like to remove a previously created item that is at the wrong position. In this case, first press the ESC on your keyboard and click the Undo icon as many times necessary to you get to the state you want to see in the drawing area. If you accidentally take too many steps back, please use the "Redo" command.

- Now please use the "Undo" and "Redo" command to see the two lines you just drew both disappear and appear again.

The "Redo" command next to the "Undo" on the Toolbar

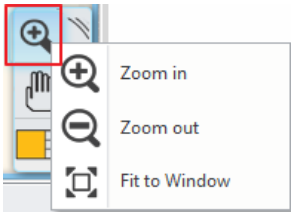
2.2.3. Zoom in, Zoom out and Optimal zoom

You can zoom the drawing by using the controllers of the Navibar. Click on the magnifying glass icon and the local menu is appear.



The Navibar

Click on the Zoom in, Zoom out or Optimal zoom (Fit to Window) command.



The Navibar is a simple tool to navigate in the drawing windows. Its appearance in the 2D (2D drawing, Printing Layout) and 3D (3D view, Dynamic Section) is different.

With the Navibar, you can navigate through your drawings with simple left mouse clicks or by dragging in certain cases like zoom, pan or rotate. To drag, you have to click on the appropriate command (Zoom, Pan or Rotate on the Navibar), hold down the mouse button and move the mouse.

Zoom in / out using the mouse wheel

You can scroll the mouse wheel up and down. This way you can ***zoom in and out***.

- Move the cursor to the point where you wish to zoom into. Scroll the wheel up or down. Scrolling up, you can zoom in; scrolling down, you can zoom out. The centre of zoom is always at the position of the mouse cursor when you zoom in. When you zoom out, the centre is the centre of the drawing window.
- When you are done, just release the wheel to exit the zoom command

You can also activate this command, if you:

- Select the **Zoom in or Zoom out** icons from the *Navibar*
or if you
- Press the **Ctrl** key together with the **+/-** numeric keys when working on the ground plan or on a perspective view.

Optimal Zoom

- Keep the mouse over the 2D drawing and double click with the wheel of the mouse.

  „Double click: pressing the button or the wheel of the mouse twice quickly."

  A double-click will only occur if you press the wheel twice quite quickly, otherwise the computer will understand two separate clicks instead of a double-click.

  If you managed to perform the double click, you will be able to see the whole 2D drawing on the screen fitting into the corners of the drawing window.

  Finally, let's talk about targeted zoom. In some cases the drawing is "slipping" off-screen during zoom. This happens because when you zoom in the focus point is the area where the mouse cursor is at the moment. Let's use this knowledge in the following step:

Zoom into a specific area:

- Hover the mouse cursor over the edge where the two lines join each other and scroll up. Notice that the software is zooming to the corner point.

  If the corner point is "slipping" out from under the mouse cursor, please move the mouse over the corner again and use the mouse wheel to zoom again. The program will zoom into the specified area once again approaching the CORNER point. This way you can perfectly control the zoom function and you can always exactly do what you want to do.

- Double-click the mouse wheel again, in order to achieve the optimal zoom.

2.2.4. Panning the drawing

By pressing down the mouse wheel and moving the cursor at the same time the „drawing sheet" can be moved.

- Press down and keep pressing the mouse wheel.
- This operation starts the "Pan" command.
- Move the cursor to the position you want and release the wheel.

You have now moved the whole drawing to a specific spot of the screen.

The command can also be activated, if you

- Use the Pan tool on the ***Navibar***, or
- Press the ***Ctrl*** key together with an ***Arrow*** key when the 2D plan is active.

Please practice using the zoom and pan tools a few times and very soon you will notice it becomes quite natural and obvious to use.

Let's summarize:

- **Scroll up with mouse wheel is zoom in, scroll down is zoom out.**
- **Double click with mouse wheel is Optimal zoom.**
- **Holding down the mouse wheel while moving the mouse is pan.**

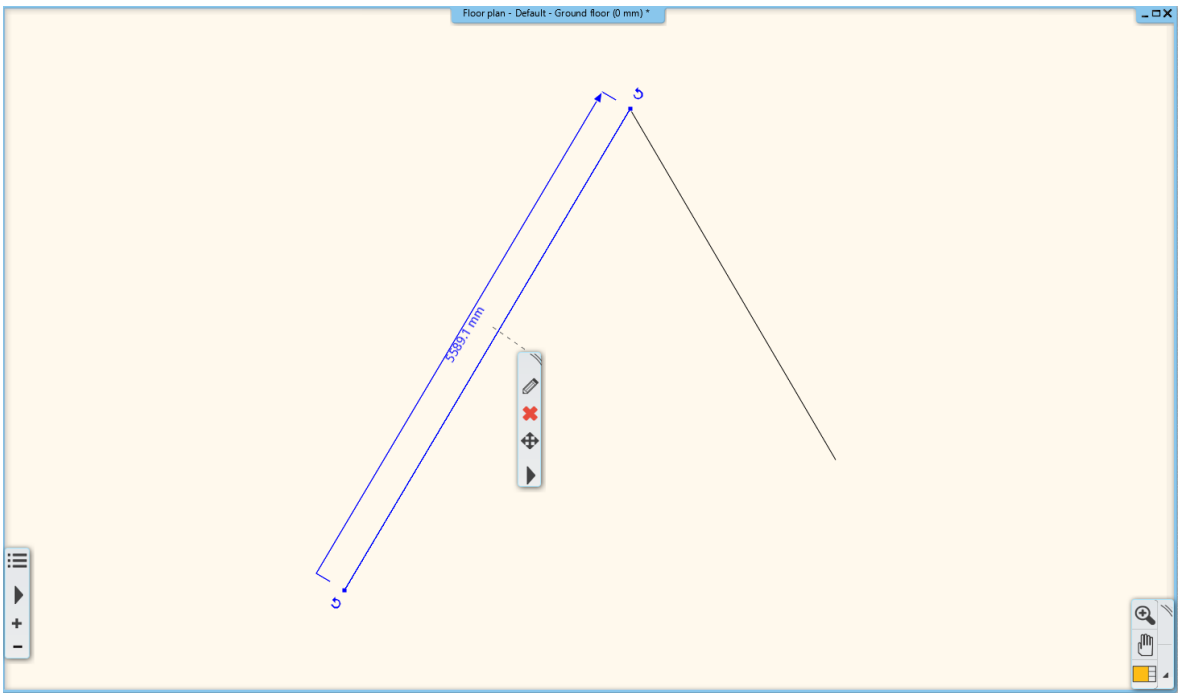
2.2.5. Simple selection and delete

It is important to know how to delete a specific item of the drawing. In this example, we want to delete only the first line and keep the second one.

In order to tell the program which elements you would like to work with, you have to select it. To select, you need to hover the mouse cursor over the first line, and then you need to click on it.

Simple selection

- Move your mouse over the first line drawn, and then click once. You might see a similar result to the following example.



The first line is selected on the floor plan

ARCHLine.XP® represents selection by a selection colour and by a few markers appearing around the selected item. Markers are interactive tools that help modifying selected items without using menus. The main point of using ARCHLine.XP® markers is that they are very easy to handle. The appearance of markers can be various depending on their goal. Using markers reduces time, increases design speed and can be learned easily. When an item is selected the floating icon menu also appears giving you fast access to the Modify, Erase and Move commands and the local menu of the selected item.

Delete

- Click on the delete icon ✖ and you will see that the line is disappearing.

  Deleting an item is also a step, which can be undone the same way you drew something. So, if you click the “Undo” command now, the deleted line will appear again.

Undo

- Click the “Undo” command and as the last executed step on the plan was the deletion of the line it will reappear on the drawing again.

2.2.6. Select multiple items

During editing, one of the most important tools is the selection. Notice if now you select one of the lines, and then you click on another one, the previous selection disappears. In order to be able to select multiple items at the same time we need to know how to use multi-selection. For this the CTRL key is used on the keyboard. Do the following:

Multiple selections

- Select one of the lines and press and hold the CTRL key on your keyboard.
- While still pressing the CTRL key, move the mouse over the other (unselected) line and click on it.
- Now you can release the CTRL key, and you will see that both of the lines are selected.

  Holding down the CTRL key while an item is already selected you will be able to add another one to the selection. The markers will appear and you can now delete the two lines together.

Delete the 2 lines

- Delete the selected lines using the delete icon ✖. The drawing is now empty.

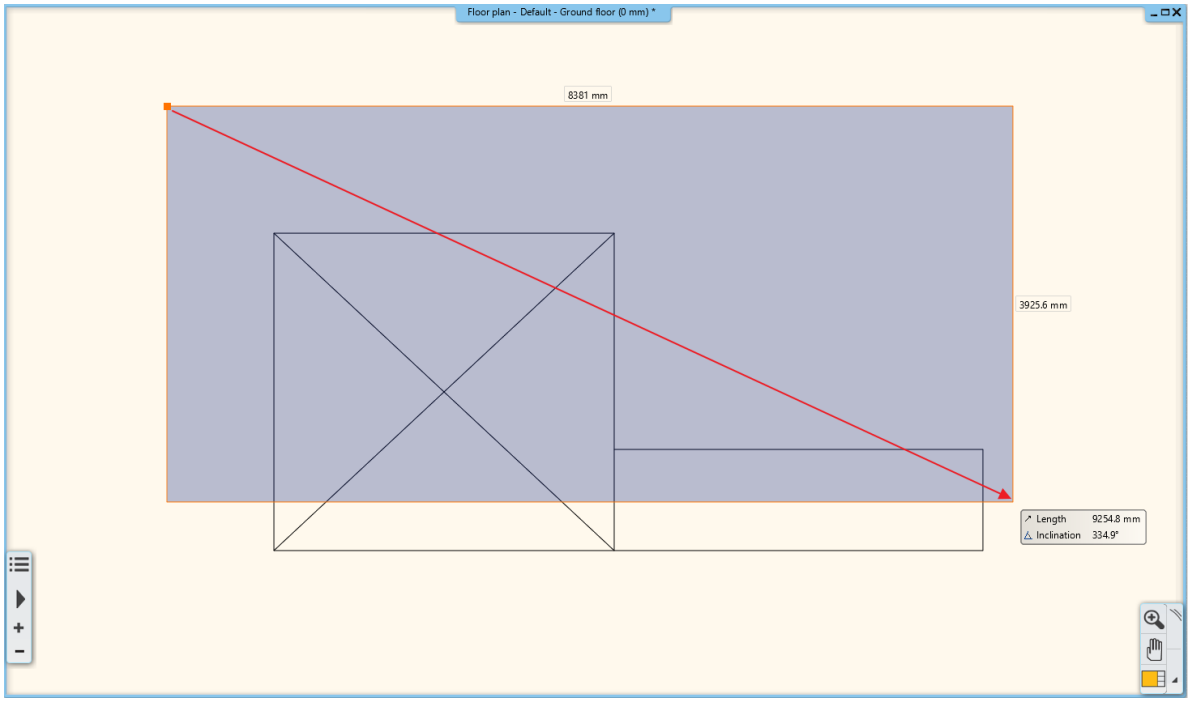
2.2.7. Selection by rectangle

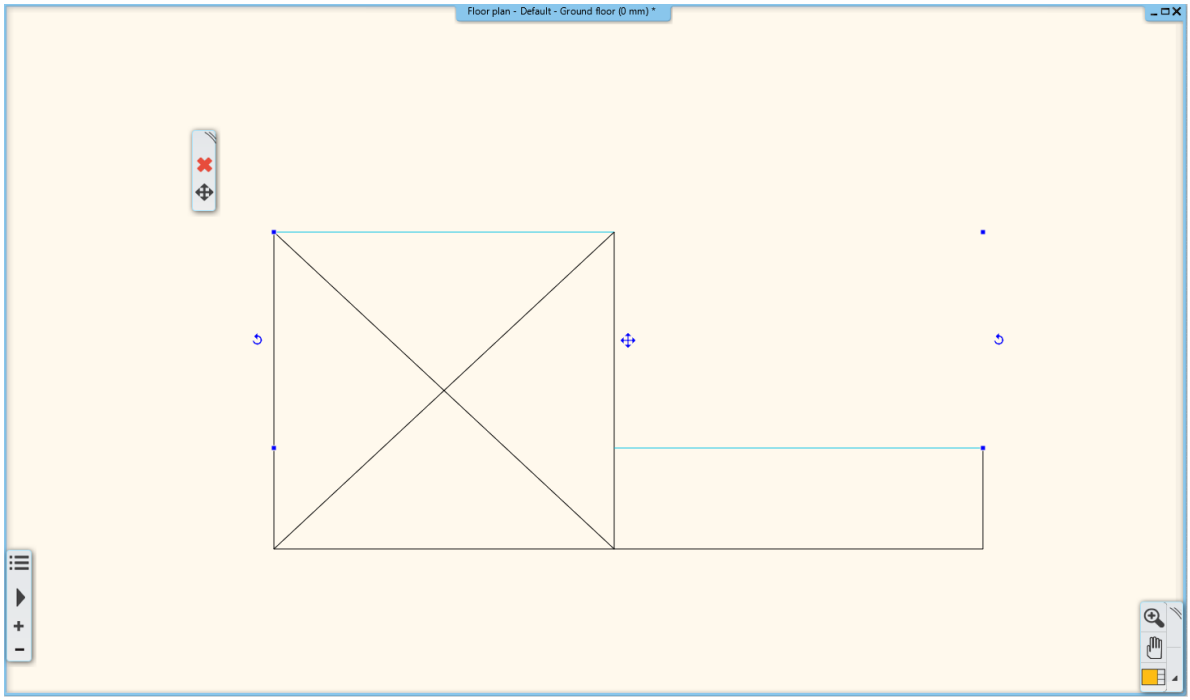
To select multiple items, you can use the rectangle selection.

The rectangle selection can be performed by clicking on an empty part of the drawing area and after moving the mouse to another position clicking again in the drawing area. This way you can specify a rectangle area. There are two cases of the selection by rectangles command:

Selection by rectangle: from left to right

- Draw some lines the same way as before.
- If you are currently in a command, please press ESC to close it.
- Move the mouse to the upper left corner of the drawing area and click on an empty area.
- Move the mouse down to the right so that the resulting semi-transparent blue rectangle partially covers the lines, and make sure that there are lines which are bit out of the blue selection box. Click again.



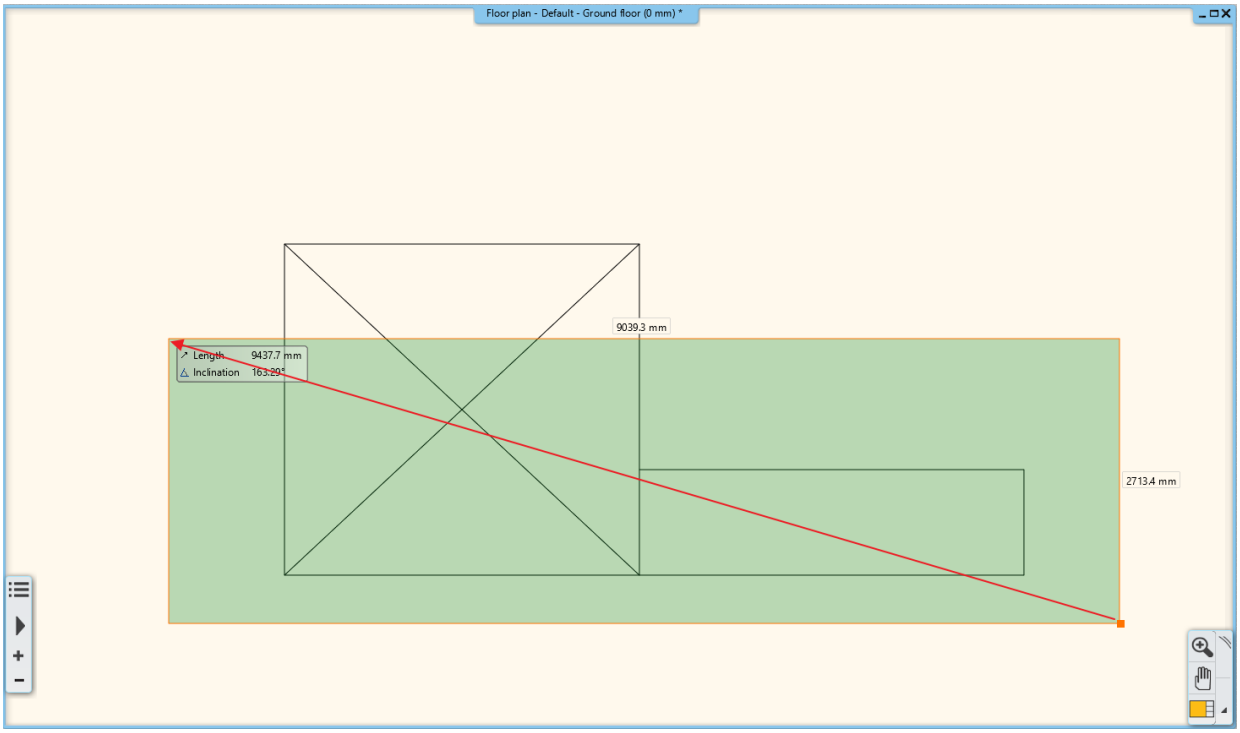


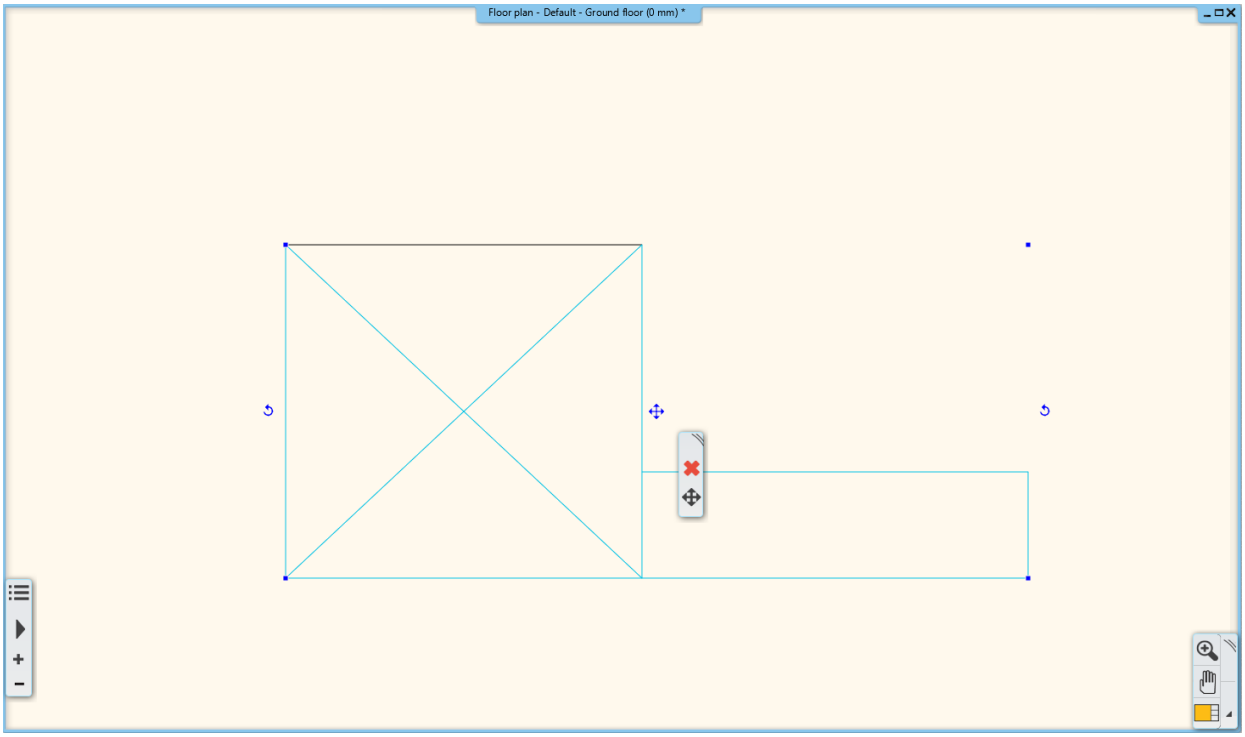
The result: only those lines are selected which ones were completely within the rectangle.

Selection by rectangle: from right to left

- Press ESC on the keyboard to end the previous command.
- Move the mouse to the bottom right corner of the drawing area and click on an empty area.

- Move the mouse up to the left so that the resulting semi-transparent green rectangle partially covers the lines, and make sure that there are lines which are bit out of the blue selection box. Click again.





The program selected all the elements which were inside the rectangle or intersecting the contour of the rectangle.

Comparison:

Selection by rectangle from left to right:

- The selection rectangle should be drawn from left to right.
- The colour of the selection rectangle is BLUE.

The program selects only those elements which are completely within the selection rectangle.

Selection by rectangle from right to left:

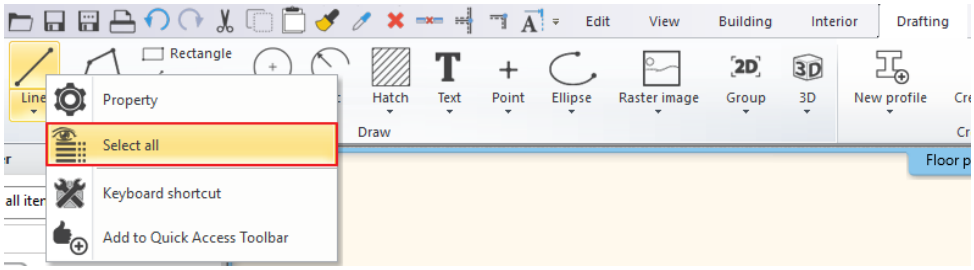
- ❖ The selection rectangle should be drawn from right to left.
- ❖ The colour of the selection rectangle is GREEN.
  The program selects all the elements which are inside the rectangle or intersecting the contour of the rectangle.

Examples in a real project:

Selection by rectangle from left to right: much easier and faster to select all the equipment of a room by drawing a selection rectangle that includes all of the equipment. If some of the walls are partly in this area, it's okay because they will not be selected.
Selection by rectangle from right to left: In case you want to select all drawing objects, even those that stick out from the drawing area, it is sufficient to select the wanted items partly.

2.2.8. Selection by type

All items of the same type can be selected by a single click.
The method is the following:



Right-click the item what you want, on the Ribbon bar and then click on Select all command. All items are excreted from the given type.

Exercise:

Select all the lines on the drawing:

- Click right-click to the Line icon on the Ribbon bar.
- Click on Select All command.

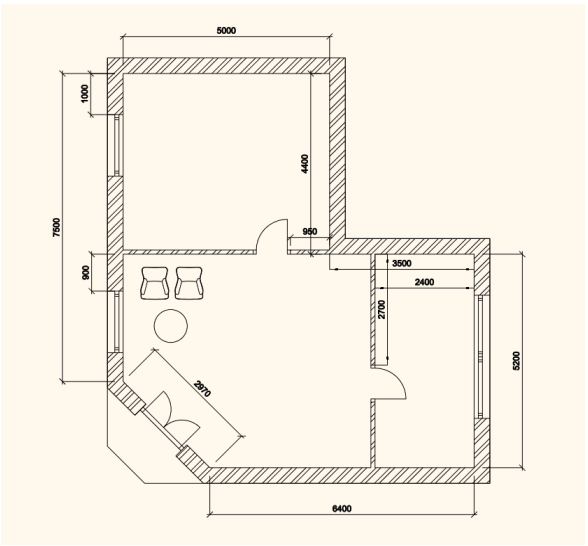
Now all the lines on the drawing are selected.

- Finally erase all the lines of the drawing by using the Delete icon. ✖

2.3. Design

2.3.1. Creating Walls

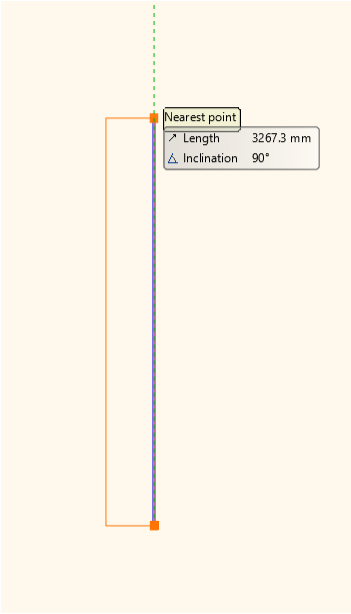
We will start with a simple floor plan. Similar to the way you can create simple lines, you can create much more complex drawings by using other tools. This time we will create walls with known lengths. We will create the following floor plan:



Start your work by drawing the main walls. The first wall is 7500 mm long, vertically on the drawing, determined by its internal size.

Creating wall by a known length

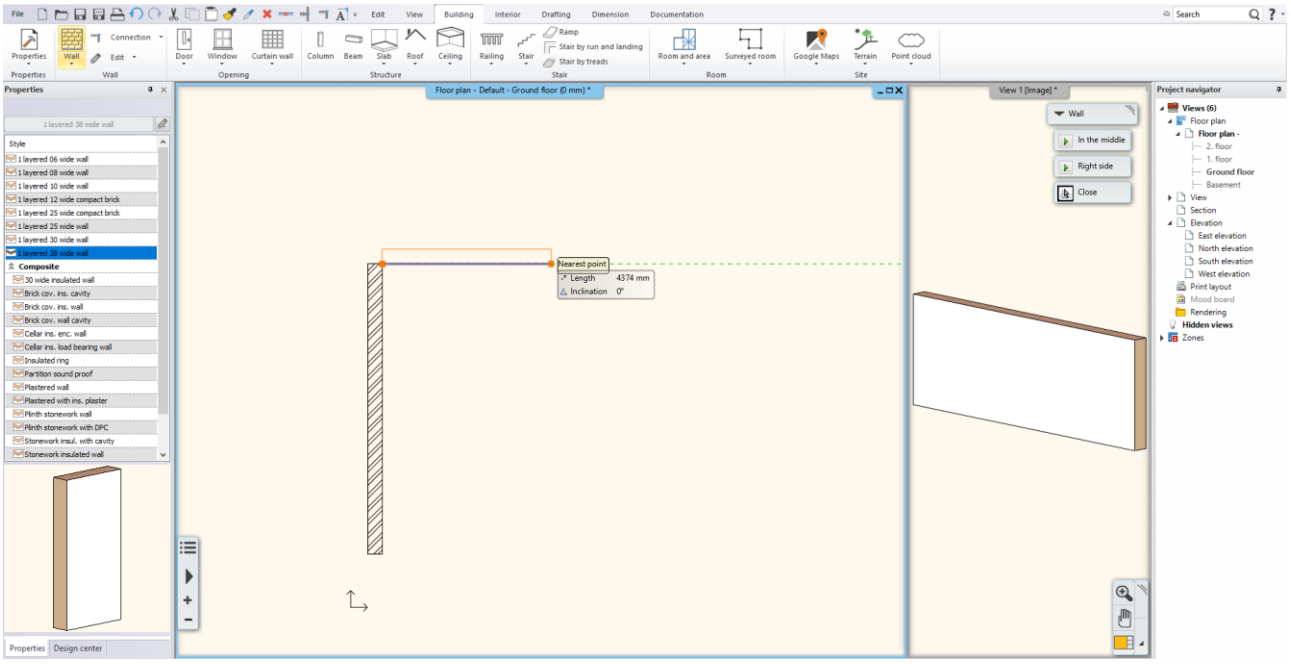
You can create walls clicking the **Ribbon bar / Building / Wall** tool.



- Move the cursor on the drawing area, the cursor shape will change.
- Set the starting point of the wall on the left side of the drawing area by a click.
- Now move the cursor vertically to up.

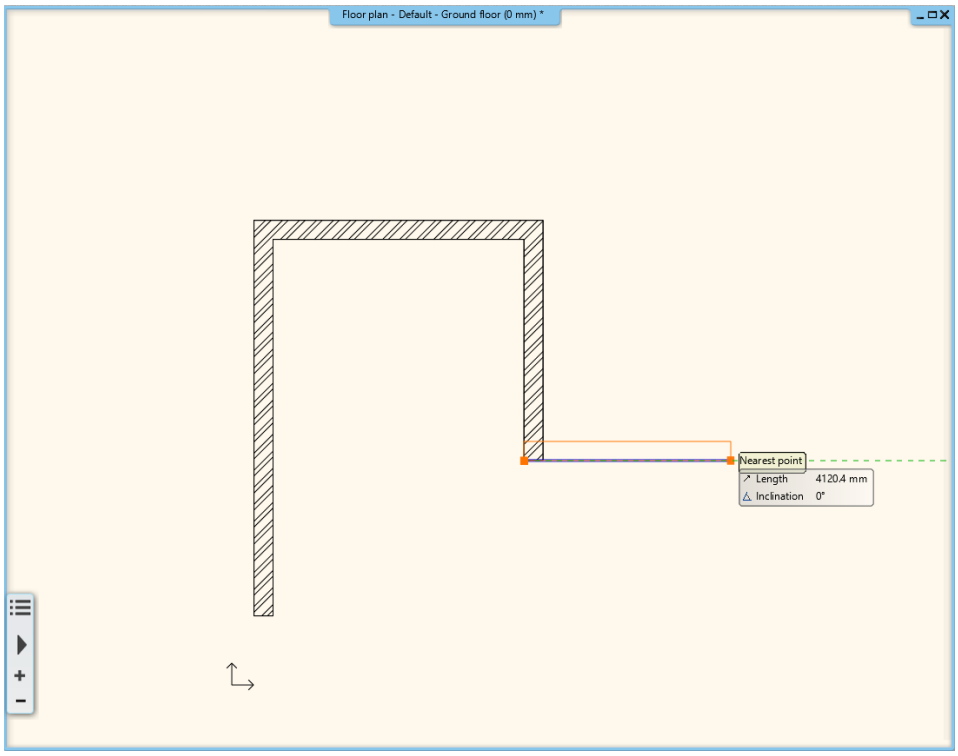
- The blue line is the reference line of the wall, while the orange line represents the thickness of it. The length can always be defined along the blue line.
- The wall will be 7500 mm long, so press the 7500 on the keyboard.
- Press the Enter key on the keyboard in order to accept the entered value.

The 7500 mm long vertical wall is created and a new window is opened on the right side which shows the 3D model of this wall. The software automatically generates the 3D model.



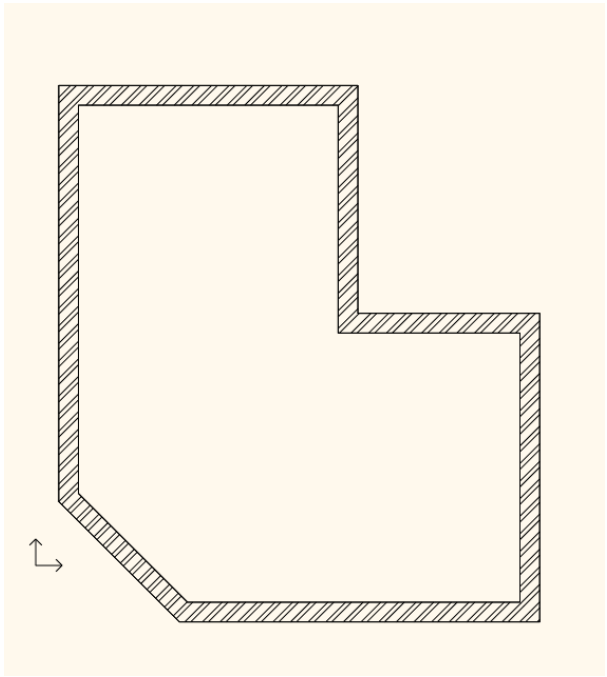
- Move the mouse horizontally to the right and type 5000, and then press Enter on your keyboard.
- Use the Optimal zoom or the zoom out and zoom in tools to see a similar content to the following example. This way you can make some space for the remaining part of the plan.

2.3.2. Continue creating walls



- Move the mouse vertically down and type 4400 and press Enter. When the Enter key is pressed the third wall is created.
- Move the mouse horizontally to the right and type 3500 and press the Enter key on your keyboard.
- Move the mouse vertically down and type 5200. Press the Enter on your keyboard.
- Move the mouse horizontally to the left and type 6400 and press the Enter key on your keyboard.
- Finally, move the mouse up and when you see the Endpoint cursor, click on the starting point of the first wall. The walls form a closed shape, the room is ready.
- Finally, press the ESC your keyboard to close the command.

Don't forget that you can zoom in / out and pan drawing at any time during drawing.



The room is ready

2.3.3. Active window

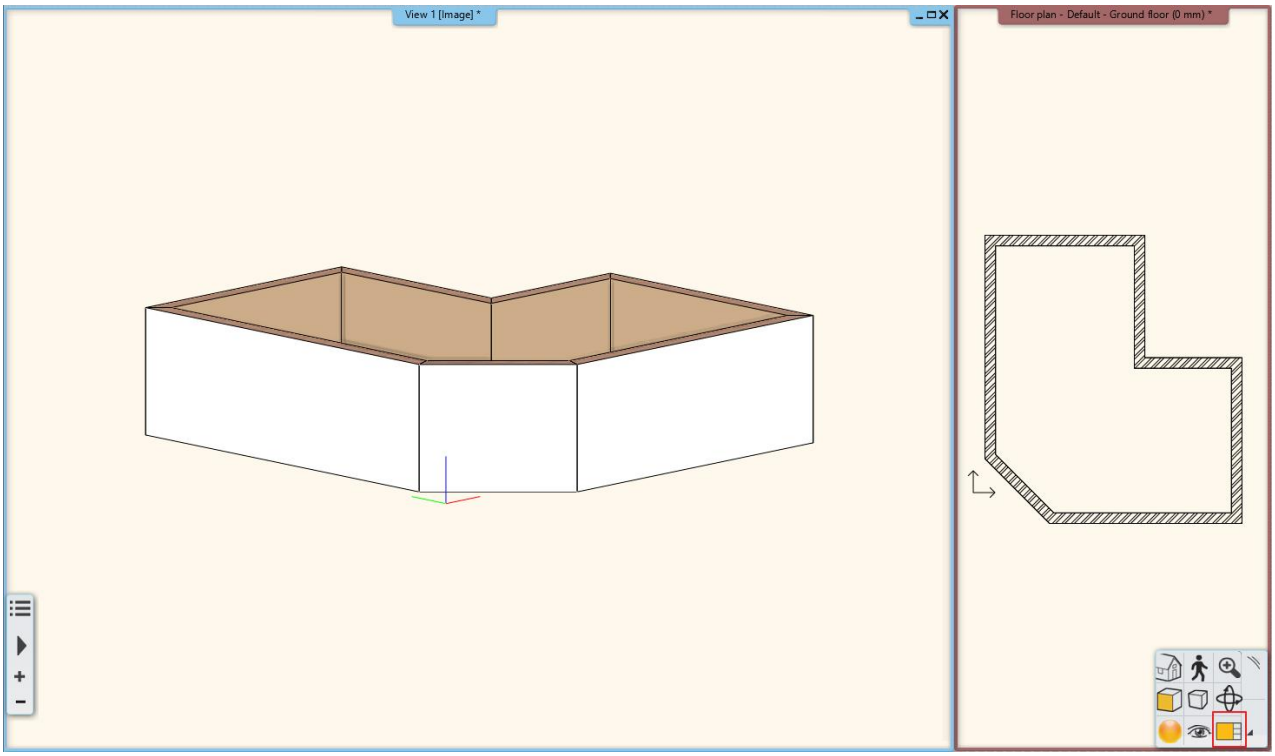
As you might already noticed at the first time drawing a wall, the 3D model was automatically created in a second window. The advantage of this split layout is that all the changes in the floor plan can be seen in the 3D model too.

So far the active window was the 2D, where we created the walls. In order to handle the 3D content you have to click anywhere in the 3D window to activate it first. In this case, the 3D model window frame will change its colour and the Navibar will also change a little bit.

You can swap the 2D and 3D windows. For this you have to click on the Navibar at the bottom right corner on the “Magnify window” button. Please do the following:

Enlarge the active window

- Currently the 2D window is active. Click on the 3D window. This way you can make it activated.
- Press the “Magnify window” tool on the Navibar. The 2D and the 3D is switching places.
- Repeat the previous steps to exercise a few times. Finally make the 3D to be the active, larger window.



The 3D window is the larger one

2.3.4. Manage the 3D View

Working in the 3D, just as on the 2D drawing, you can zoom in and zoom out and pan the content. You can see the 3D view from different directions. Besides using the “Rotate” command of the Navibar there is also a quicker way to do so. Please do the following:

Rotate the 3D view using the mouse and keyboard

- Move your mouse over the model in the 3D window.
- Press and hold down the SHIFT key on your keyboard, and then press and hold down the mouse wheel and start to move the mouse (again we use the mouse wheel as a button).
- When you want to complete the rotation, release the SHIFT key and the mouse wheel.

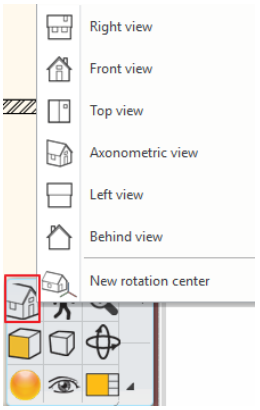
  If you haven’t use anything like this before it may seem complex at first rotating this way, but soon you will get used to it and see that you will be able to work more efficiently than using the Navibar only.

- Rotate the model to adjust the view to see it from the side and above, so you'll be able to follow the changes when creating the partition walls, the openings and the ceiling.

2.3.5. The 3D representation modes

We already know efficient tools that can be used efficiently without the Navibar but there are still several other convenient tools that are on the Navibar. Let’s see the standard views and presentation settings now.

- On the Navibar, click the Current view icon to display a menu showing the different views to choose from.



View

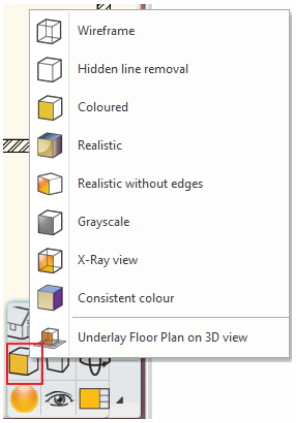
- Try various views by selecting them (From the right side, Front view, Top view, etc.).
- Finally, select the Axonometric view and rotate to have a better view from the top.

Thanks to the ease of use you can quickly select a standard view later in your work whenever it becomes necessary. In addition the 3D model representation can also be changed.

Presentation settings

- In the Navibar, click the 3D preview mode icon. A menu opens where you can set how to display the model.
- Try each of the different representations and see how the model will change. Finally select the default Textured display mode.

We will not deal with the other options on the Navibar; instead of it we continue working with our floor plan.

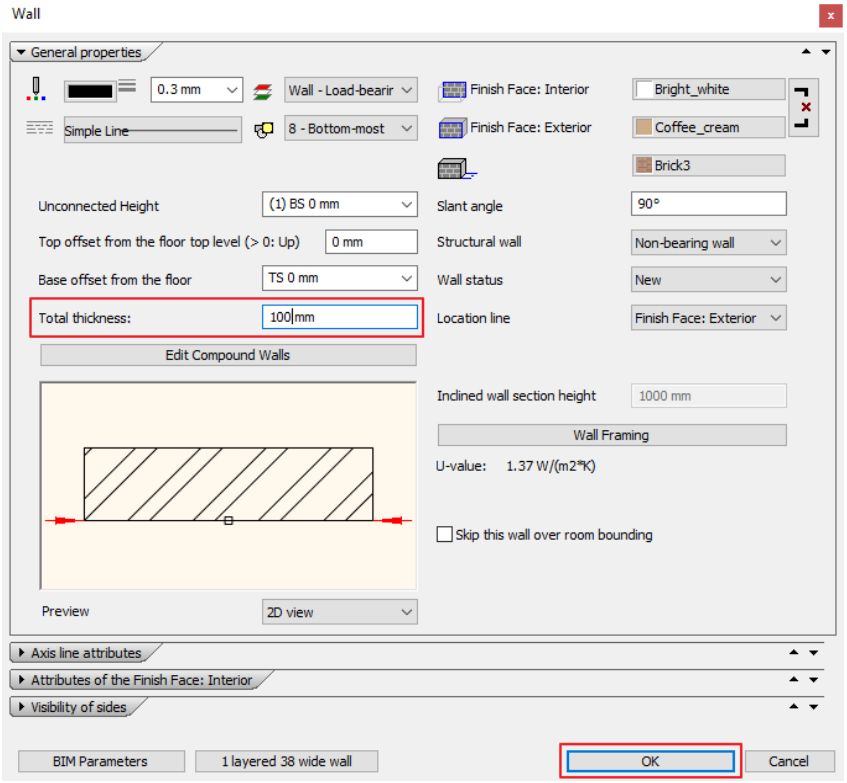


2.3.6. Partition walls – with properties

The main walls are ready so we can continue working with the partition walls. Before starting, please activate the 2D window and enlarge it. If we would continue to draw the walls now it would be with the same properties as before.
To draw the partition walls we have to change the properties (wall thickness).
Do the following:

Setting Properties:

- Click on the **Ribbon bar / Building / Properties / Wall** command. This will bring up a dialog box called Wall properties.
- Please change the wall thickness from 380 mm to 100 mm and click on the OK at the bottom part of the dialog.



In the drawing, nothing has changed, but from now on when you will create a new wall it will have a thickness of 100 mm. To draw partition walls please follow these steps:

Method 2 - Use Styles

When you click on **Ribbon bar / Building / Wall** command, the Design Center switches to Properties on the left side. Here the *Styles* appear which already have been saved by you. From here, you can easily choose the wall.

- Select the "**1 layered 10 wide wall**" style. As soon as you select the properties of the wall will change.

Create a new wall style

- Click on the "pencil" icon to create a new style.
- Set the properties of the wall in the dialog window. E.g. Total thickness: 1600 mm.
- Click on the button with the style name in the lower left corner.
- Next in the appearing "Styles" box click on "New" button.

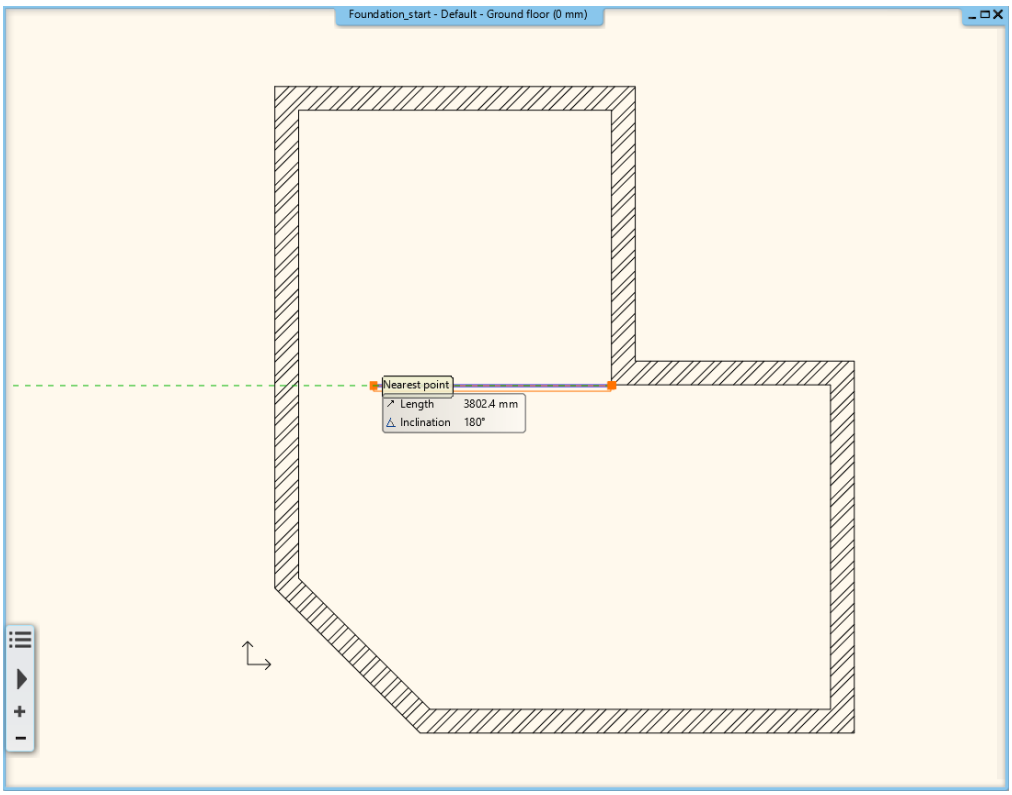
In the window that appears, type the name of the new style and the folder name, and save it.

The new style also appears in the **Properties / Styles**: „1 layered 16 wide wall”.

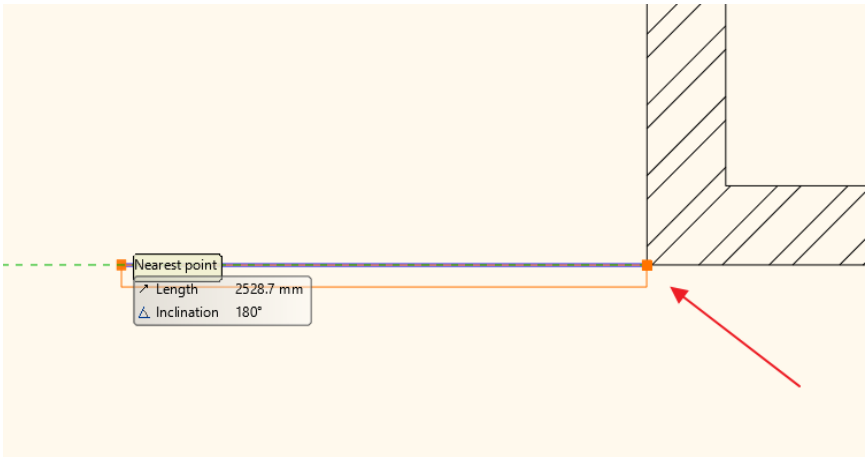
Partition wall

- To create walls click on the Ribbon bar / Building / Wall tool.
- Activate the 2D drawing and move the mouse to the L-shaped floor plan to its inner corner point and click to place the starting point of the partition wall exactly into the corner.

When the cursor is over and endpoint, its shape will be changed. This way the software is highlighting that the mouse cursor is right on top of an endpoint of the drawing.

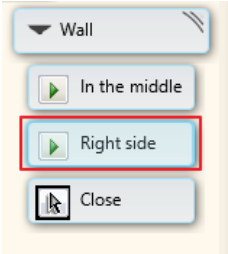


- Move the mouse to the left horizontally. Now the blue reference line is on the top, so that the wall thickness, which is represented by the orange line, is under the reference line.



For now, we need the wall thickness to be above the blue reference line, so that the partition wall and the neighbouring main wall will share the same line.

In the right top corner of the Work area you can see the More Options list.

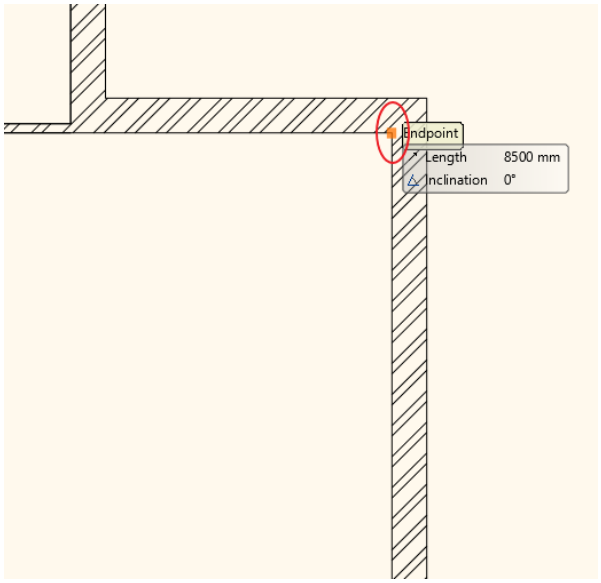


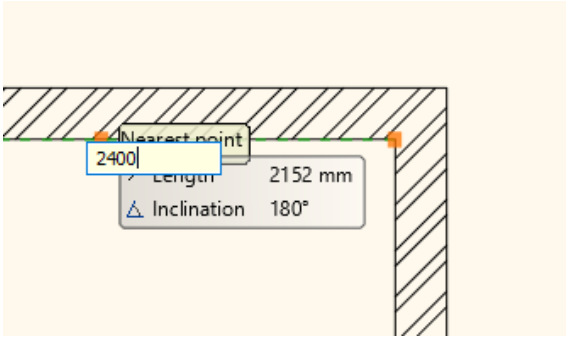
- Now click on the “Right side” command then move the mouse back to the drawing area.
- Now, the reference line of the wall is on the other side of the wall thickness.
- Place the endpoint of the wall on the inner side of the opposite wall perpendicularly.
- Press the Enter on the keyboard. Now you can draw another wall.

Now we will set the starting point of the second partition wall. To do this, we will need to place a temporary reference point in a corner and measure a distance from there.

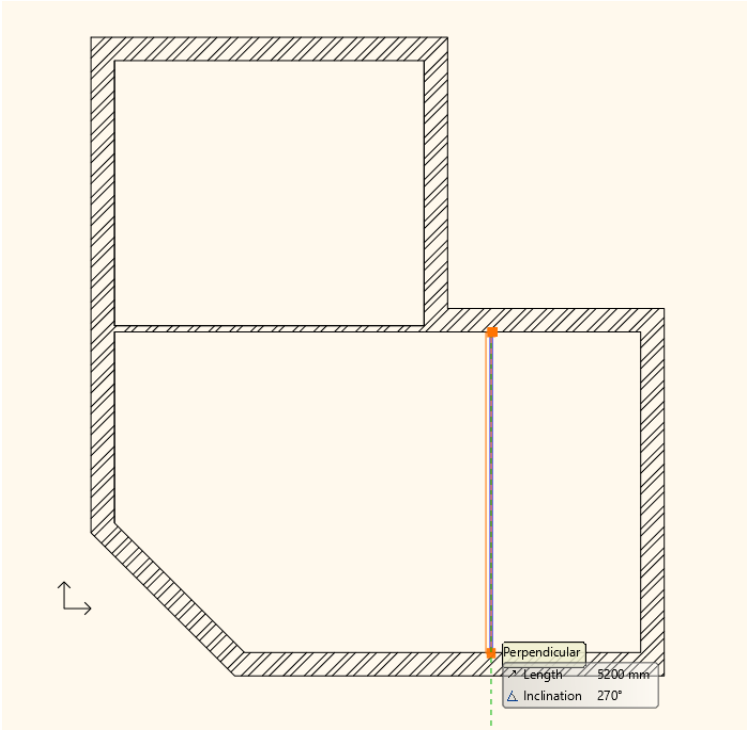
- To create walls click on the Ribbon bar / Building / Wall tool.

- Select the “Reference” command from the Coordinate bar.
- Move the mouse inside the L-shaped floor plan to the right wing to the inner right top corner point and when the software recognizes the endpoint click once.





- Move the mouse horizontally to the left and type 2400, and press Enter. The program now measured the distance of 2400 mm horizontally to the left from the previously defined reference point, and placed the starting point of the wall.
- Move the mouse vertically downwards and when the perpendicular point is recognised on the opposite wall, click once to place the endpoint. (Take care! The nearby midpoint easily grabs the mouse, so you should zoom in to be able to work precisely.)
- Press ESC to close the wall tool.

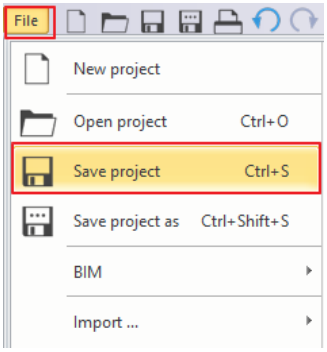


2.3.7. Save the Project

During work there is no automatic save. You should save the project!
Please do the following:

Save the project

- Select the “File / Save project” command.



The “Save project” command on the interface

Since now we are saving the project for the first time we have to name it. By default, during the installation process the software creates ARCHlineXP DRAW folder where you can save your projects. You can find this folder in the Documents folder on your computer named as “ARCHlineXP DRAW”.

- Create a new folder in the ARCHlineXP DRAW folder using the New Folder button. Name it as “Foundation”.
- Enter into the Foundation folder and type the following file name: “Foundation 01”
- Click on the Save button.

We suggest you to save your projects quite frequently (e.g. every 10 -15 minutes).

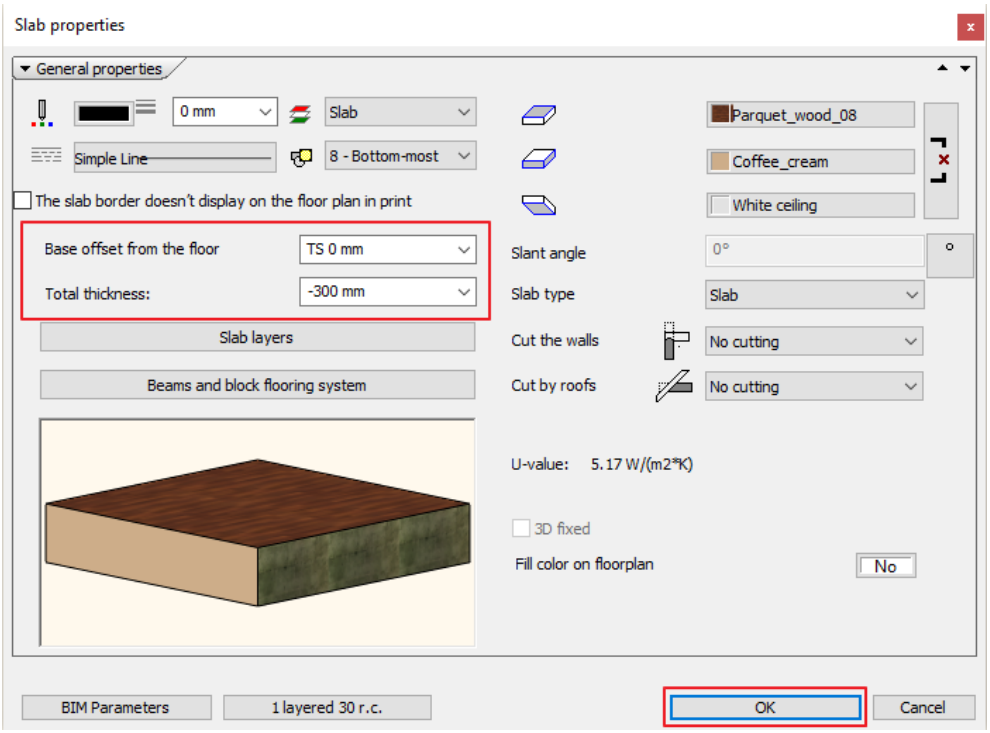
We recommend you to frequently make a copy of your project.

You can also change the default ARCHlineXP DRAW project folder in the File / Preferences / General / File Location dialog. For beginners we suggest not to change the default folder.

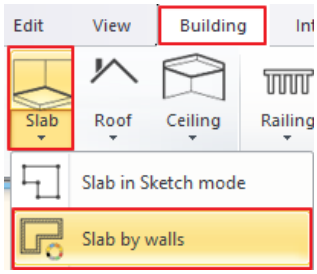
2.3.8. The Slab tool – Create a Floor

We will create the floor using the slab tool. Set the slab properties before using the slab command:

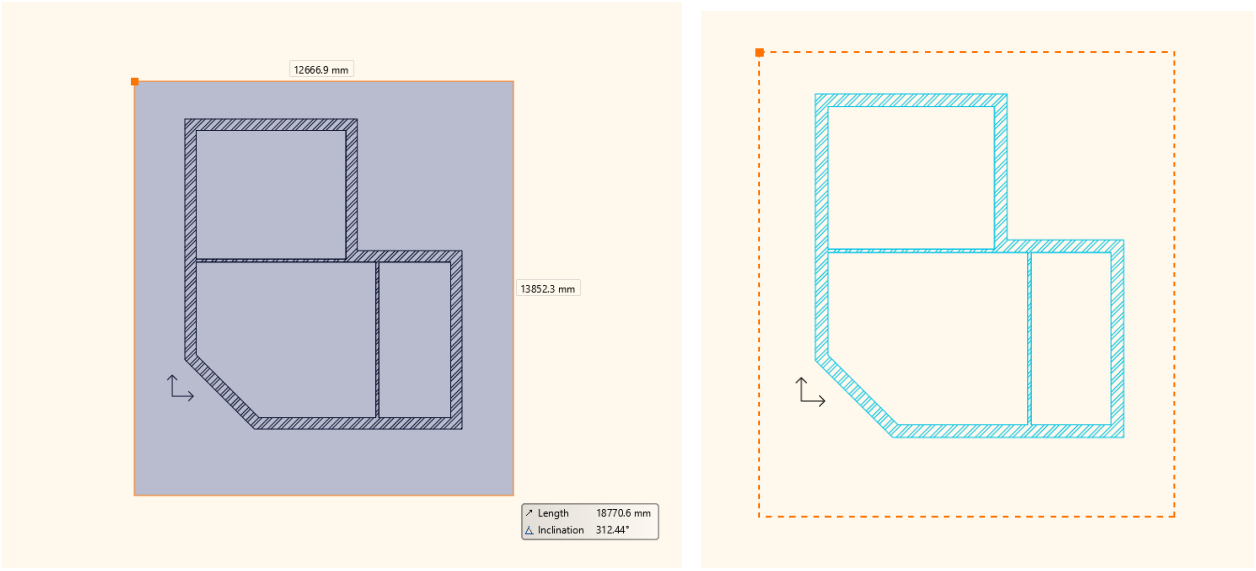
- Select the **Ribbon bar / Building / Properties / Slab** command. The Slab properties dialog window appears.
- Check the following properties of the slab: Relative height: 0 m; Slab thickness -0.3 m, finally click on the OK button.



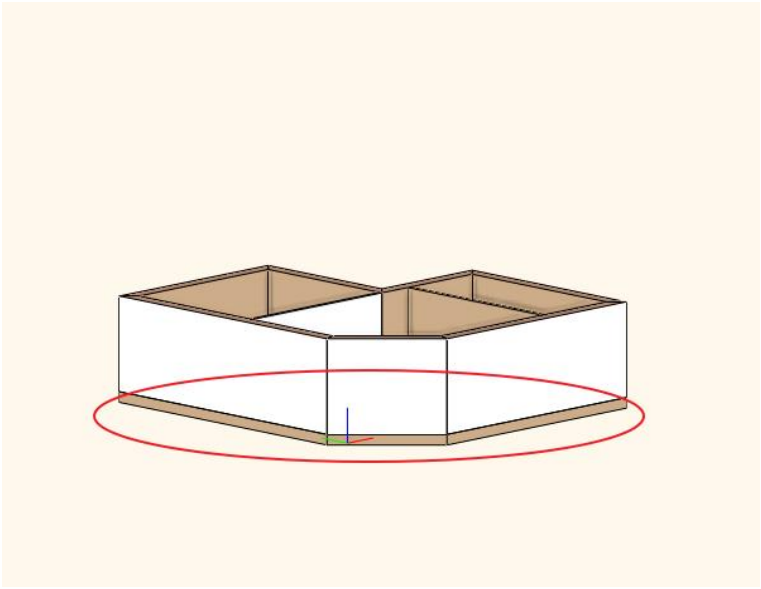
- Select the **Ribbon bar / Building / Slab / Slab by walls**.



- Select the entire floor plan with the selection rectangle. Press Enter.



- The slab will be created.



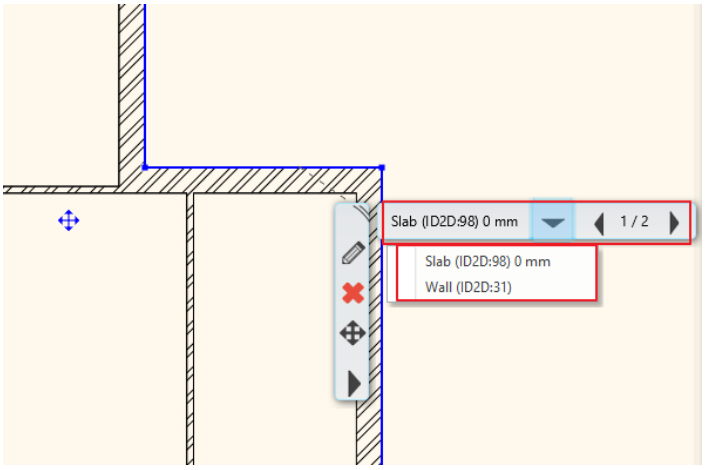
The result can be seen in the 3D window.

Modify the contour of the slab

The 45 degree angle wall will have an entrance door in it. In addition, it is necessary to place a stair there, which now we will achieve by changing the contour of the slab.

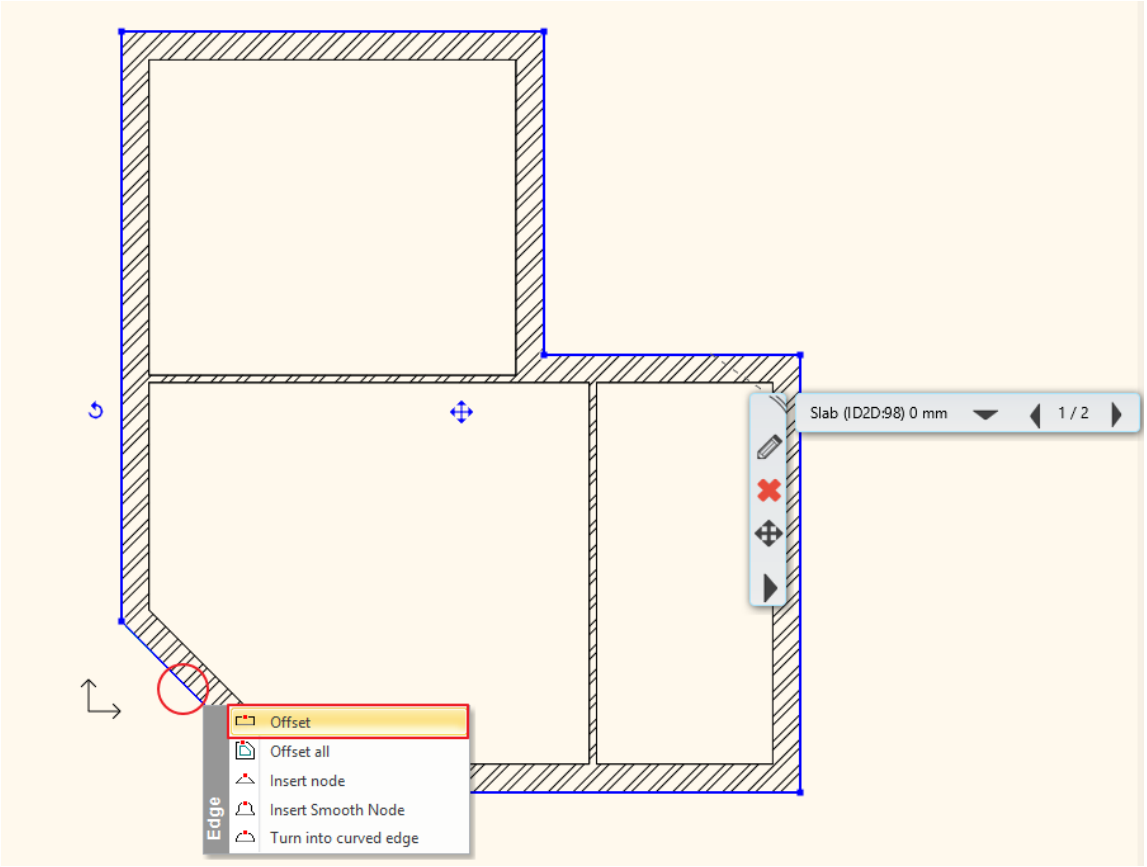
- Select the previously created slab. To do this, click on the external contour of the main walls.

At very early stages of a drawing process some parts of the project will become already crowded with the 2D symbols of certain items. If there is more than one item at the point where you have clicked, the Quick selection panel will appear at the right side of the floating icon menu, to help you choose the proper item.

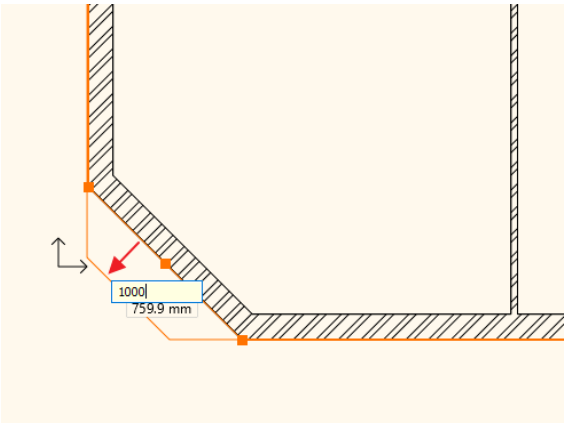


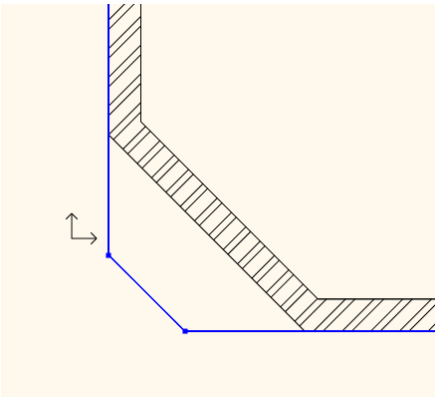
- Press the “Jump to the next item” button

of the Quick selection panel to make the slab selected. If the slab is selected you can see the selection on the floor plan and also the text “Slab” will appear on the left side of the Quick selection panel.
- When the slab is selected blue markers run around its edges. Click on the 45 degree angle blue line.



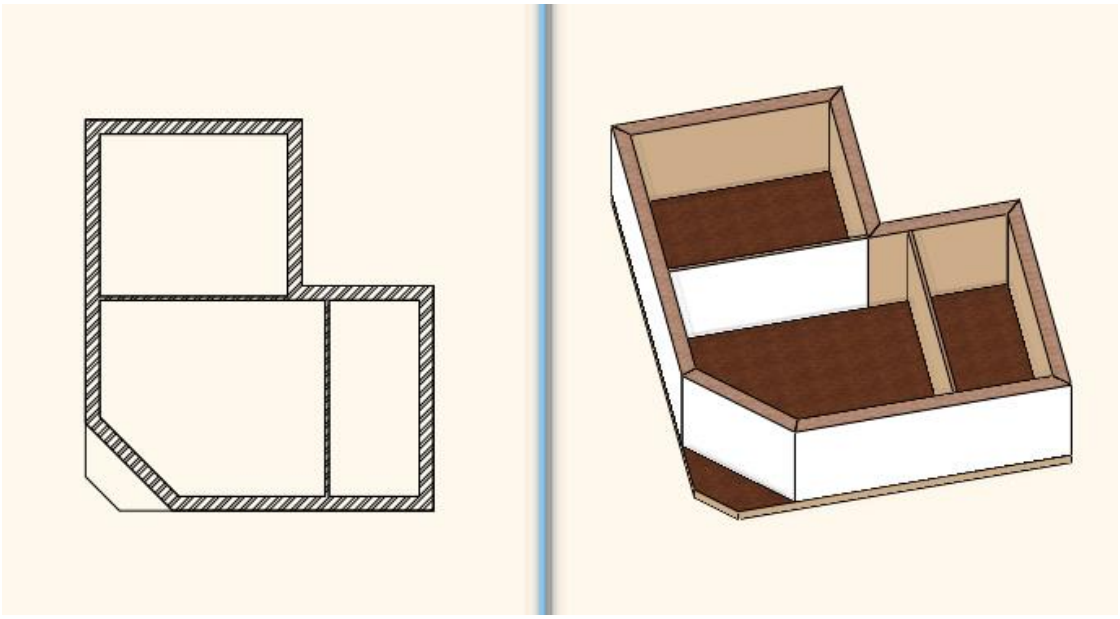
- The marker menu appears. Click on the “Offset” command.
- Move the cursor down and left 45 degrees (perpendicular to the current edge) and type 1000, and then press Enter.





- Finally press the ESC key on your keyboard.

Following the previous steps you have just created a one-step stair in front of the entrance. Using similar methods later terraces and balconies can be established.



The walls, the floor, and the staircase have been completed.

There is a full featured Stair tool in the program which you can use to create real complex staircases. The Stair tool is the focus of another advanced level tutorial.

2.3.9. Floor management – Create and edit floors

With ARCHLine.XP® you can work on large drawings not only in the horizontal direction, but in the vertical direction you can also create the necessary structures to design multi-storey buildings. The following example shows a simple task to make you easily learn and understand the concept of floors.

The use of the floors can be necessary because of the following:

- The symbols of the elements on the different levels should appear on different drawings corresponding to the proper floor of the item. The layout of the ground floor, the first floor, loft, etc. should be represented on their own respective drawings separately.
- On the other hand it is also easier to specify the height of the elements and furniture referring to their own floor instead of using a global zero level always.

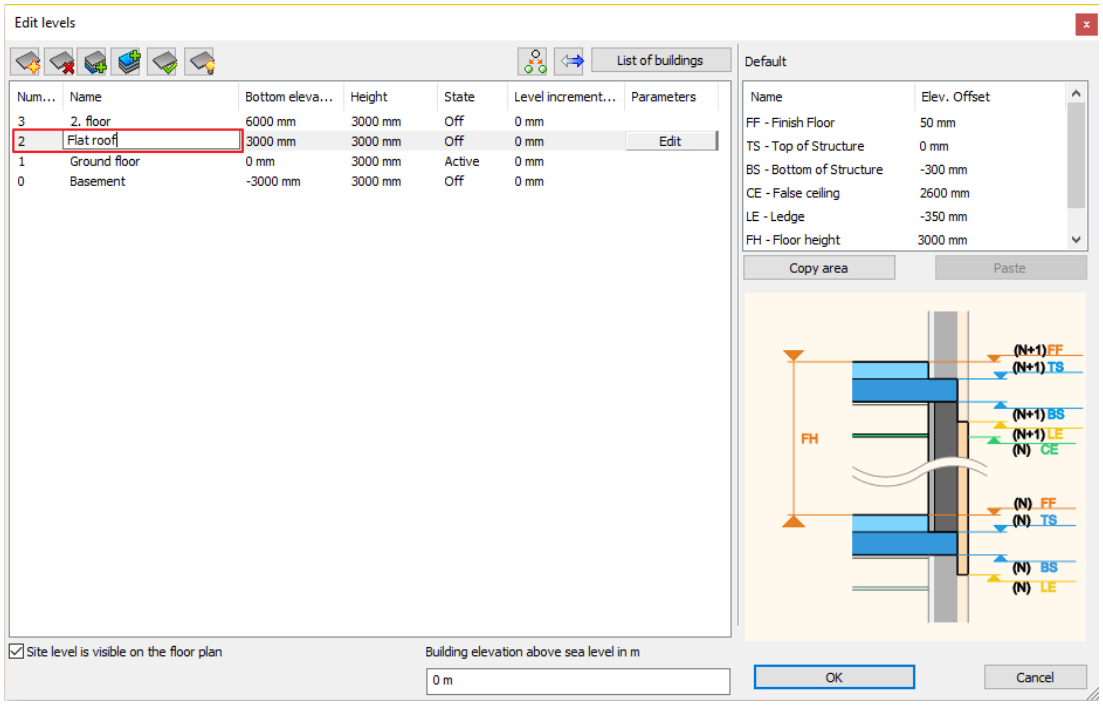
Create a floor level. Repeat the following steps:

Create the floor of the flat roof

- Click on the “Ground floor” button. The “Edit levels” dialog will appear.

- In the list there are 4 floors now. We use the Ground floor. These floors are created by the software by default every time when you start a new project.

- To rename 1. floor click on the name of it. Type the following: **Flat roof,** then press Enter.

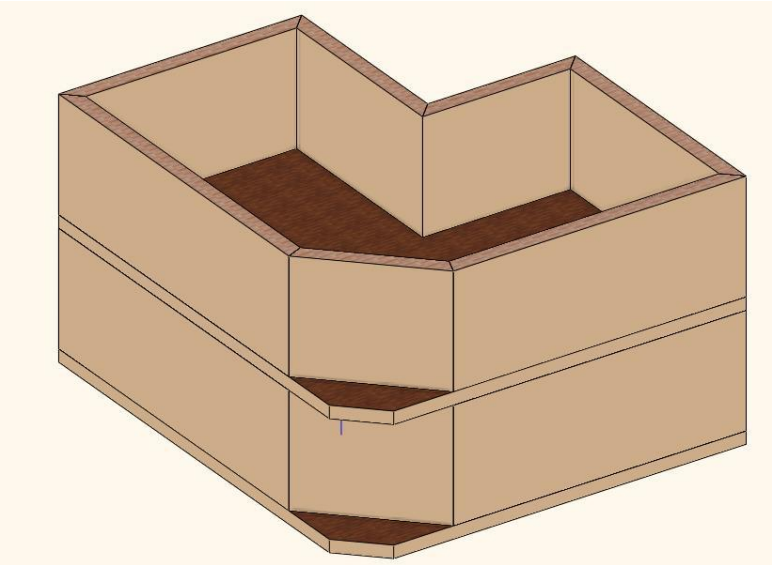


- Click OK.
- The project now has four floors, and the content of the Ground floor is visible. The building of the current exercise has a flat roof. We will be copy walls and slab of the Ground floor to the Flat roof level. Now do the following:

Copy the walls and slab of the Ground floor:

- Select the entire floor plan with the selection rectangle.
- Press the Ground floor button. The Edit floor levels dialog appears.
- Press the Copy objects to another floor .
- In the appearing dialog window select the floor named “Flat roof”. Press the OK to copy the selected items.

  In the 3D window now you can see that the full content of the ground floor is copied to the upper floor as well. On this level, we will create a flat roof so we will not need the partition walls, and we need to change the height of the main walls too.



Modifying the properties of the copies

- Select the partition walls on the Flat roof floor and delete them.
- Now select one of the main walls. The “Property grid” will appear on the left side of the screen. There you will find the “Height” property of the wall which now is 2700 mm.
- Click on the property in the “Property grid” on the left side and change the wall height to 1000 mm, and press Enter.

  The properties of multiple walls can also be changed using this method. Instead of it, now we will learn about the “Copy properties” command.

Copy properties - optional

- Select the 1000 mm tall main wall on the floor plan.
- Click on the paintbrush icon in the top toolbar of the program. This is the “**Copy Properties”** command.
- The Properties dialog box labelled Wall appears with the properties that can be copied. Make sure that the Height of 1000 mm is enabled (there should be a black tick at the left side of this property row). Enabling or disabling property options allow the selection of properties that you would like to copy or you would like to leave unchanged.

- Press the OK button.
- By using the rectangle selection, please select the content of the entire Flat roof on the floor plan.
- Now press the Enter on the keyboard.

The result of the previous steps will be that the program will copy the properties of the selected wall (now all of them) to the selected walls. Now the height of all walls is 1000 mm. We are ready with the Flat roof.

There is an even faster solution to the previous exercise:

Select elements by type:

Task: Select all the walls on the level of the Flat roof and change the walls height to 1000 mm.

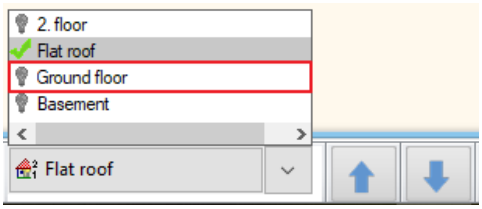
- Hold down the CTRL key on the keyboard.
- Click on the Wall tool in the Toolbox.
- Release the CTRL key.
- Change the height of the walls to 1000 mm using the Property grid on the left side and press Enter.

All the walls on the Flat roof floor are now changed to 1000 mm tall.

Switch to the Ground floor

In order to continue working on the Ground floor it is necessary to jump back to that level as currently we are still working on the “Flat roof” floor.

- Click on the arrow on the right side of the Flat roof button. In the appearing list you can see a green check mark next to the name of the Flat roof floor indicating that this level is currently the active one.
- Click on the name of the Ground floor and you will see the ground floor elements appearing. We will continue here by creating the doors and windows.

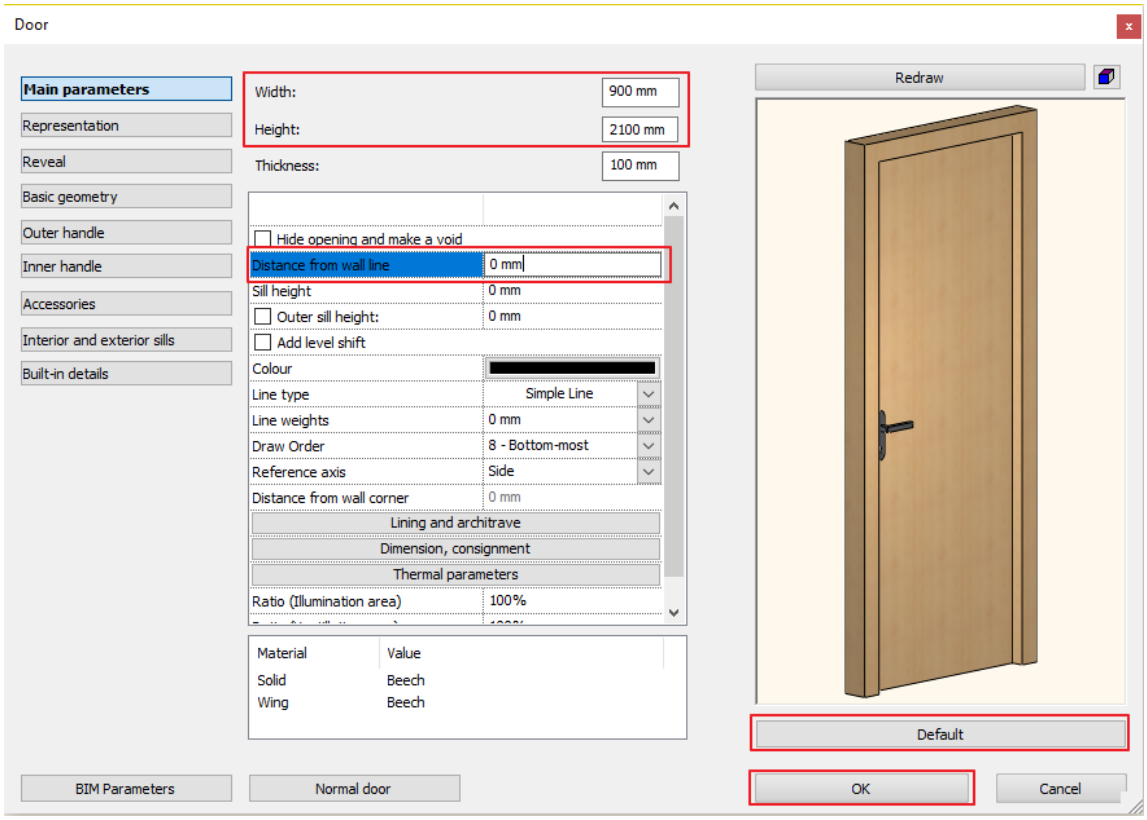


To switch between floors you can also use the Page Up and Page Down keys on the computer keyboard. Pressing these keys you can jump one level up or one level below in the floor list.

2.3.10. Drawing the Doors

We are going to draw doors inside the already existing main walls and partition walls. The first door will be a simple door placed into the partition wall. Proceed as follows:

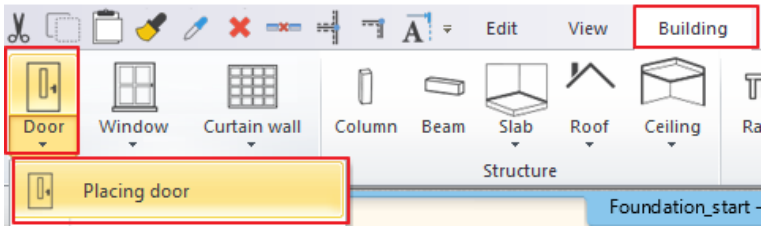
- Select the **Ribbon bar / Building / Properties / Door** command. Now the dialog box Door properties appears.
- Name of door: Default; Width: 900 mm; Height: 2100 mm, Distance from the wall line: 0 mm.



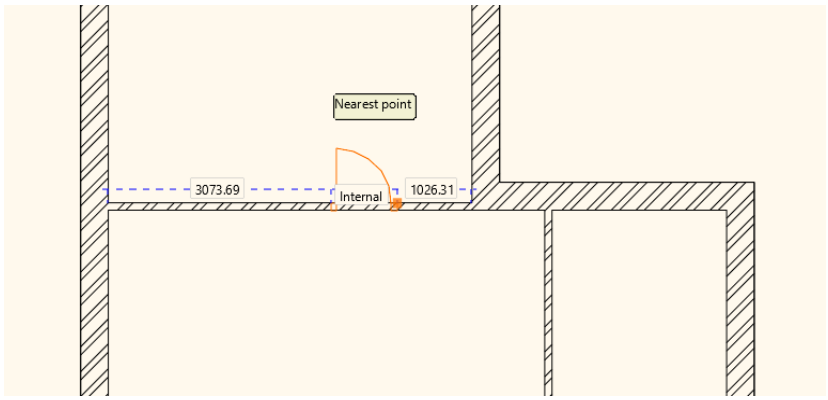
- Click on the OK button.

Placing the first door

- Select the **Ribbon bar / Building / Door / Placing door** command.

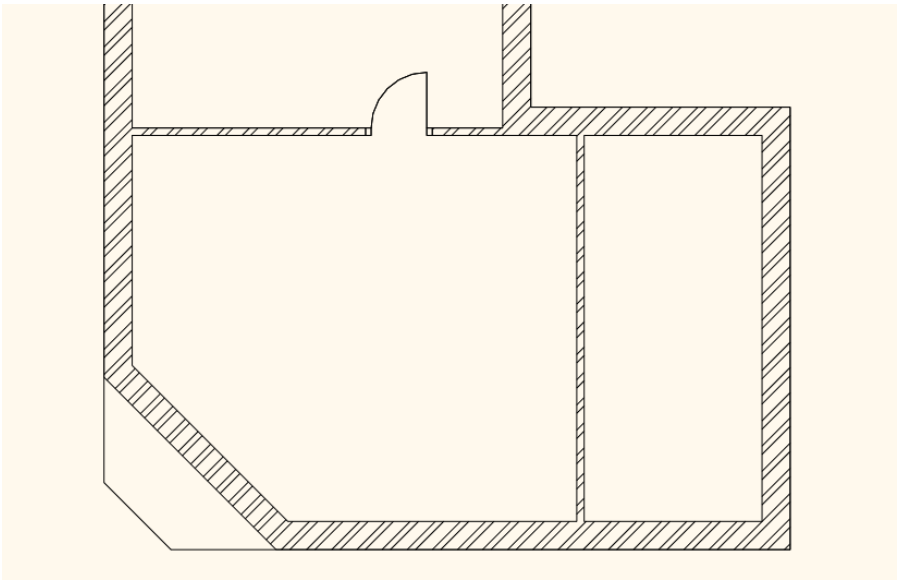


- Move the cursor over the drawing area above the horizontally aligned thin partition wall. At that moment, the cursor changes over to an orange door symbol.
- Move the cursor above the top side of the horizontal wall. Now the orange reference point appears which can be used to place the door.



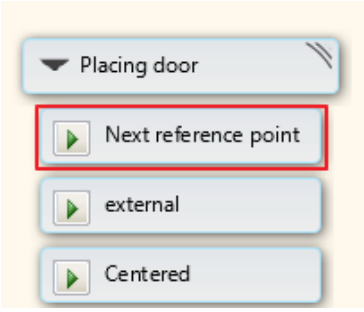
- Type in the value 950, then press the key Enter. By this operation, you have specified the distance between the orange reference point and the nearest wall corner, which is 950 mm according to the original drawing.

- Move the cursor around the placed door symbol. Observe that the opening direction of the door changes. Move the cursor until the opening direction corresponds to the opening direction shown in the original floor plan, and click. Now the door is ready with the appropriate opening direction.

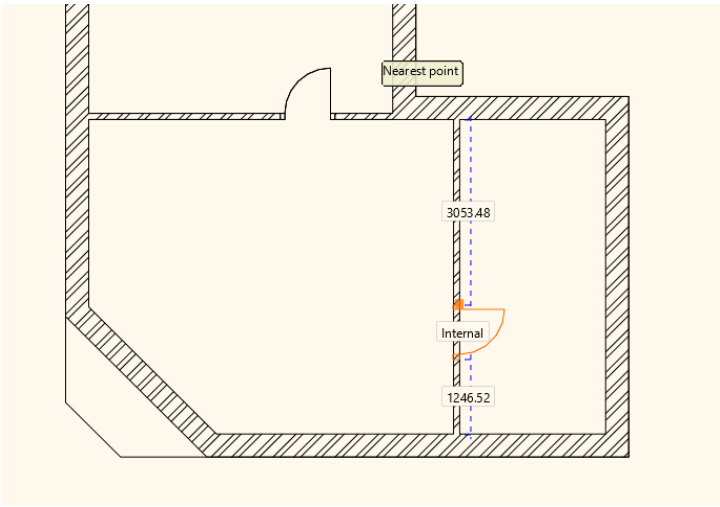


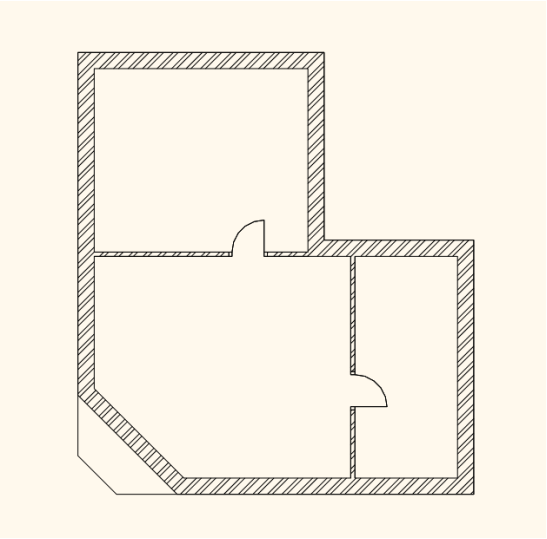
Placing the second door

Proceed as follows:



- Move the cursor over the partition wall shown vertically in the drawing, actually to the side of the wall facing the room to the right.
- Notice that the orange reference point appears at the lower half of the door cursor. The reference point can be changed during the process of drafting.
- Now a couple of additional options appear at the right top corner of the Work area, with the help of which you can intervene in the process of drafting the door. Select the instruction "**Next reference point"**, and move the cursor over the partition wall again. This time, the orange reference point appears at the middle of the door.
- Select the option "**Next reference point"** again, and move the cursor again over the right side of the door. This time, the reference point appears at the upper extreme point of the door. Determine the distance between the marked reference point and the nearest wall corner similarly as you did for placing the first door.
- Type in the value 2700, which is shown in the drawing also, and press the key Enter. Now the door appears in the wall.
- Determine the opening direction of the placed door by moving the cursor around the door symbol and clicking. The door is now finished, and it appears in the model too.
- Press the ESC key to close the command.



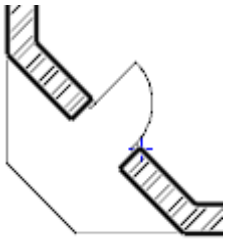


2.3.11. Modifying the property of an existing item

Placing the entrance door

The next step is to draft the entrance door according to the floor plan. Modifying properties of an existing item can be done easily. For this reason, initially the entrance door will be drafted as a single-wing door, similarly as the internal doors, and then we modify it to become a double-wing door.

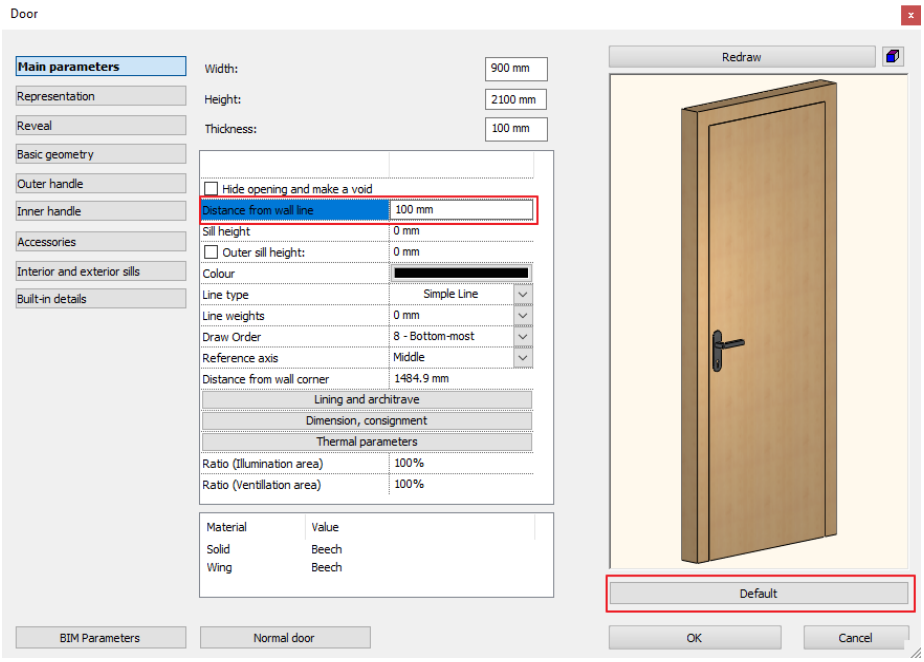
- Select the Door tool again in the Building category of the Ribbon bar.
- Move the cursor over the main wall shown in inclined position in the drawing, at the side of the wall facing the room. Notice that the orange reference point appears at the lower half of the door cursor.
- Select the instruction "Next reference point" from the options shown in the right top corner, and move the cursor again over the side of the main wall facing the room. This time, the reference point is located at the middle of the door.
- Move the cursor along the internal side of the wall towards the middle of the wall until the shape of cursor changes and the middle point cursor appears. It means that the reference point of the door is kept exactly at the middle of the wall section. Click with the mouse to place the door into the main wall, exactly at its middle.
- Move the cursor to determine the desired opening direction, then click to confirm.
- Finally press the key ESC to close the command.



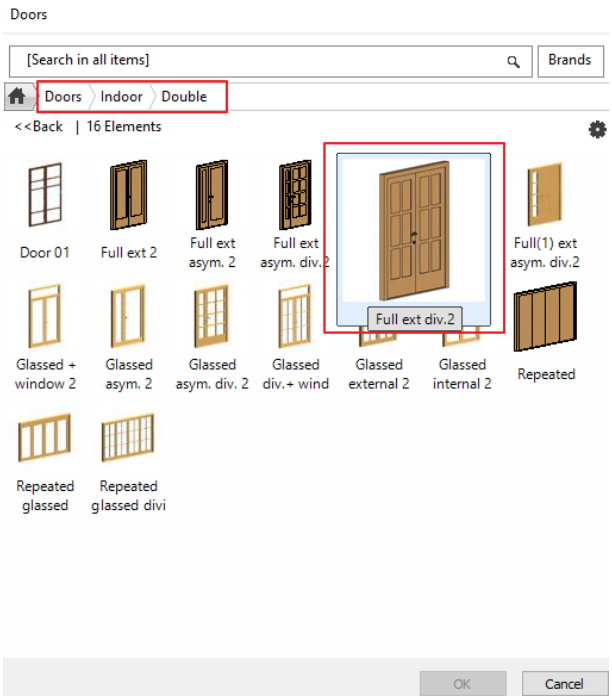
The type of the entrance door, and its alignment in the wall do not corresponding to those shown in the floor plan for the time being. Therefore, it has to be modified. Proceed as follows:

Modification of properties

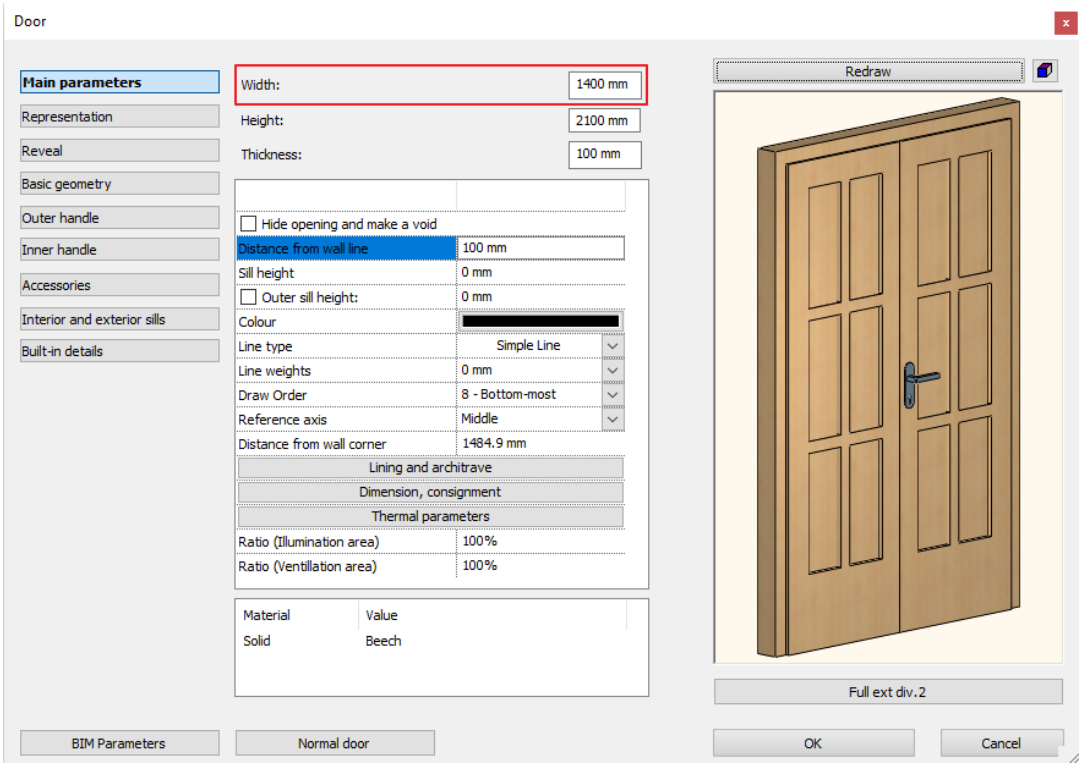
- Select the entrance door in the floor plan.
- The floating menu appears as a result of the selection, the first icon looks like a pencil . This is the "**Property icon**". The properties of the selected item can be displayed and modified with the help of this.
- Click on the Property icon . Now the **Door** property dialog window appears.
- You can see the Distance from the wall at the top right corner. Modify it to 100 mm.

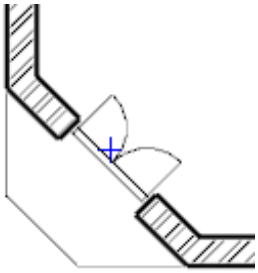


- Click on the **Default** button**.** In the appearing dialog click and select the a double-wing door named as **"Full ext div.2"**, and click on the OK button.



- You can see the Width value at the top of the Property screen. Modify it to 1400 mm.
- Click on the OK button. The modification of the door has been done.
- Press the key ESC.



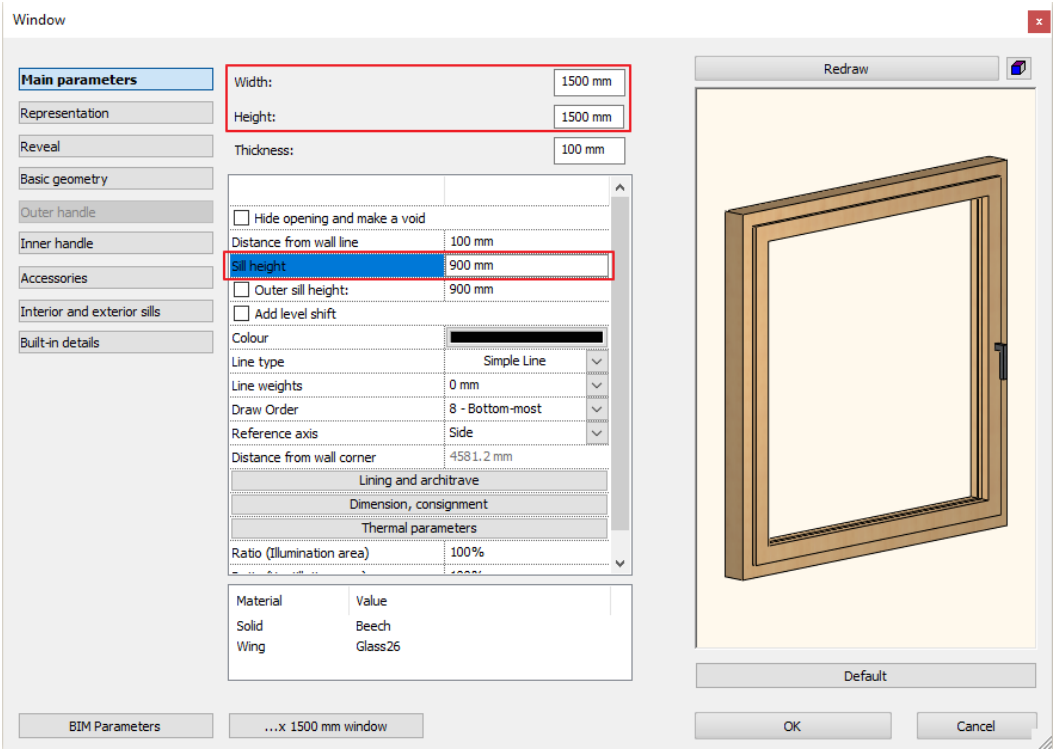


2.3.12. Drafting the windows

Now let's continue working with the windows.

Adjusting the properties

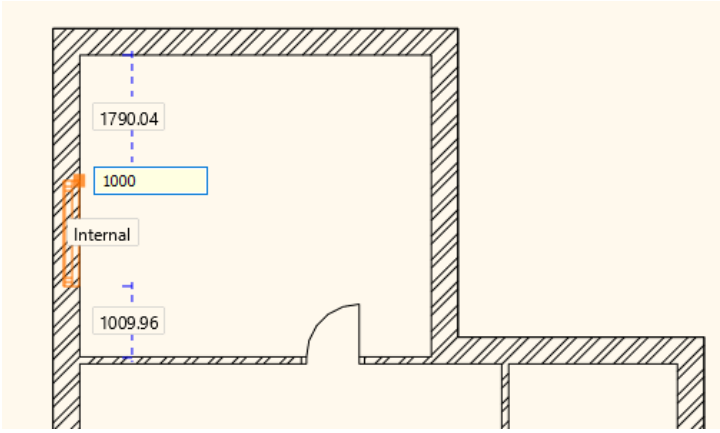
- Click on the menu item **Ribbon bar / Building / Properties / Window**.
- In the list at the upper right part of the appearing dialogue screen let the Sill height be: 900 mm.
- The Width and Height are: 1500 mm and 1500 mm.
- Click on the OK button to accept the settings.



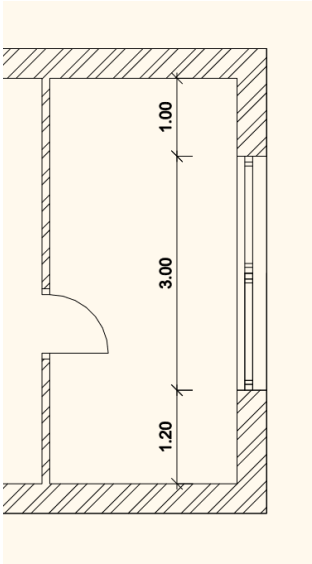
By following the couple of steps above you have determined the dimensions of the new windows. Now install two windows.

Drafting the windows

- Click on the tool **Window** in the category **Building** in the **Ribbon bar**.
- Move the cursor over the side of the left main wall shown in the floor plan facing the upper room. The reference point appears here also, with the help of which you can place the window. The reference point can be relocated with the method used when we installed the door.
- Select the option **"Next reference point"** from the options appearing at the right side, and move the cursor again over the wall section. The reference point is located now at the middle.
- Again, select the option **"Next reference point"** from the options appearing at the right side, and move the cursor again over the wall section. The reference point is located now over the upper corner point of the window.
- Type in the value 1000, and press the key Enter. By doing so, you have specified that the distance between the reference point and the nearest corner point is 1000 mm. The window appears in the wall accordingly.



- Now move the cursor to the side of the same main wall facing the room below.
- With the method applied above make sure that the window is properly located in the wall, so that its upper corner point is at a distance of 900 mm from the corner points at the connection of the main wall and the partition wall.
- After completing this operation, press the key ESC.



With the help of the operations above you have learnt how to install more than one window with given properties in a wall section.

This procedure can also be used in the same way with most of the tools offered by ARCHLine.XP®, so the steps are:

- ❖ adjust the required properties,
- ❖ draft additional items (walls, doors, windows, lines, etc.) with the appropriate drafting tool without interruption,
- ❖ finally, exit the drafting mode by pressing the key ESC.

- Before proceeding to the next chapter, draft the 3rd and 4th windows also in the wall of the Storage room located at the right side of the floor plan.

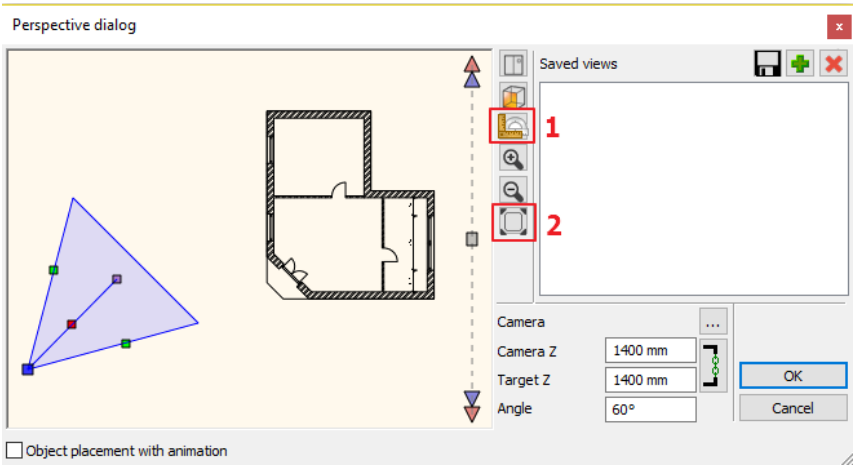
2.4. Furnishing and representation

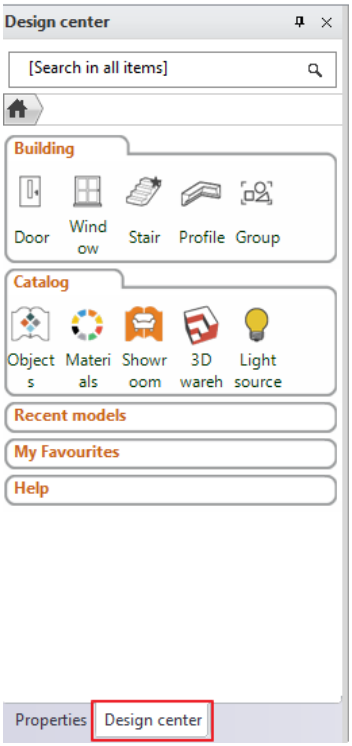
2.4.1. Setting up the perspective

In this chapter we deal with the furnishing of the rooms. Therefore, it is necessary to set up one or more perspectives besides the axonometric view of the model, so that we would be able to see and show how the model looks like from the inside to the customers.

Setting up and saving the perspective views

- Activate and enlarge the 3D screen with the help of the tool Navibar – Magnify window.
- Find the eye icon at the bottom part of Navibar, and click on it.
- The "**Perspective dialog"** window appears.
- Click on the button of 2D display (1), which depicts a yellow square ruler. As a result, the drawing of the Ground level of the floor plan appears at the left instead of the 3D top view.
- Press the orange-blue coloured button **"Fit to window"** (2). As a result, the blue camera tool, as well as the floor plan is displayed.

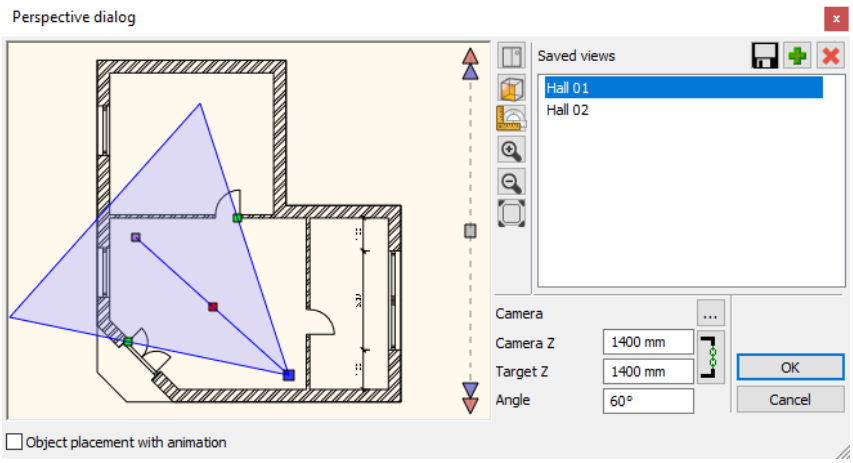




- With the help of **left button of the mouse click on** the blue marker representing a view point and keep the button depressed, and move it to the bottom right corner of the hall within the room. *Exceptionally and for practical reasons, the left mouse button is to be kept depressed during the movement in case of working in this dialogue box!*
- With the **left button of the mouse click on** the violet-coloured marker representing the view point, and while keeping the button depressed, move it to the left top corner of the room.

  With these two operations you have determined a perspective view.

- Let's save this perspective. For this purpose, click on the green cross at the top right corner of the dialog box. Now the program saves the view under the name "View 0".
- Click twice on it, and in the appearing dialogue box type in the new name of the view without quotation marks: "Hall 01" instead of "View 0", then click on the button OK. This way you have renamed the previously saved view.
- Create a second view also by using the above operations, which points to the upper right corner of this room from the entrance door. Finally, rename it to "Hall 02".



- Select the saved view named *"Hall 01",* then click on the button OK to close the dialog box.

  You can adjust and save additional views by following the previous operations at any time, so that a preferred view could be selected and displayed later with a single click with exactly the same viewpoint from time to time again.

When you have a number of saved views, then you can select the views by using the keys "Page up" or "Page down". which are used during the change of floor plan levels also.
Notice: the previously described way of changing views works only if the 3D screen is the active screen! In the 3D screen the program will change over the saved views, and not the levels.

2.4.2. Furniture items - The Design Center

Working as an open system, the software ARCHLine.XP® is capable of handling furniture items having different formats and from various sources without complicated file operations, and can read and place these items into the project with a single click.

If no internet connection is available at the moment, then you can use:

- the limited number of furniture items provided by the installer,
- the furniture items used in the previously opened projects,
- the furniture items downloaded during the former internet connection,
- your own furniture items that have been created with the help of the Furniture wizard of the program, or by using other 3D modelling tools.

As soon as you are connected to the internet, you will be able to access many additional furniture items:

- from the Showroom of ARCHLine.XP® free of charge,
- with the help of the browser of the free service of Google 3D Warehouse,
- from other web sites that allow downloading freely or by payment.

From here on, we will refer to furniture items as objects.

Let us start by discussing the locations of the objects that can be accessed right after installing the program, which are ready to use. The objects of the program can be found in the ARCHLine.XP® Design Center. Please do the following:

In the left side you can see two tabs, click on the tab "Design Center".

Now the main page of the Design Center has appeared. With the help of the browser you can find the objects that you want to work with at this moment from a large number of objects.

The Design Center contains the following items available in the program in groups:

- objects
- doors
- windows
- lamps
- materials
- 2D groups
- profiles
- stair shapes

Make sure that the main page of the Design Center is active. Click on the Home button .

You will find the objects within the **Catalog / Objects** category sorted into groups. With the help of a search, you can find all of the objects very quickly within these categories, the names of which contain the expression you defined.

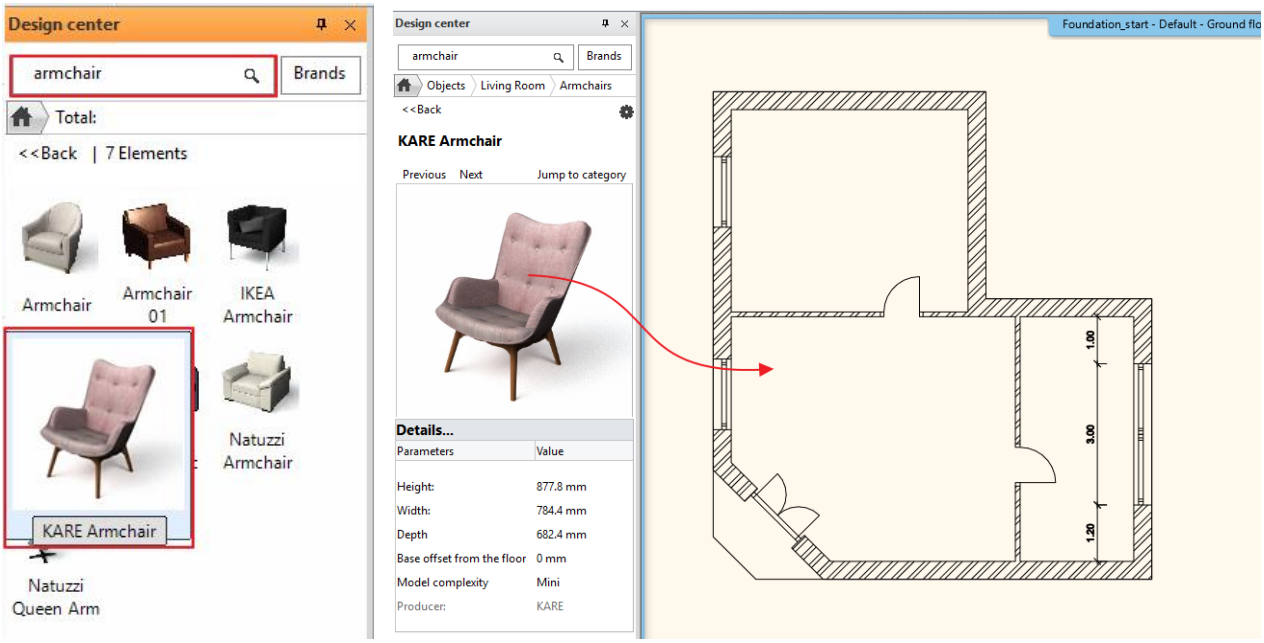
Follow these steps:

- Click on the topmost search field of the Design Center. This is the field, where you can see the text [Search in all items] in the default case. Define here the expression or part of a name you intend to make the search for.
- Delete the text that has appeared here, and type in the word "armchair" without quotation marks, then press the Enter key on your keyboard.
- The program finds and lists all the objects, in the name of which the searched word is included.

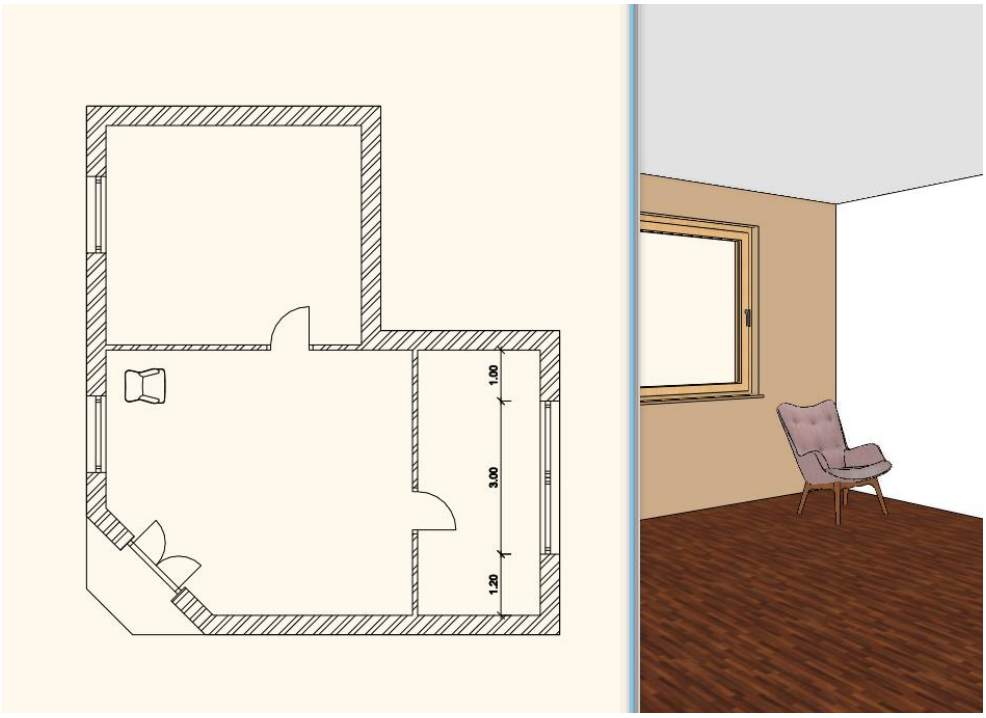
Now you can check among the found objects, and you can place any of the objects in the currently active 2D drawing.

Follow these steps:

- Click on the object “KARE Armchair”, and when the large image appears click on it and keep the mouse button depressed.



- With the mouse button depressed, move the cursor over the 2D drawing area, and release the mouse button.
- Move the cursor, and observe that the top view of the object “KARE Armchair” is displayed with orange colour, and it moves together with the movement of the cursor.
- Move the armchair over the room that has an entrance door in the drawing, and place the armchair in front of the partition wall with a click.
- Now the program offers yet another copy of the selected armchair for placing. Press the key ESC to finish placing objects.



If the object is not in the right direction, we will now turn to the appropriate direction with the help of the already know markers.

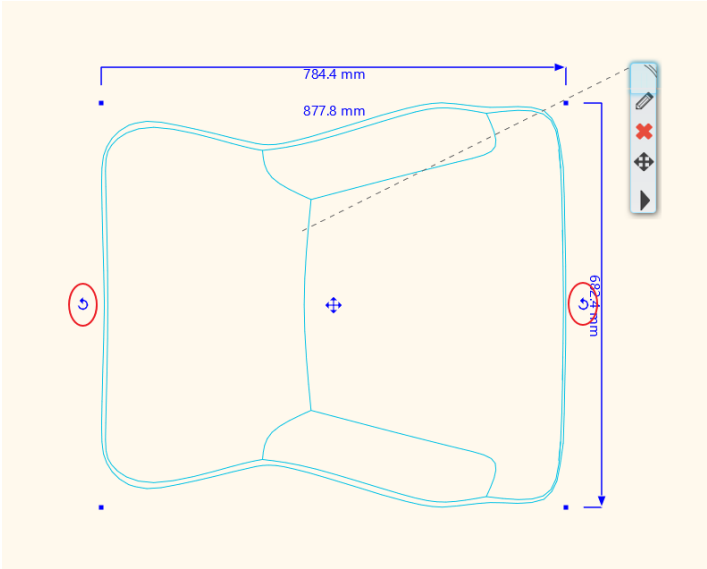
2.4.3. Movement and rotation

The use of markers is the simplest way of moving and rotating the drawing components already placed in the drawing. Please do the following:

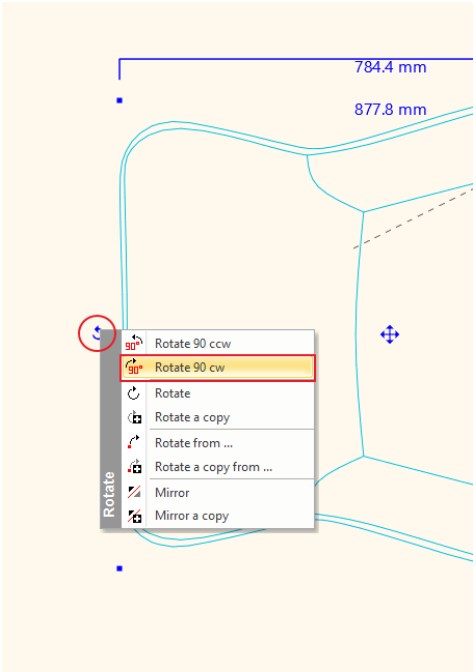
- Zoom to the area of the drawing, where the armchair can be seen.
- Select the armchair on the 2D drawing.

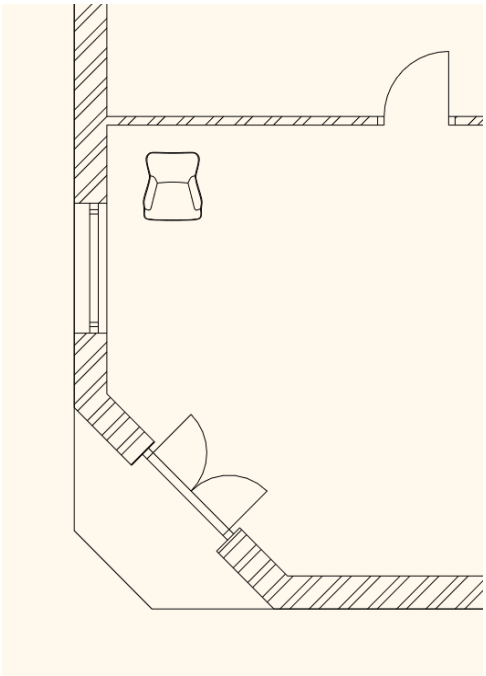
- A number of coloured markers appear on the screen. Click on the marker that shows a deep-blue curvy arrow. This is the Rotation marker.

If the rotation marker does not appear during the selection, then the component is too small in the given section of the drawing. In such a case, zoom in to this part of the drawing until the rotation marker appears.



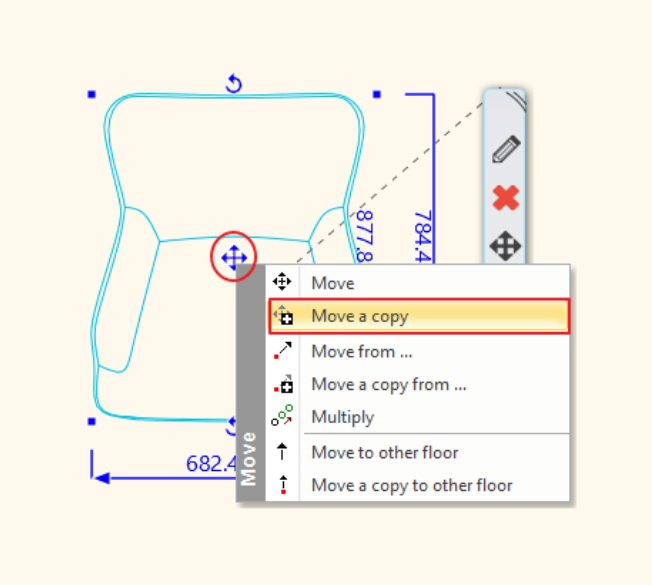
- The Rotation menu appears after you click on the Rotation marker (you can also see this written on the band running at the left side of the menu: "Rotation"). Select the menu item "Rotate 90 cw". Now the armchair is rotated, so that it faces the entrance door.

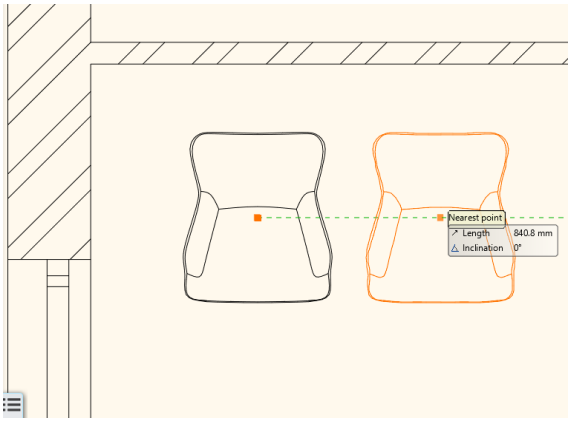




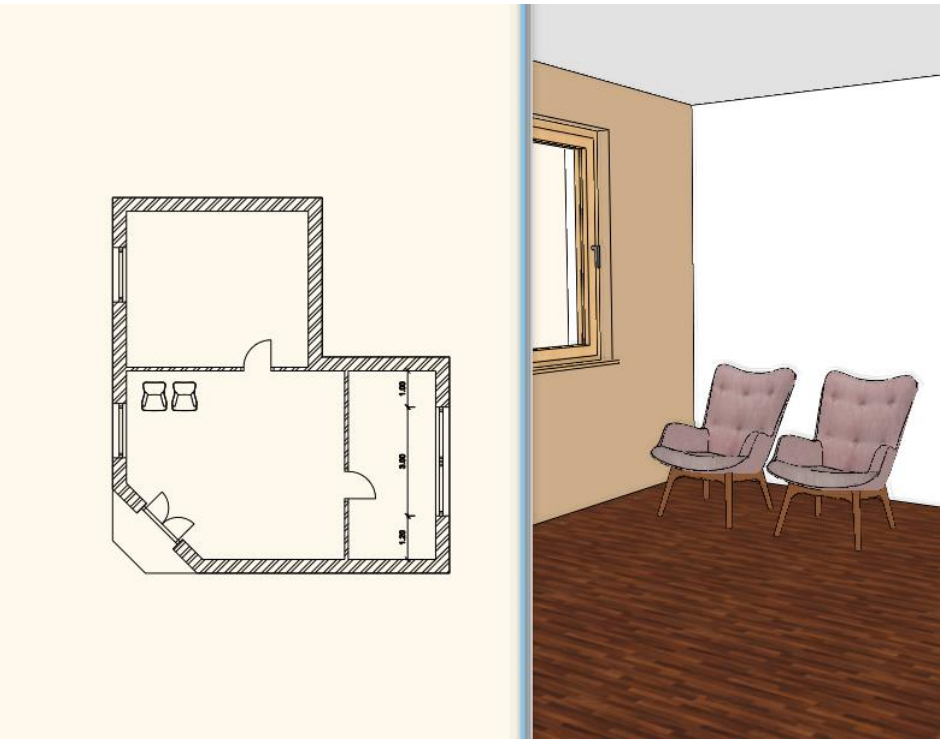
The armchair faces in the appropriate direction. Place a second copy of this armchair next to the former one:

- If the armchair is not selected on the drawing, then please select it now.
- A number of markers appear know, from which select the one that has arrows pointing in four directions. This is the Movement marker.





- Select the menu item "Move a copy" in the appearing menu.
- Move the cursor, so that the virtual copy appearing in orange colour is located to the right of the original armchair, then place the copy by clicking. Finally hit the ESC key. Now we can see two identical armchairs in the floor plan as well as in the model.



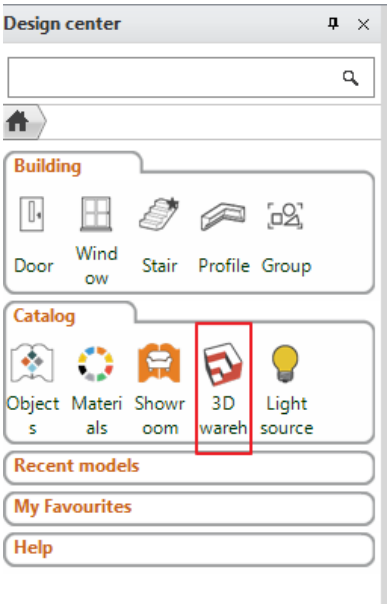
Study the Rotation and Movement menus, and notice how the program offers various possibilities for moving and rotating the selected components. You are encouraged to try these possibilities, because it is possible to use them very efficiently in many circumstances, as you will experience it soon.

2.4.4. Furniture items – The 3D Warehouse

Attention: An internet connection is necessary to perform the operations described in the chapter below.

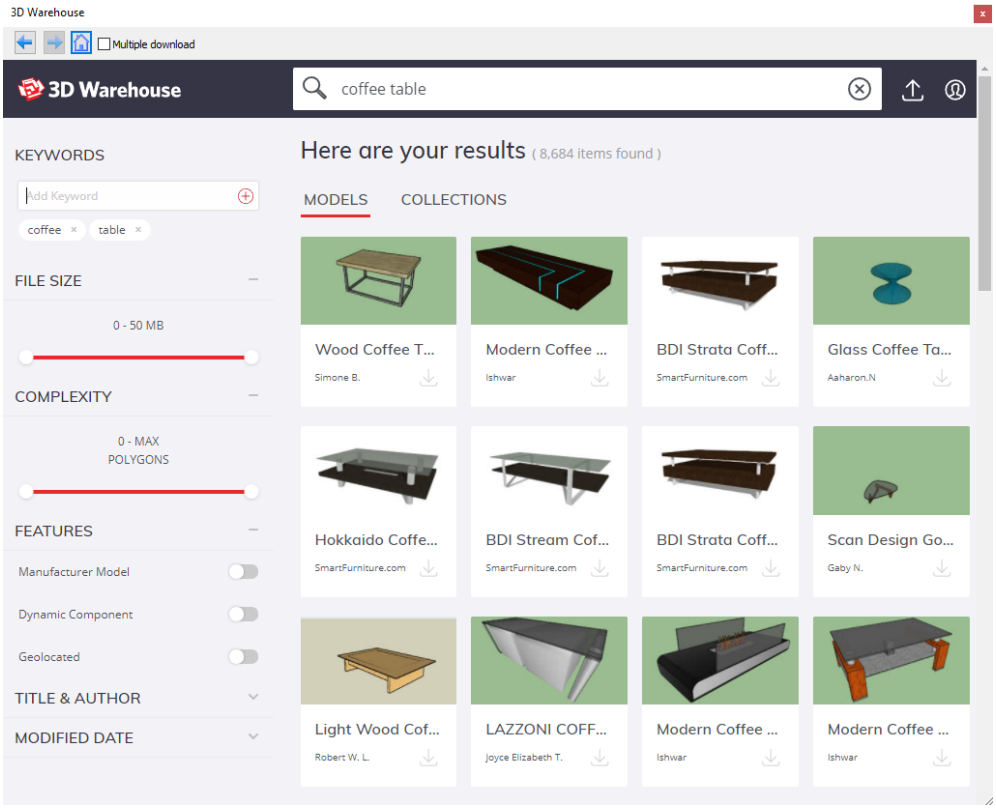
We plan to place a coffee table in front of the two armchairs placed in the hall. Now we search for an actual coffee table using the internet. Please do the following:

- Open the Design Center appearing at the left side. Select **Catalog / Google 3D Warehouse** command.

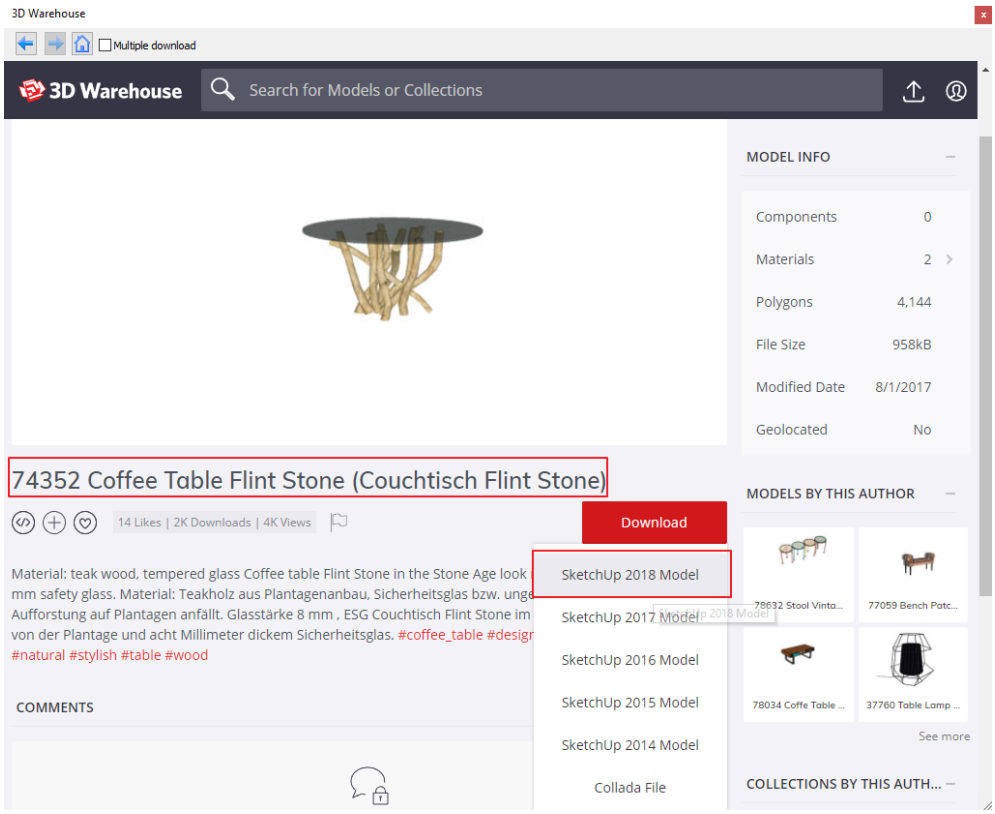


- The internal browser of ARCHLine.XP® appears shortly with the opening page of 3D Warehouse.
- Type in the word "table" without quotation mark in the search field, then click on the button Search.

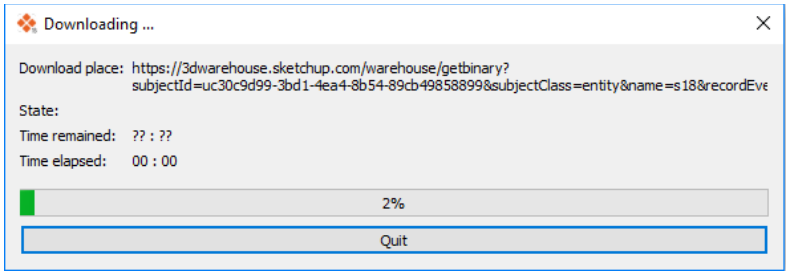
The browser of 3D Warehouse reviews all the objects in the database very quickly, then sorts and offers the ones for which the given expression "table" is true. The hits can be refined, if the former simple search word is supplemented with another expression.



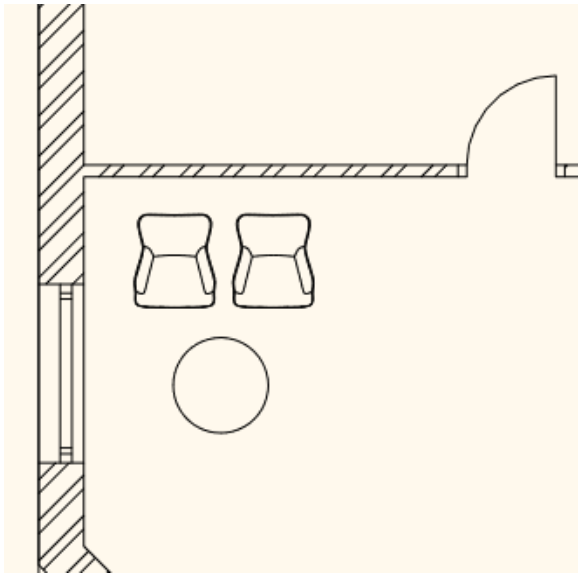
- Now write the expression "coffee table” in the search field instead of the word "table", then press the button Search again. You can observe that the result of the search typically lists different kinds of coffee tables among the hits.
- Now try to find a product of an actual manufacturer. Type in the expression „kare coffee table” without quotation marks, and press the button Search.



- From the hits select the object named „KARE 74352 Coffee Table Flint...". Yet another page appears now showing the selected object with a large image.
- Click on the "Download" button as a result of which the program starts to download the selected coffee table.



- Within a short time, the program will automatically offer the selected table for placing. Move the cursor until the orange-coloured virtual top view appears, and place the table in front of the two armchairs. Select the 3D screen to observe the current status of the 3D model.



2.4.5. Layer management

A frequent task is to illustrate a floor plan in different ways, so that we can observe the pre-planned alternatives of a furnished floor plan. Most design software usually facilitates the execution of this task with the help of the so called layers. If you did not meet the term “layer” yet, then read the explanation below to understand the idea.

What are the layers?

Imagine layer as a traditional layer used for overhead projectors, or as the frequently used tracing paper. You can draft various figures on this tracing paper, including walls or armchairs and coffee tables.

Name the tracing papers as "Walls" and „Hall furniture arrangement 1”. If you place the tracing papers on the top of one another, then you can see the walls, as well as the furniture items placed at the hall. If you pull out the tracing paper named „Hall furniture arrangement 1” from below the layer named "Walls", then only the walls are displayed.

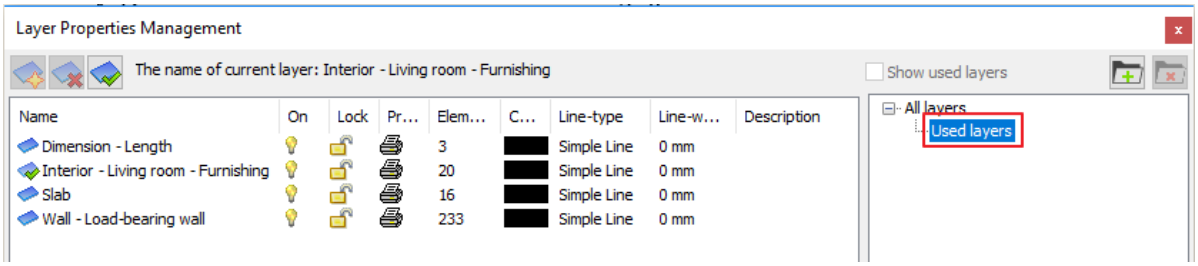
You may also place another tracing paper named „Hall furniture arrangement 2”, and you may develop a second alternative arrangement for the hall, and you can interchange the tracing papers showing the 1st and the 2nd alternatives depending on what you intend to display.

The operations mentioned in the example can be performed with the use of layers. A simple example is shown below for this task. The layers can be managed and reviewed with the help of the Layer Properties Management window.

Opening the Layer settings

- Click on the button Layer setting shown in the bottom toolbar of the program.

- The "Layer Properties Management" dialog appears. Click on the filter "Used layers" on the right hand side.



The exhibited list shows the layers, on which you have already placed components during the creation of this project. It is evident from the above description, that the program automatically sorts the various drawing components to different layers depending to their kinds. Accordingly, the walls are arranged on the layer “Wall – Load –bearing wall”, the floor slabs are on the layer Slab, while the objects are arranged on the layer “Interior- Living room- Furnishing”.

Create layers

During the design, it is best to create more layers for each room, where later the objects can be sorted easily with a few clicks.

- To create a new layer, go to All layers and click on Add new layer icon. You have to go through All layers because the program will not allow you to create new layer for the Used layers.
- Rename the new layer with double click: "-Living room 1", and then press Enter. It is necessary to start the name of the layer with a hyphen because it will jump to the beginning of the list and not search for it.
- Press OK to close the window.
- Select two armchairs and the table, then scroll through the layer list of the Properties on the left, by using the arrow.
- Select the layer that you created from the top of the list and click on it. The objects have been moved to this selected layer.

We want to show two different layouts on the floor plan – therefore we need to create a new layer.

- Go to the Layer Manager.
- On the right hand list, click on All layers.
- To create a new layer, click on the Add new layer icon.
- Double click on the name of the layer, and then rename it.
- Enter the following name: "-Living room 2", then press Enter.
- Finish the layers by clicking on OK in the lower right corner of the Layer Manager.

- Select the armchair and the table, then scroll through the layer list of the Properties on the left, by using the arrow.
- Select the layer that you created from the top of the list and click it. The objects have been moved to this selected layer.

Checking the layer properties of objects

- Click on one of the armchairs in the floor plan.

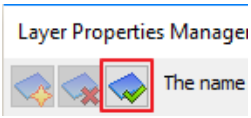
  Notice that there is a property named "Layer" among the properties appearing at the left side, which presently shows the value "-Hall furniture arrangement 1". It means that the selected object is located on the layer "-Hall furniture arrangement 1".

- By means of selecting, make sure that the other two objects are also located on the layer "-Hall furniture arrangement 1". Finally, press the key ESC to discontinue the selection.

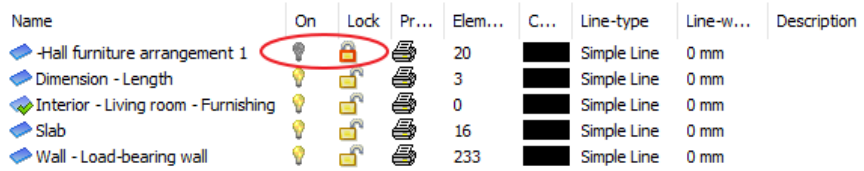
  In the next step we turn off the visibility of the layer showing the first arrangement, so that it would not interfere with the work, then we develop the second arrangement too.

Switching off the visibility of the layer

- Open the Layer manager with the button located in the upper toolbar of the program.
- The presently active layer is the one named "-Hall furniture arrangement 1". The visibility of the active layer cannot be switched off. Therefore, the second produced layer shall be selected and activated before switching off the visibility. Select another layer in the list, and click on the button "Activate layer" located at the upper left part of the "Layer Properties Management" window.



- Now the visibility of the first layer can be switched off. Click on the light bulb icon in the row of layer named "-Hall furniture arrangement 1". As a result, the bulb becomes dark.

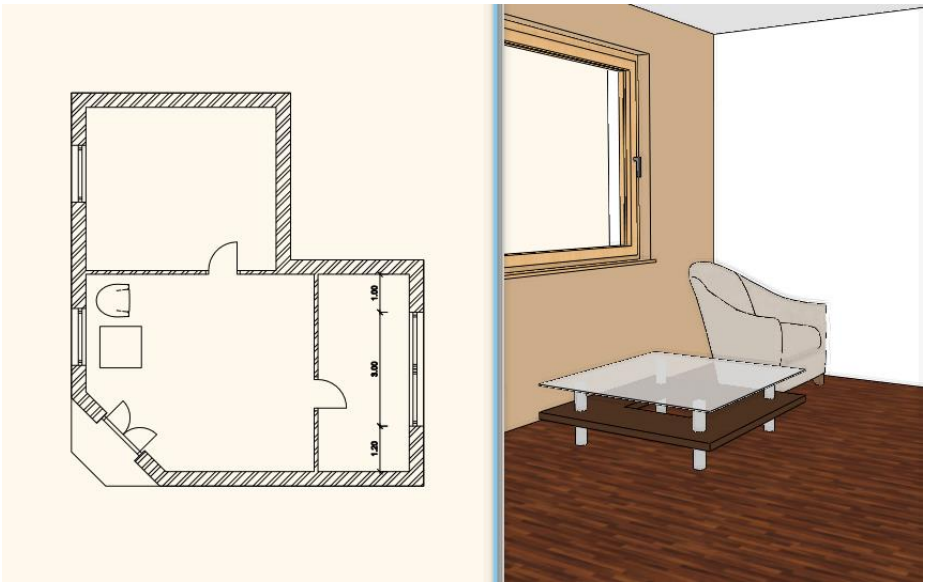


- Press the button OK at the lower right corner of the "Layer Properties Management".

  The two armchairs and the coffee table have disappeared on the 2D drawing, because you have switched off the visibility of the relevant layer. This step corresponds to the situation when a tracing paper is pulled out from below another one.

Drafting the second alternative arrangement

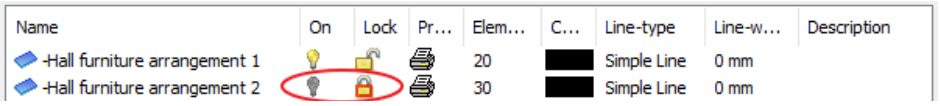
- Click on the tab titled as "Design Center" to open the Design Center.
- Use the browser of the Design Center to find the object “Armchair”.
- Place one of the object “Armchair” on the drawing in front of the left window of the hall.
- Hit ESC and select the armchair on the drawing, and then use the rotation menu to rotate the armchair until its back is towards the window (This can be accomplished by clicking on the Rotation marker, and with the help of the instruction "Rotate 90 ccw".)
- Find and place the object named "Coffee table 05" also next to the armchair.
- Highlight the two objects and move them to the "-Hall furniture arrangement 2" layer as before.



Currently you can see the 2D drawing of the second alternative arrangement. For the time being, the 3D model shows both arrangements simultaneously. We will discuss this later. To finish this chapter, we are going to make the first alternative arrangement visible again in the floor plan.
Please do the following:

Changing over to the previous alternative drawing

- Open the “Layer Properties Management” dialog with the help of the upper toolbar of the program.
- Find the layer "-Hall furniture arrangement 1", and click on the padlock icon located in its row. By this operation the visibility of the layer is switched on, and its content can be edited, meaning that all the objects located on this layer can be moved and rotated. Activate this layer as previously learned.
- Find the layer "-Hall furniture arrangement 2", and click on the light bulb icon located in its row. By this operation, its visibility is switched on.



- Press the button OK at the lower right corner of the dialog box.

By now, the floor plan shows the alternative arrangement that has been drafted first. As opposed to that, the 3D view displays both statuses simultaneously. It is time now for you to learn how to display the 3D model with the content corresponding to the status of the floor plan!

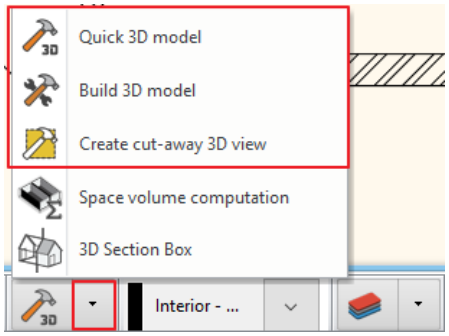
2.4.6. Playing with the model – The „3D hammer”

In most the cases the ARCHLine.XP® takes off the burden from the shoulder of the designer by updating the model on a regular basis. You may have seen a number of examples for this feature, starting from the drafting of wall, through copying the already drafted walls, up to the modification of properties, and you were able to follow the changes also in the 3D screen.

The regular automatic updating of the model, however, might slow down the project in certain cases. In such cases it is recommended to turn off this option: **File menu / Options / Graphics / Build 3D model / Keep 3D of the project updated**. We will not turn off this option now, but it is good to know that there is a way to speed up workflow when working with heavy models.

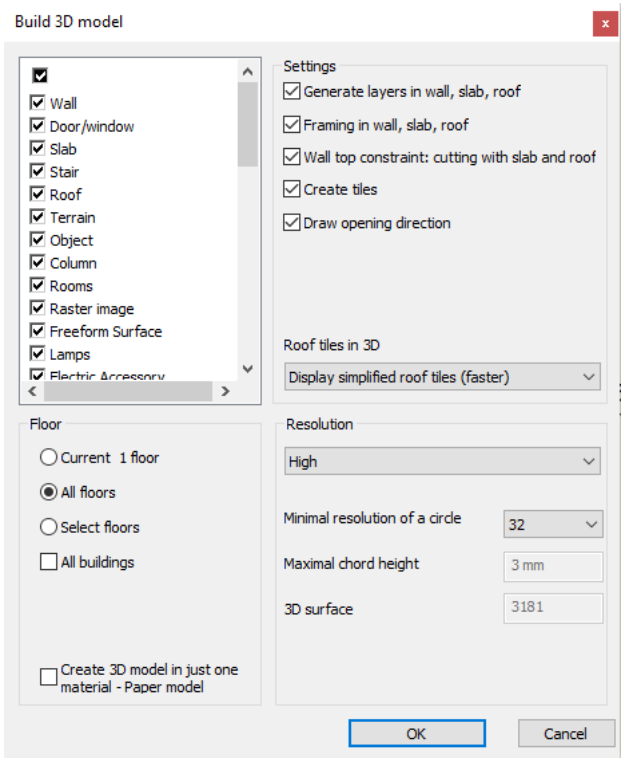
Updating the 3D model

- Click on the icon "Build 3D model" located in the bottom toolbar of the program, depicting a hammer.



Attention: you may see two similar icons. Choose the second “Build 3D model” command.

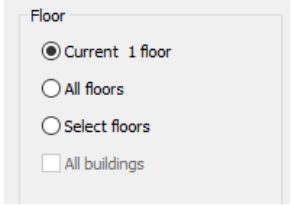
- The Build 3D model dialog box appears. Leave all options on default, and press the button OK at the bottom of the dialog box.



Notice how the program starts to work upon pressing the button OK, and how the status corresponding to the floor plan appears soon. It is also possible to display only a part of the present status, for instance only the components located at the Ground floor.

Displaying the active level only

- Click again on the icon "Build 3D model".
- The "Build 3D model" dialog box appears. Find the framed area "Floor" at the lower left quarter, and change the option "All floors" to "Current 1 floor", and then press the button OK at the bottom of the dialog box.



Upon pressing the button OK, the program starts to work, and it displays the model soon in a way, that the only visible components are those which you have drafted at the floor named "Ground" presently seen in the floor plan. This kind of representation could be an excellent tool to prepare a semi top view, a so called doll house view of the floor plan.

If you wish to see the entire model, then the model can be generated again by choosing the option "All floors".

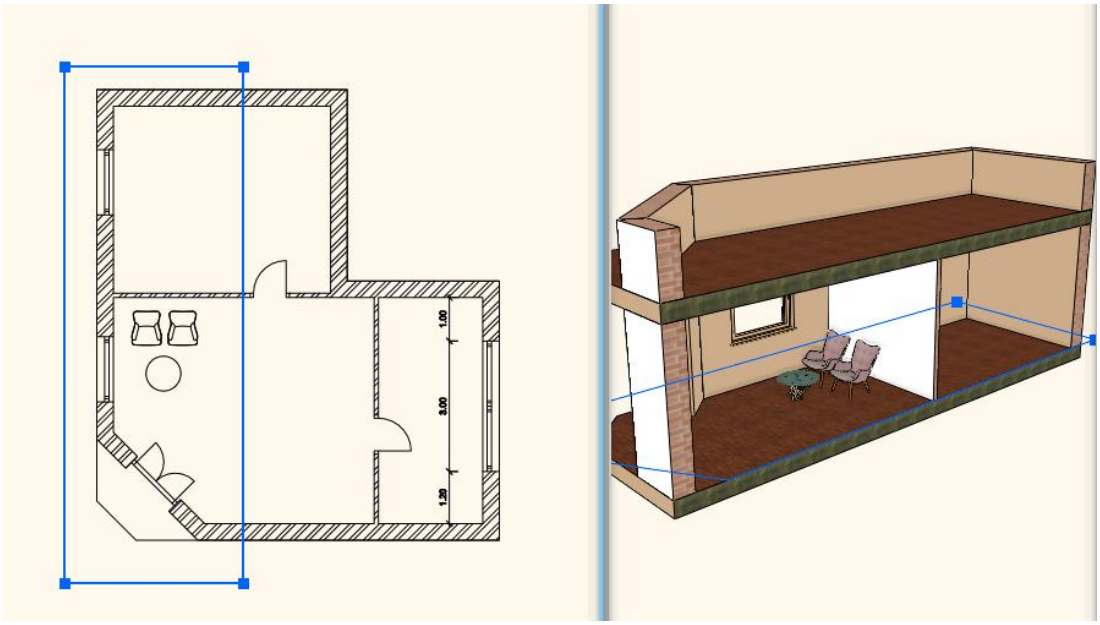
Re(building) the entire 3D model

- Click again on the icon "Build 3D model".
- The "Build 3D model" dialog box appears. Select the option "All floors", and rebuild the entire model again by pressing the button OK.

  Besides the previous possibilities, you can cut the model in half also, thus producing an interesting 3D view showing a spatial section of your design.

Displaying the part selected with a rectangle

- Arrange the 2D drawing so that the entire floor plan is visible.
- Find the button in toolbar of the program named 2D -> 3D by rectangle on all floors, which is located to the right of the 3D hammer used before, which depicts a hammer framed with a rectangle.
- Move the cursor to the upper left corner of the drawing area, and click. This way you have placed the first corner point of the rectangle.
- Now move the cursor until the lower edge of the rectangle cuts the model in two halves approximately where the coffee table is placed in front of the armchairs. Move the cursor to the right edge of the drawing and click once.



The model that has been cut along the edges of the rectangle mentioned above appears within a short period of time.

- Rebuild the entire model again showing all the floors according to the procedure learned before.

  Finally, you may learn the use of 3D filtering of selected objects, which is also very useful during the designing process. In this case, the program represents only the components that are selected in the floor plan.

Display the selected components only

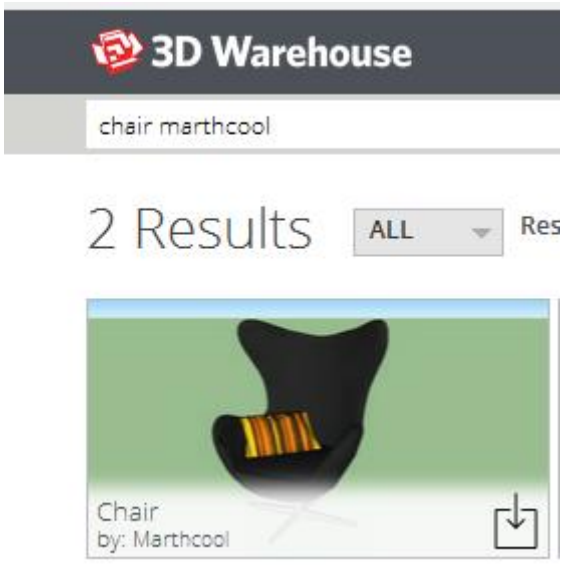
- In the floor plan select the two armchairs and the coffee table placed in front of them.
- Click on the first 3D hammer.

The program displays the 3 selected items only in the model. This possibility is particularly useful, when you want to focus your attention to a well-defined small part of a complex drawing.

- Rebuild the entire model with the learned procedure.

2.4.7. Modifying downloaded objects - Optional

Download the following armchair from 3D Warehouse: Chair Marthcool.
Place it on the floorplan.



There is a smaller cushion on it, so the armchair and the cushion compose one single item. Our aim is to save the armchair in the library without the cushion. To get this result please follow these steps:

- Choose on the **Ribbon bar / Interior / Sketch mode / Open Sketch Mode** command.
- Select with one click the editable object.
- This way the object is separated into parts: armchair and cushion.
- Edit: Click on the cushion and move it away from the armchair and then delete it.
- Now new armchair became 3D solids, those are not saved in the library, therefore we have to do it.
- Go to **Ribbon bar / Interior / Sketch mode / New Object** command.
- If it's done, close up the Sketch mode.
- Delete the old armchair, and place the new from the Design Center.

Notes:

„Sketch mode" command cannot be used on those objects which were uploaded by the designer as one single item.

2.4.8. Save project using another file name – Content of the project

In conclusion you may assess what the project actually contains, and you may save it to yet another project file. First, let us consider why it is necessary at all.

Saving of the various stages of the project prepared with ARCHLine.XP® might be necessary for a number of reasons, similarly to the situation when working with other applications. One of the most important one of these reasons is the principle of "One file is not enough". If you have your work in a single file, then all your previous work may be lost if this file is lost, e.g. you delete it or it gets damaged!

The state of art data storage methods tries to use increasingly safer methods to protect the data and your work, but it is still better if you make intentional efforts to protect them by creating copies of your work instead of using only a single file.

Saving the project under different name

- Select the menu item **"File / Save project as ...**" in the main menu.
- The appearing dialog box indicates that the project presently contains two drawings, the floor plan and the model. Click on the button Save at the bottom of the dialogue box.
- Type in the new name "Foundation 02" in the appearing box, and save it by clicking on the button Save.

2.5. Summary

Congratulations!

You made an excellent job by meeting a serious and very useful milestone, you have completed the training session of ARCHLine.XP dealing with the foundations!

Now you may review your work to realize that you have learnt the use of tools that can facilitate the resolution of quite complex tasks starting from the use of very simple but also very important and necessary tools. With the help of this training material you made acquaintance with the methods of the accurate and precise drafting.

With the knowledge you acquired so far you will be able to process complex floor plans for your own designing efforts, or you may redraw printed drawings too.

Workshop 3: Bathroom – Tiling

3. Workshop: Bathroom - Tiling

In this tutorial you will learn how to create and visualize tiling, particularly the placement of bathroom tiles in ARCHLine.XP®.
This course goes through the design of a bathroom project and provides you the following principles and basic skills both in 2D and 3D:

- Simple tiling design: Wall and floor tiling in 3D.
- Modify the tiling in 3D.
- Create and place Tiling style.
- Create Mosaic tiling.
- Tiling design in 2D layout.
- Tiling consignation: preparing listings of used tiling.
- Visuals: Wall views, rendered images.

As an example, we use Eva Ferenczi's bathroom project, and we choose from Zalakeramia product line - Albus tile.

The goal is to come up with the same result as shown on the image below:

Please open the following playlist in your browser:

https://www.archlinexp.com/education/video-tutorials/interior-design/tiling

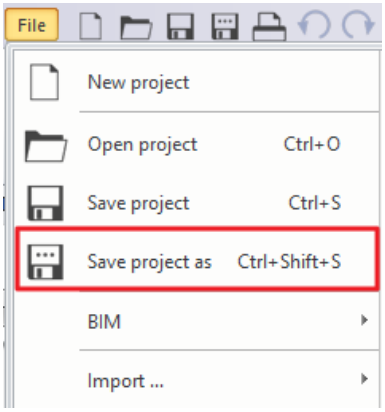
3.1. Open and Save the Project

Let's start by opening and working on Eva's initial project, which for the moment, does not include any tiling.
First of all download the **WORKSHOP PROJECTS - PRELIMINARY** from the website and install it. It includes all project for all preliminary workshops.

https://www.archlinexp.com/education/workshops/workshop-application-preliminary

- Start ARCHLine.XP®.
- Click on the "Open Project",

and choose the:
..\Documents\ARCHLine.XP Draw\2018\Workshop - Preliminary/Bathroom-Tiling\WS_Ferenczi_Eva_Bathroom_01_NO_Tiles.pro



Save project as …

Before starting to design, it is recommended to save your project under another project name in order to avoid overwriting the original.

- Clicking on the **File menu/ "Save project as.."** command.
- Click on the *Save* button and give the project another name, and Save.

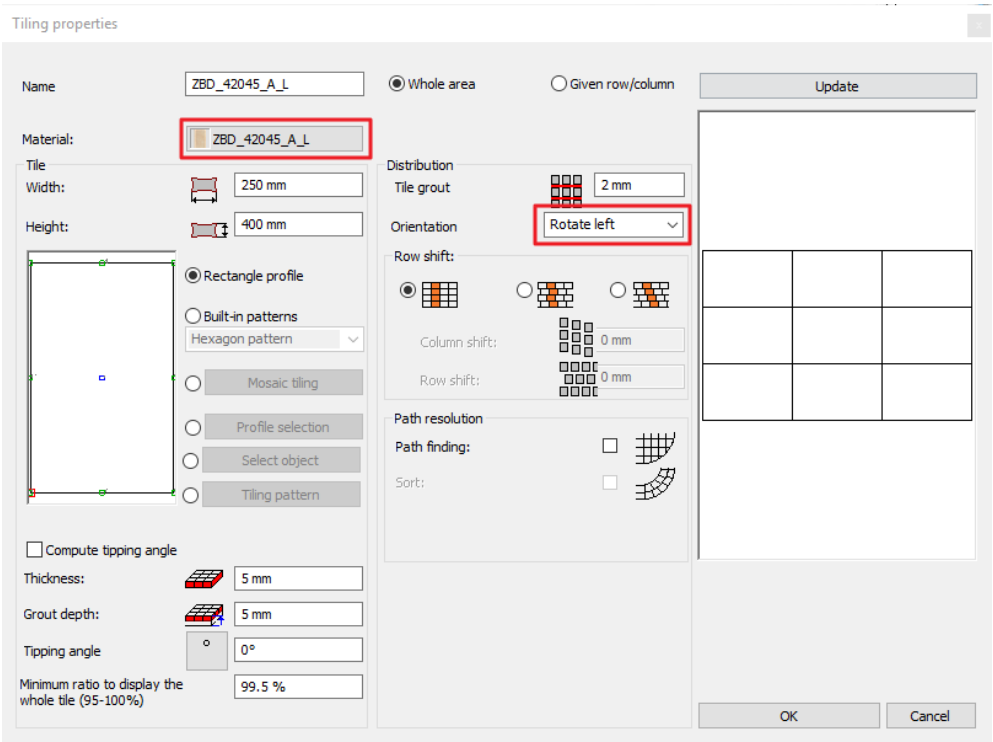
3.2. Tiling in 3D

The 3D tiling allows you to speed up the tiling style placement.
The surface can be selected with one click, a wide range of tiles can be selected and placed quickly on walls and floors.

Wall tiling

We are going to place „ZBD_42045_A_L" tiles on the whole surface of the walls (from floor up to ceiling).

- Activate the 3D window (the active window's frame turns blue). To activate the 3D window just click inside it.
- Right click on one of the walls, and select from the Local menu Tiling / Tiling on wall side / All walls command.
- In the appearing dialog, clicking on the name of the material and select from Library / Material / Tile / Indoor the material named „ZBD_42045_A_L". If you have selected the tile, click OK button.
- Change the orientation of the tiles to the „Rotate Left" option.



- To place the tiles click on the OK button.
- The result can be seen immediately.

All walls of the bathroom will be tiled entirely from floor to ceiling with the chosen tile.

Floor tiling

In the next step we are going to tile the floor with „ZPD_32045_L" tiles.

- Right click on the floor in the 3D window. Select from the Local menu the Tiling / Tiling- full area command.
- In the appearing dialog, click on the name of the material and select from Library / Material / Tile / Indoor the material named „ZPD_32045_L", then click on OK button.
- Before the program places the tiles on the floor, you should determine the direction of the tiles with the help of the orange squares. In order to position them to the exact location, place the first point on one of the blue corner points (the program finds it automatically) and then place the second point, which defines the rotation, by clicking on the contour line of the room. This way the tiling won't be placed diagonally.

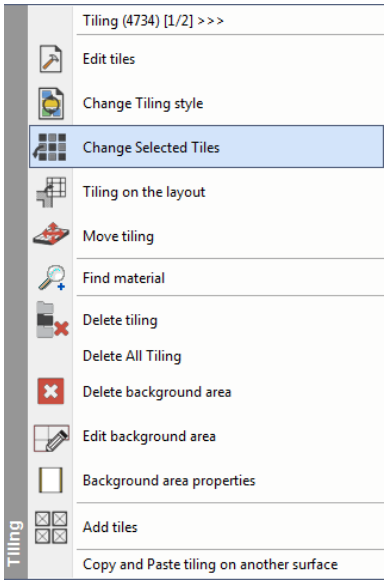
- After this the program creates the tiling.

Modify tiling

In the next step we are going to modify the tiling on the wall behind the toilet.

- Let's find a previously saved view with the help of blue arrows, from where we see the wall behind the toilet clearly.

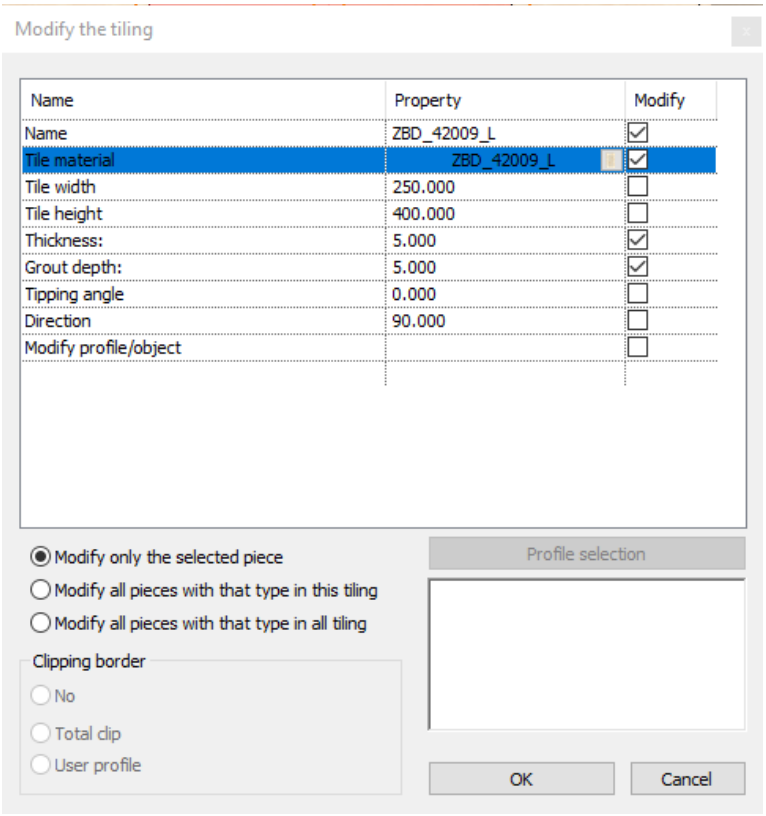
- Right click on the wall and select the "Change Selected Tiles" command from the appearing menu.



- Select the tiles to be modified by clicking on them. The selected tiles appear red on the screen:

- When you have finished the selection, press Enter.

- In the appearing dialog select from the material library the material named „ZBD_42009_L” tile by clicking on the name of the tiles, and then click on the OK button.

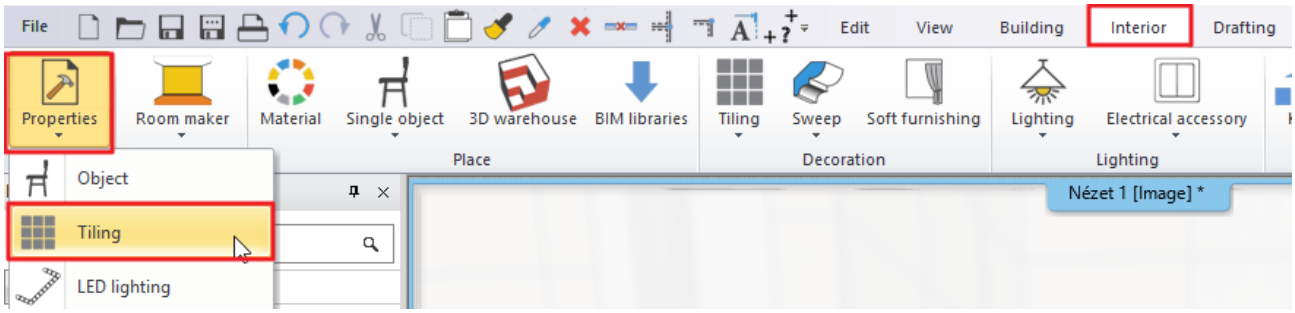


The final result should look as the following picture:

3.3. Create a Tiling style

Previously we showed how to use the 3D tiling for placing the tiling quickly and easily. In the next example we would like to place the tiling up to 2310 mm height, between 2310 mm and the ceiling we leave the white paint. To get this result we will create a Tiling style.

Click on the **Ribbon bar / Interior / Properties / Tiling** command. You can define a Tiling style in the appearing dialog.



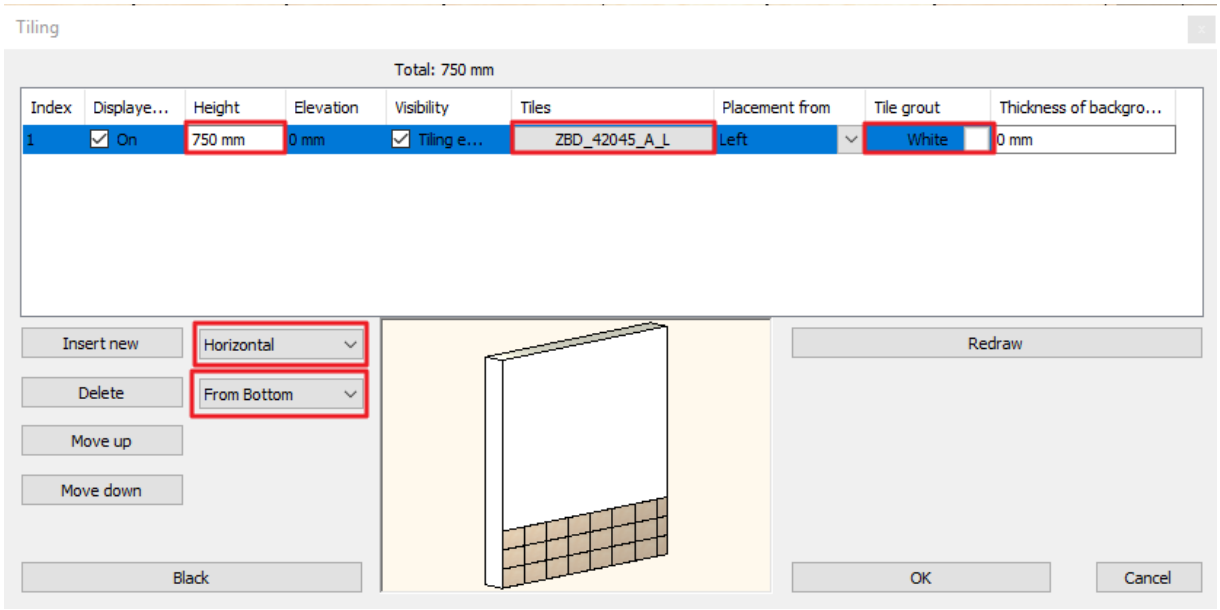
Define style: Albus_1

Our Tiling style will include 6 rows:

Row 1: Height from 0 mm to 750 mm: „ZBD_42045_A_L”
Row 2: Height from 750 mm to 250 mm: „ZBD_42009_L”
Row 3: Height from 1000 mm to 750 mm: „ZBD_42008_D_L”
Row 4: Height from 1750 mm to 60 mm: „ALBUS_SZ-4001”
Row 5: Height from 1810 mm to 500 mm: „ZBD_42008_D_L”
Row 6: Height from 2310 mm to 2000 mm: White painting

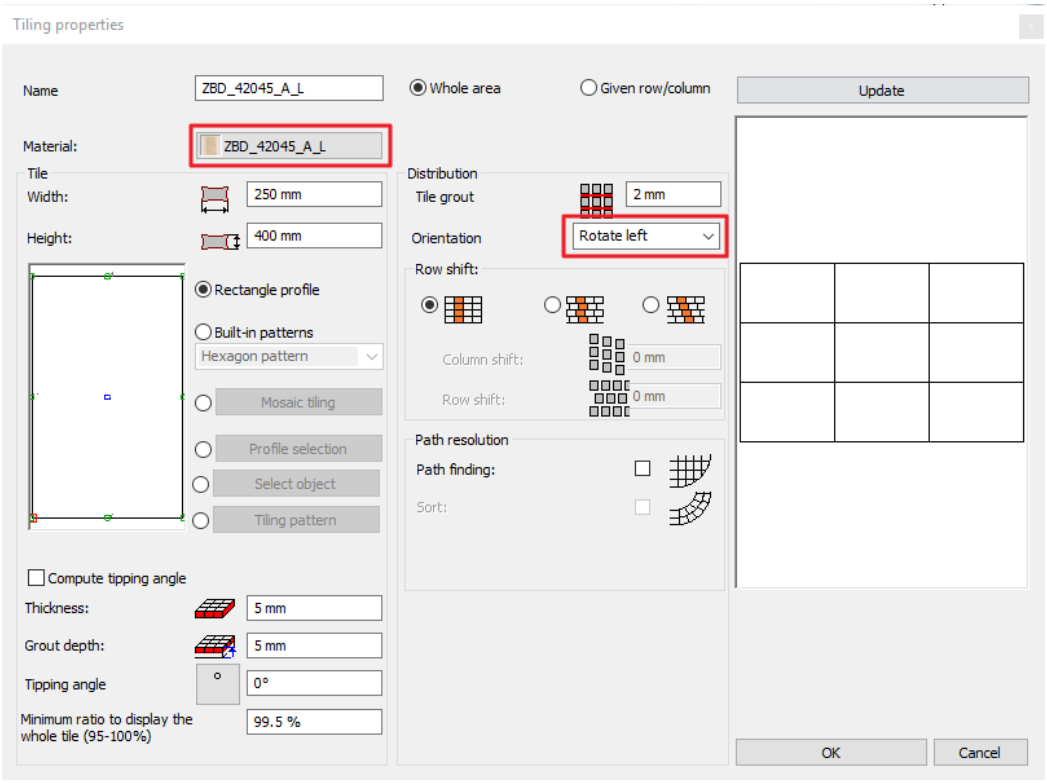
Row 1:

Enter the following parameters in the appearing dialog:



Click on the name of the tile to select the tile you wish to apply, in our case it is the „ZBD_42045_A_L” tile.

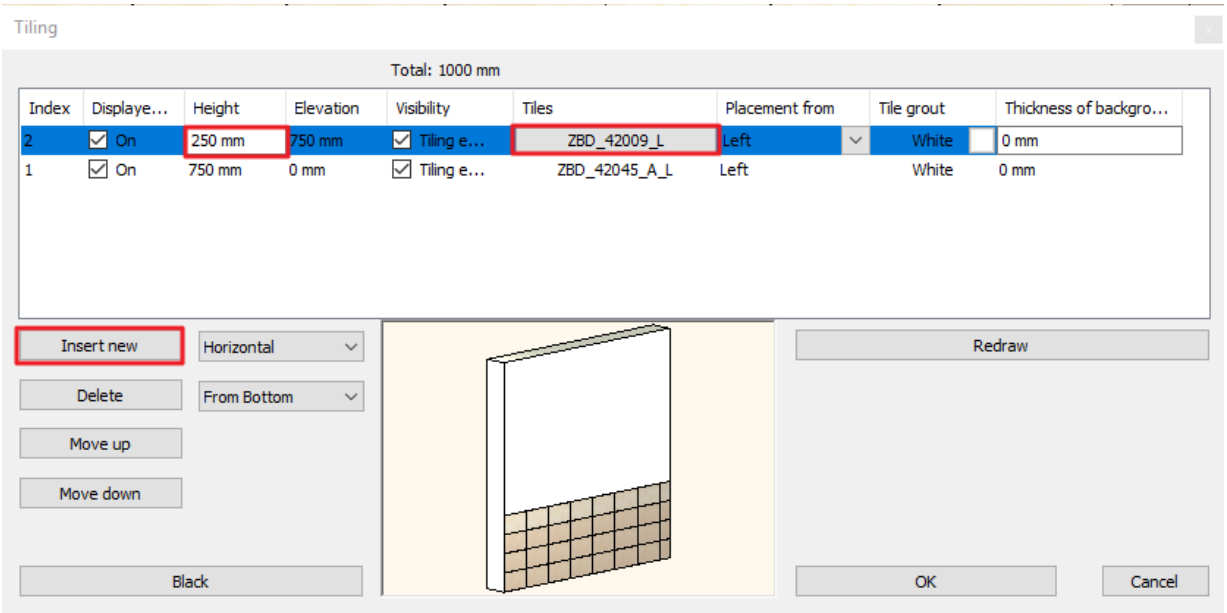
The Tiling properties window appears:



- Choose the „ZBD_24045_A_L" tile from the Library.
- Rotate it by 90 degrees. Set the grout: 2 mm.
- Click on the OK button.

Row 2:

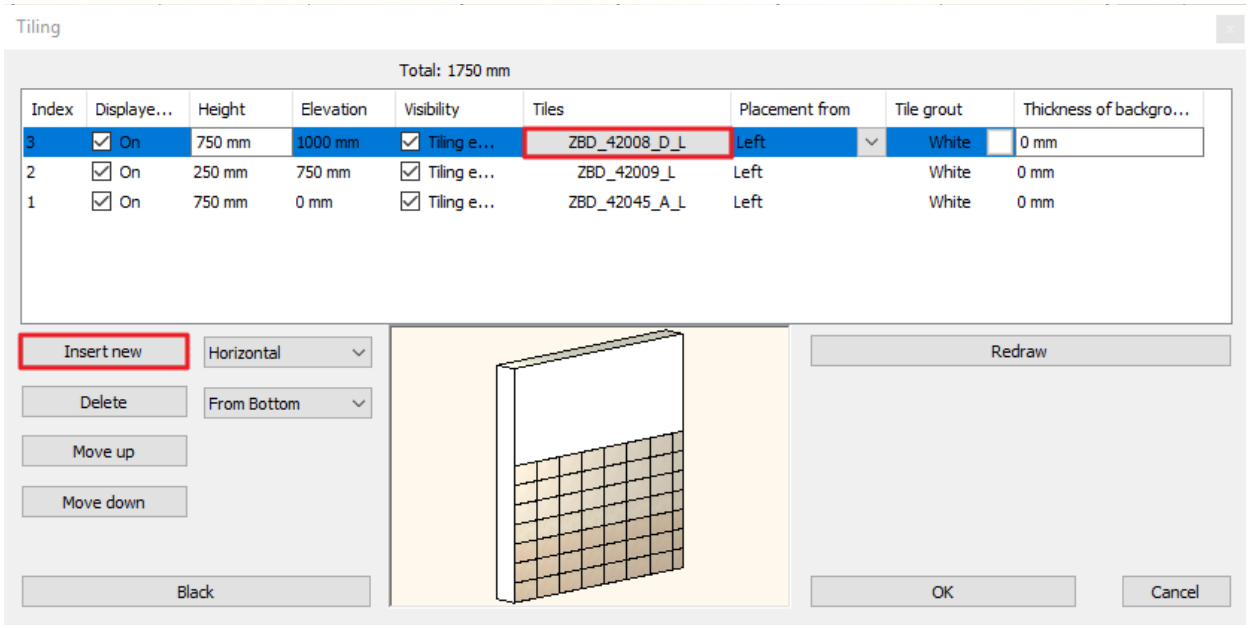
- Click on the Insert new button to copy the first row.
- The height of Row 2 is 250 mm.
- The material of the tiles is „ZBD_42009_L"



Row 3:

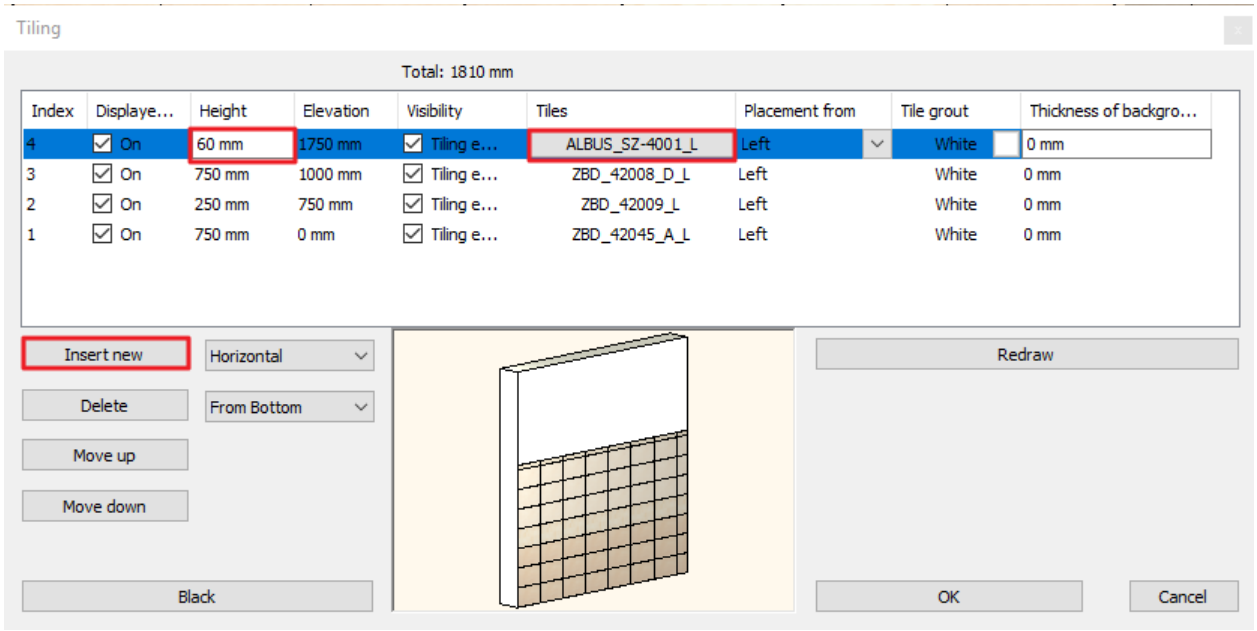
- Click on the first row, so that it appears blue. This way it is selected and when we press the Insert new button, this row will be copied as a third one. It is useful to select a row to copy, on which the minimum modifications should be made to speed up the workflow.
- Click on the Insert new button to copy the first row.

- The height of Row 3 is 750 mm. (It is already set because we copied the first row, not the second.)
- The material of the tiles is „ZBD_42008_D_L”



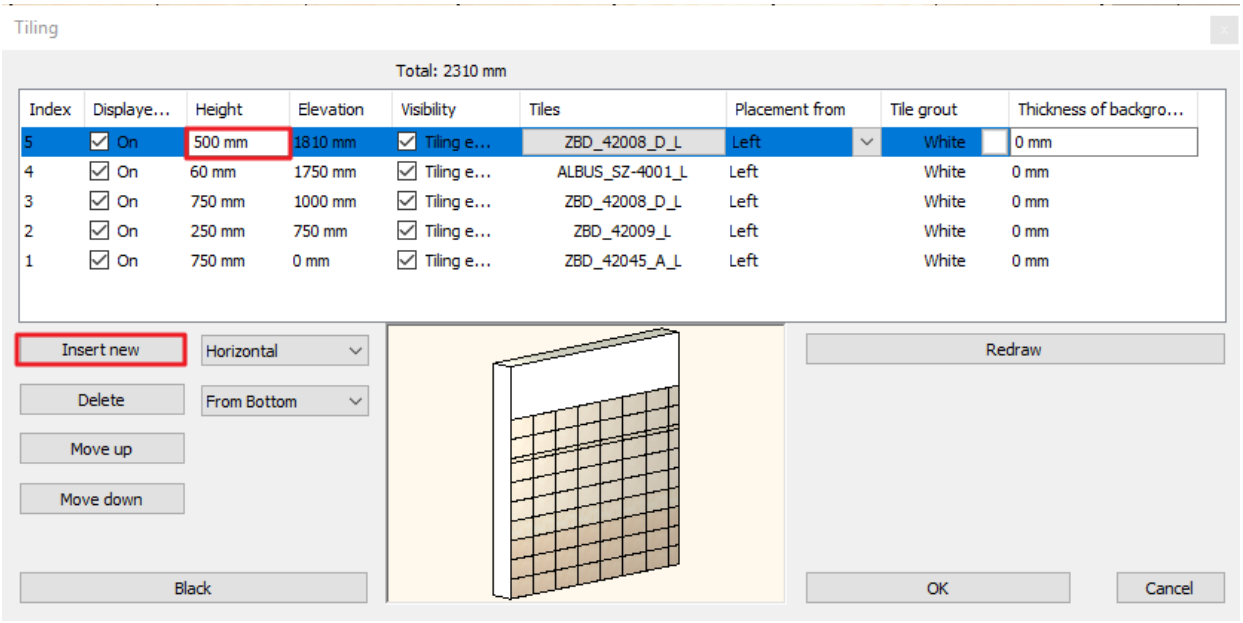
Row 4:

- Click on the Insert new button to copy the third row.
- The height of the Row 4 is 60 mm.
- The material of the tiles is „ALBUS_SZ-4001_L”



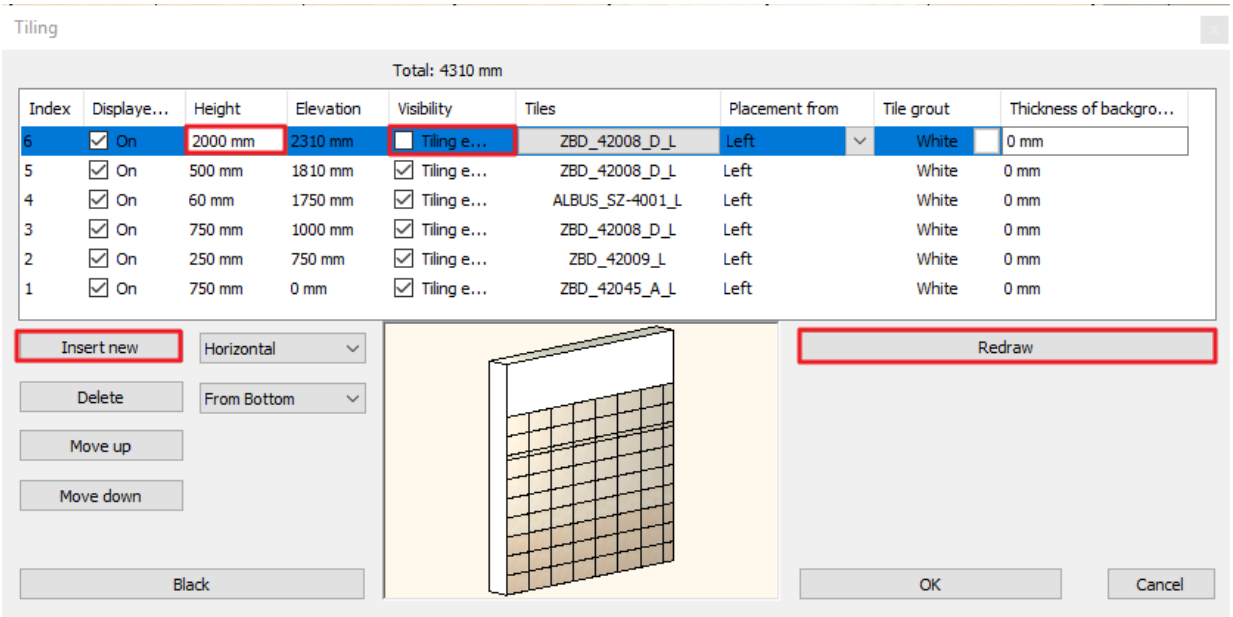
Row 5:

- Select the third row.
- Click on the Insert new button to copy the third row.
- The height of Row 5 is 500 mm.
- The material of the tiles is „ZBD_42008_D_L”. (It is already set since we copied the third row, where we used the same tiles.)



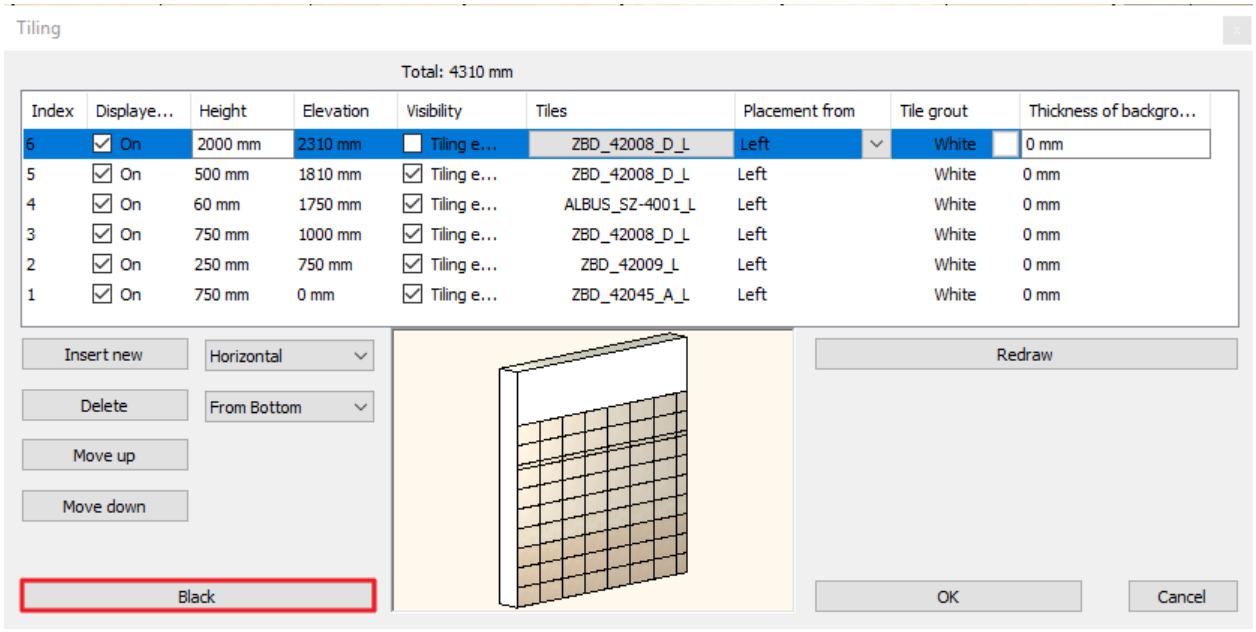
Row 6:

- Click on the Insert new button to copy the fifth row.
- The height of Row 6 is 2000 mm.
- The material from the fifth row can remain the same. In order to see the paint we have to disable the „Visibility" option. Just untick the box in the 4th column.
- To see the changes click on the Redraw button.

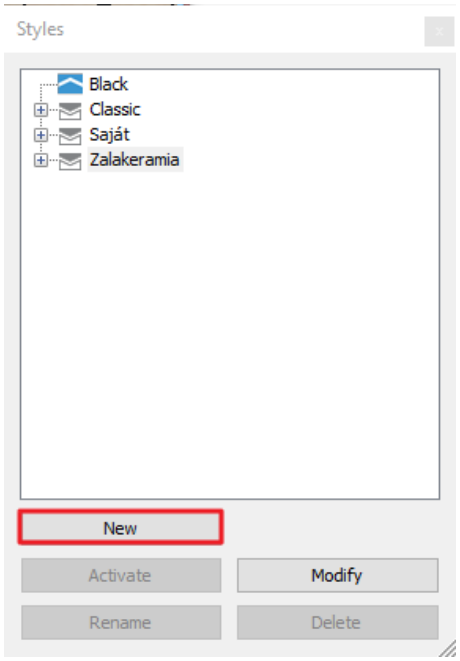


Finally, we need to save the new tiling style under „Zalakeramia" folder:

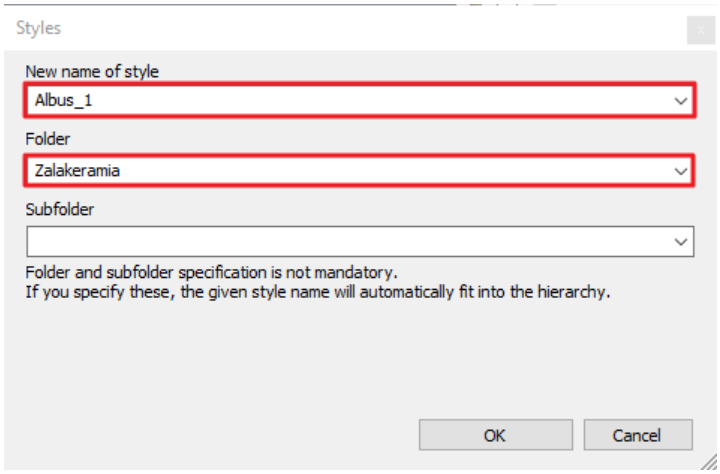
- Click on the Style name button.



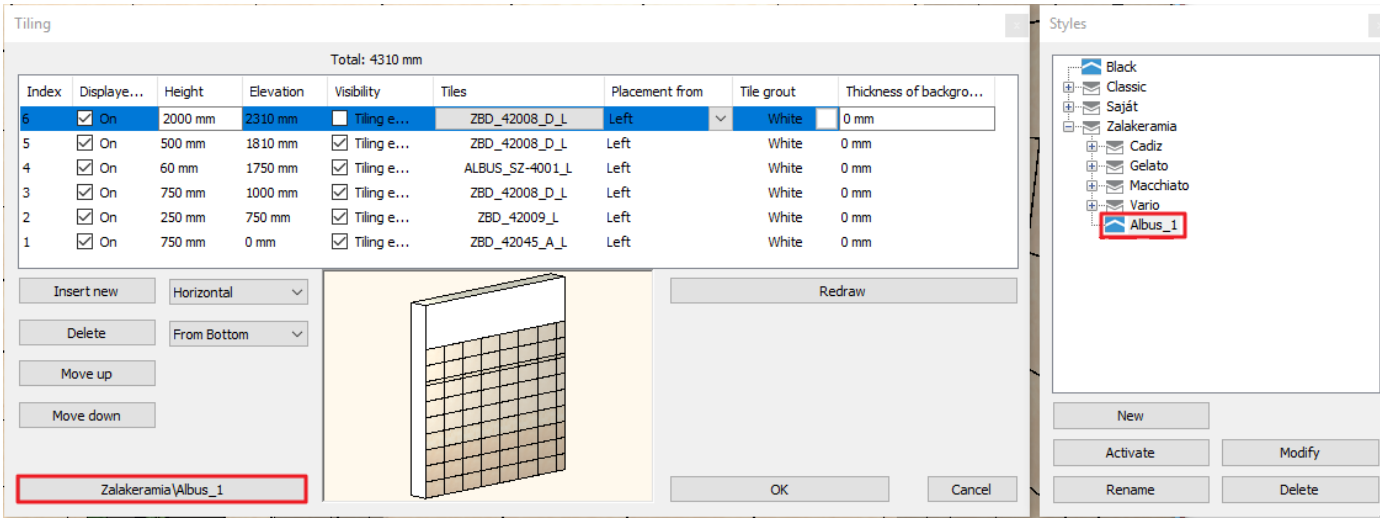
- Click on the New button.



- Type in the name of the new style: „Albus_1”, select the Zalakeramia as the folder to place it in and click on the OK button.



Your screen should look as the following:

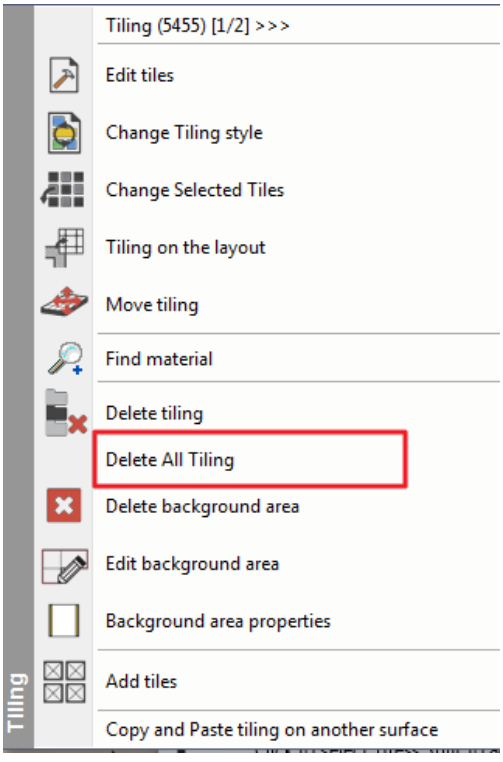


- Click on the OK button.

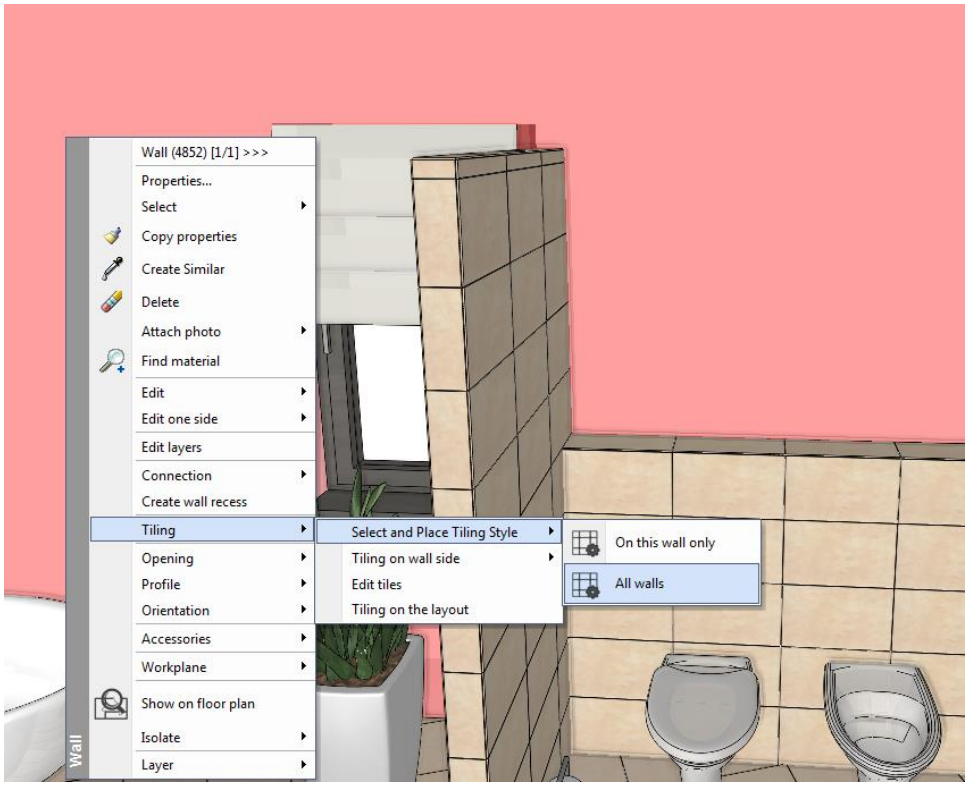
3.4. Placing Tiling style in 3D

The created Tiling style can be placed on the walls with a few clicks.

- Right click on one of the walls in the 3D window.
- Choose the „Delete All Tiling” command.



- Right click on one of the bare walls, and select the Tiling / Select Place Tiling Style / All Walls command.



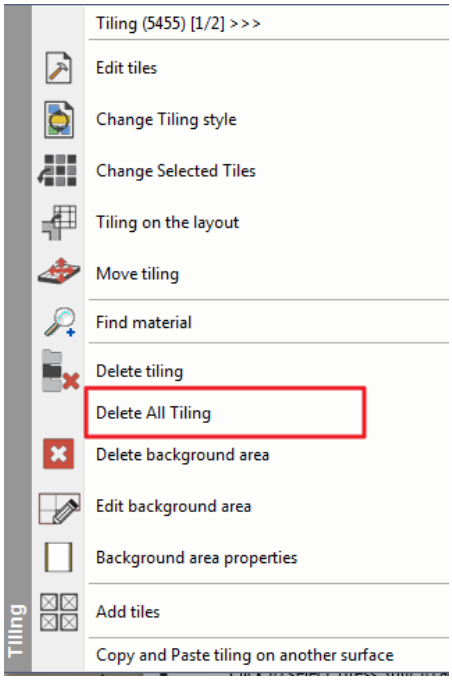
- In the appearing dialog you need to make sure that the style „Albus_1” is activated, and accept with OK.

3.5. Mosaic tiling

In the next step we are going to create the Mosaic tiling on the wall behind the shower.

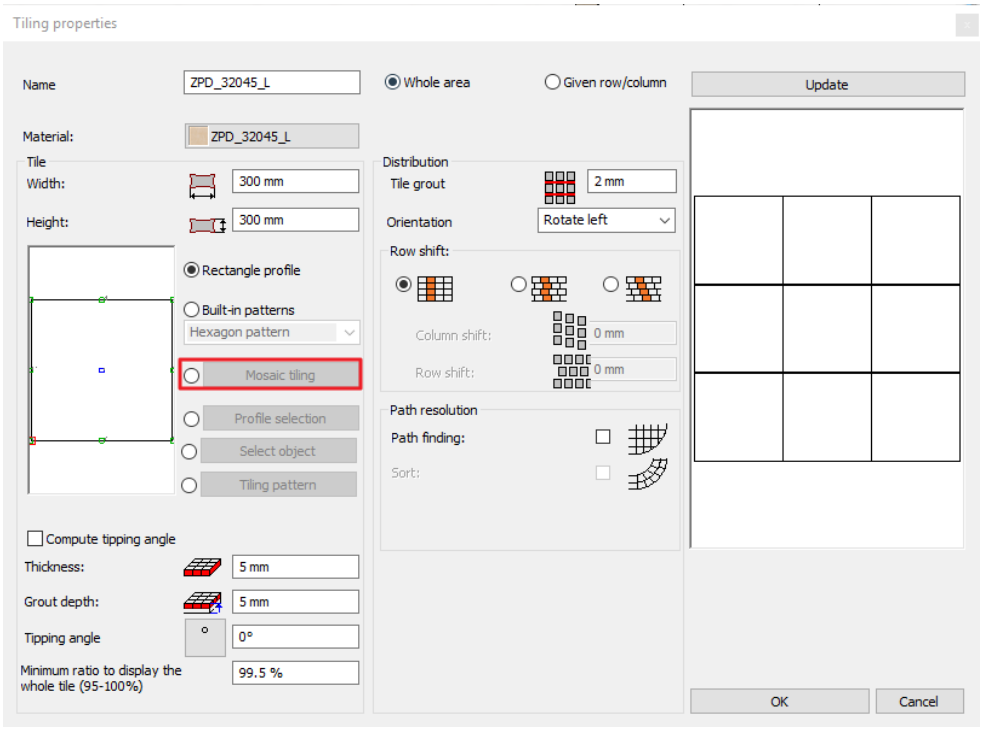
- Let’s find a previously saved view with the help of the blue arrows, from where we see the wall behind the shower clearly.

- Right click on the wall and select the Delete All Tiling command.

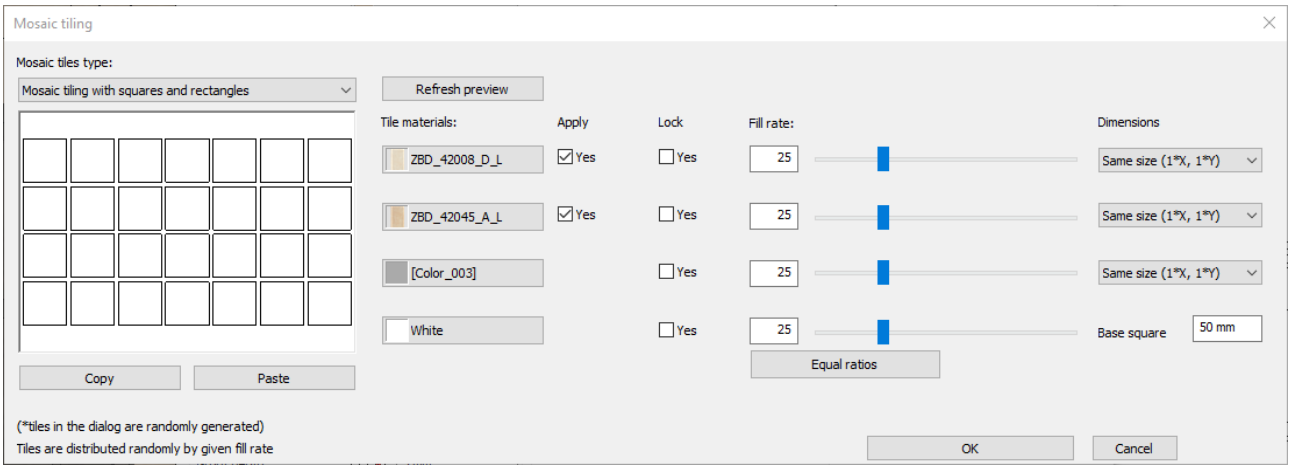


- Right click on the bare wall, and select the Tiling / Tiling on wall side / On this wall only command.

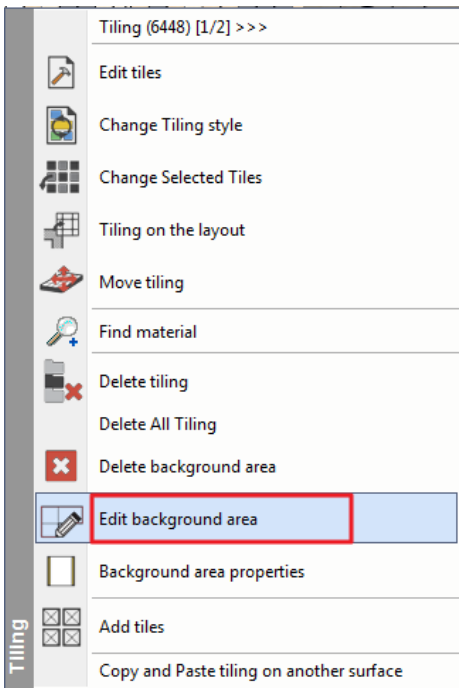
- In the appearing dialog select the Mosaic tiling option.



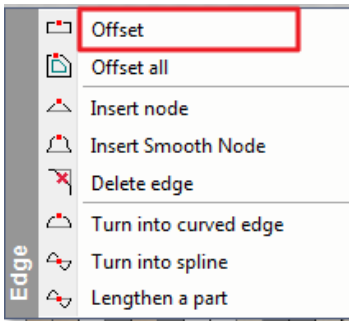
- In the Mosaic tiling dialog select the elements of the mosaic: „ZBD_42008_D_L", „ZBD_42045_A_L", „Color_003" and „White"
- Click on the OK button.



- Click on the wall with mosaic tiling again and the software regenerates the distribution of tiles. Repeat this until you get the desired pattern. Then you can close from the command with the Esc button.
- Right click on the wall with mosaic tiling and choose the „Edit background area" command.



- If you move the cursor to the upper contour line of the tiling area, its shape will change. Now click and Edge menu will appear. Now choose the Offset command.



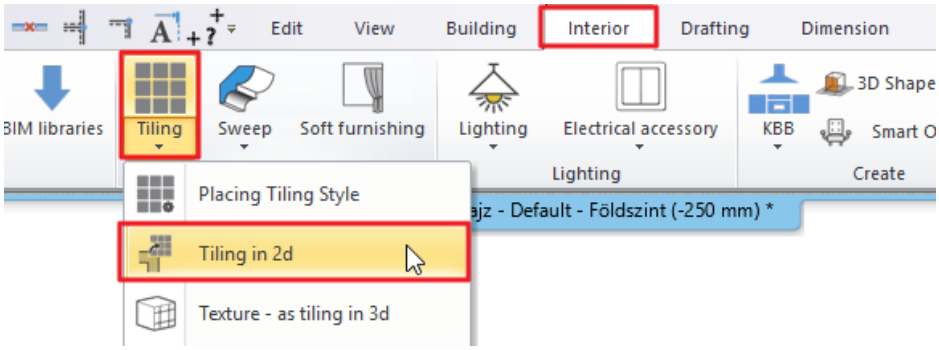
- Finally adjust the upper contour line of the tiling to the top edge of the tiling on the walls next to it and hit Enter.

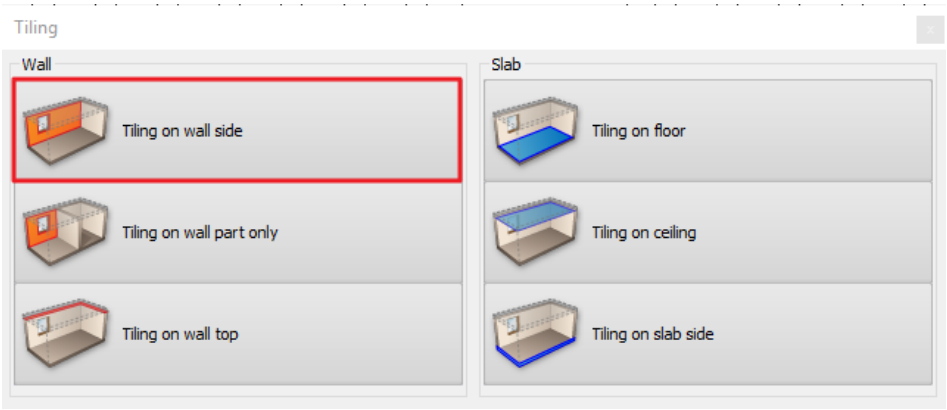
3.6. Placing mirrors as tiling

We will place a mirror above the washbasins to the left side of the door, and another one above the dressing table opposite of the shower.

3.6.1. Mirror above the washbasins

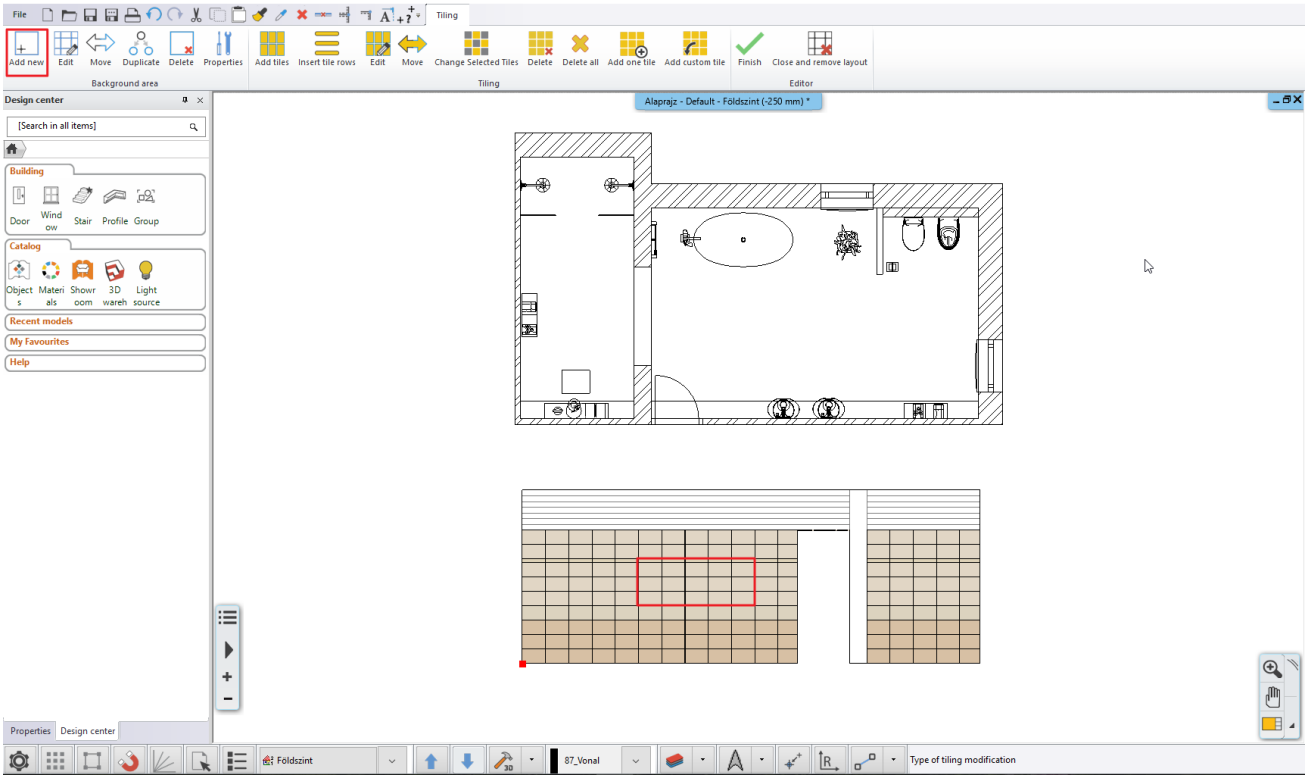
- Activate the 2D layout.
- Click on the **Ribbon bar / Interior / Tiling / Tiling in 2D** command.
- When the dialog opens, choose the „Tiling on wall side" option.



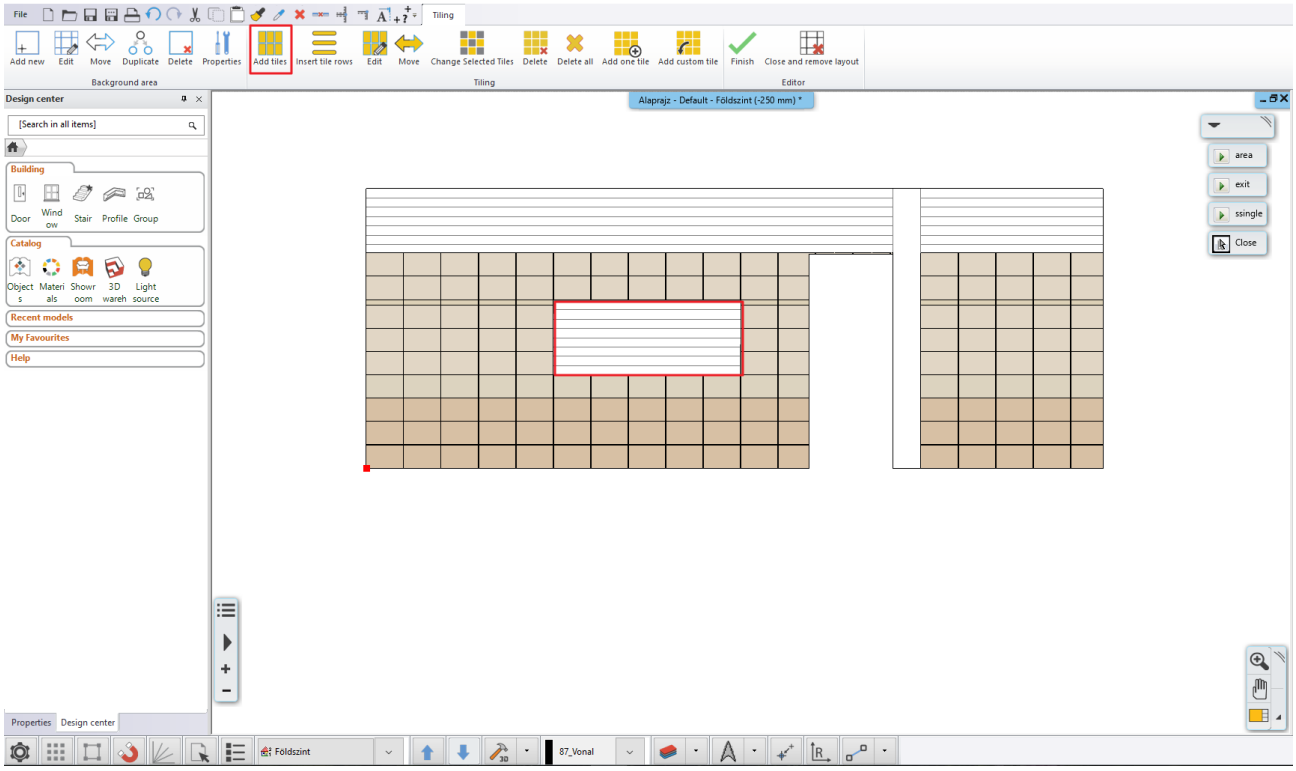


- Now, click on the internal side of the wall on the 2D plan (which needs to be modified) and place the tiling layout somewhere close to the actual floorplan.

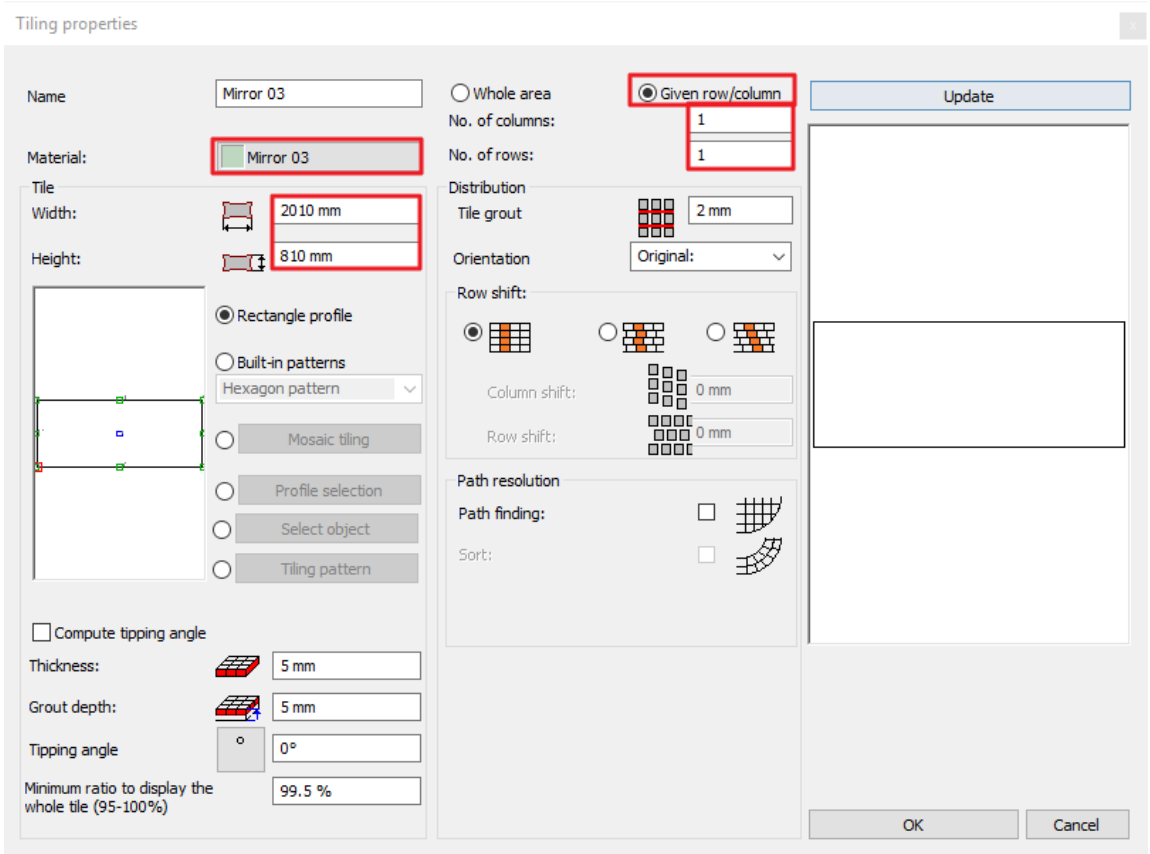
  „Tiling on the layout" command can be found in 3D window, right click on the wall and choose it from the appearing „Tiling" menu. As the result the program automatically will take us back to the floorplan and now we can position the layout to the right place with one click.



- Choose the Add New option from the drop down Ribbon bar.
- Mirror dimension: the height is 4 tiles (including the decor stripe: 60 mm wide), the length is 5 tiles. The starting point of the mirror will be the second tile to the left side of the door and the fourth tile from floor.
- When we finished drawing the background area of the mirror close the command by pressing Enter. Now the Material Library appears and select the material named „White".
- Click on Add tiles from the Ribbon bar. Next, click into the recently created background area, as we want to place the mirror here.



- In the appearing Tiling properties dialog select „Mirror 03” as the material of the tile and set the size: 2010 x 810 mm. Set the number of columns and rows to 1. Set the orientation to Original.



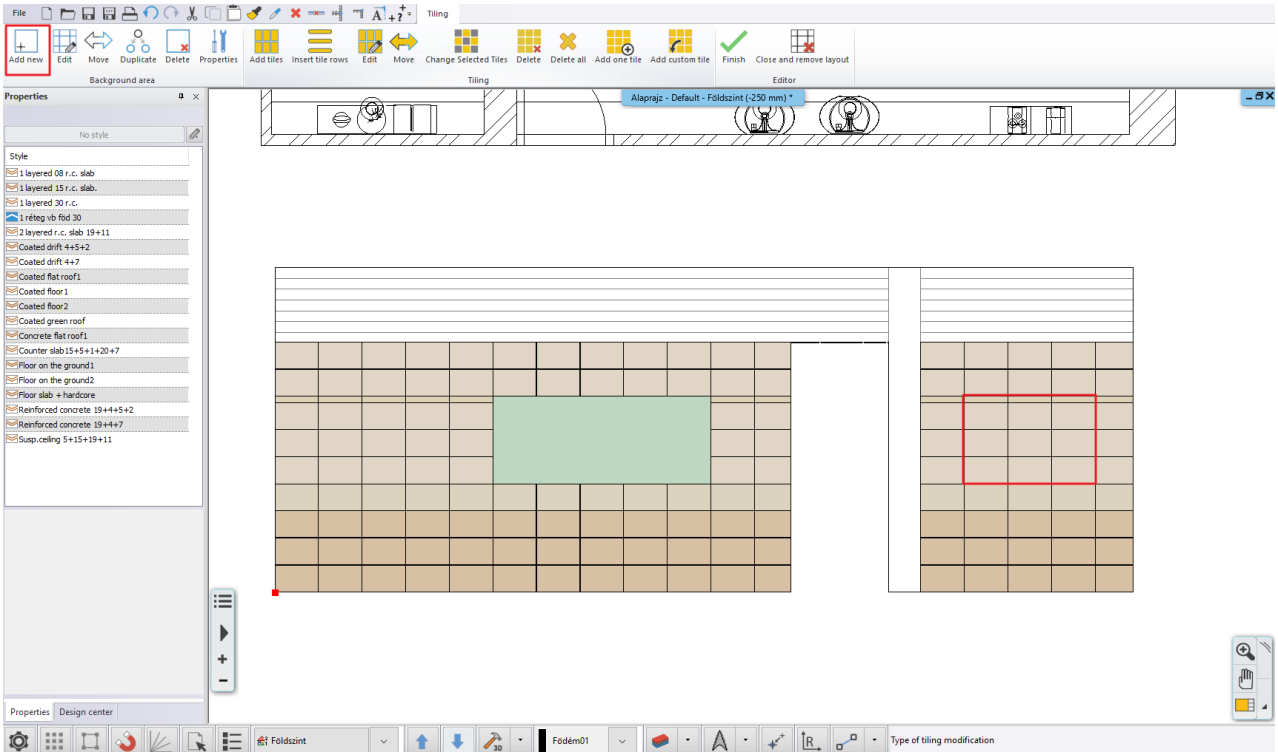
- Close the dialog by pressing OK and place the mirror. Now define the rotation, which is horizontal in this case.

3.7.2. Mirror above the dressing table

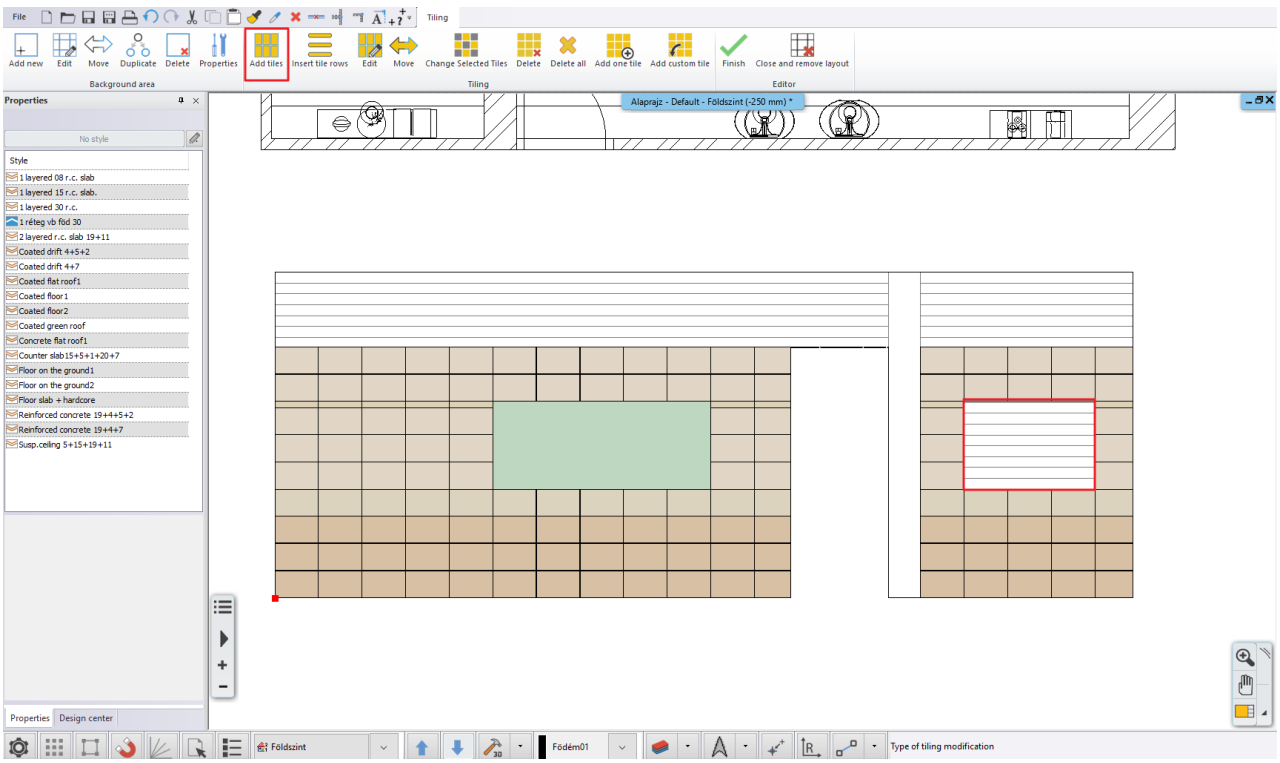
The second mirror will be placed above the dressing table opposite to the shower. To do this you do not need a new layout, you can work on your existing one. This mirror will be created with the same method as the previous one.

If you have by chance closed the tiling on the layout and you cannot access the necessary commands of the Ribbon bar, right click on the layout and select Continue tiling.

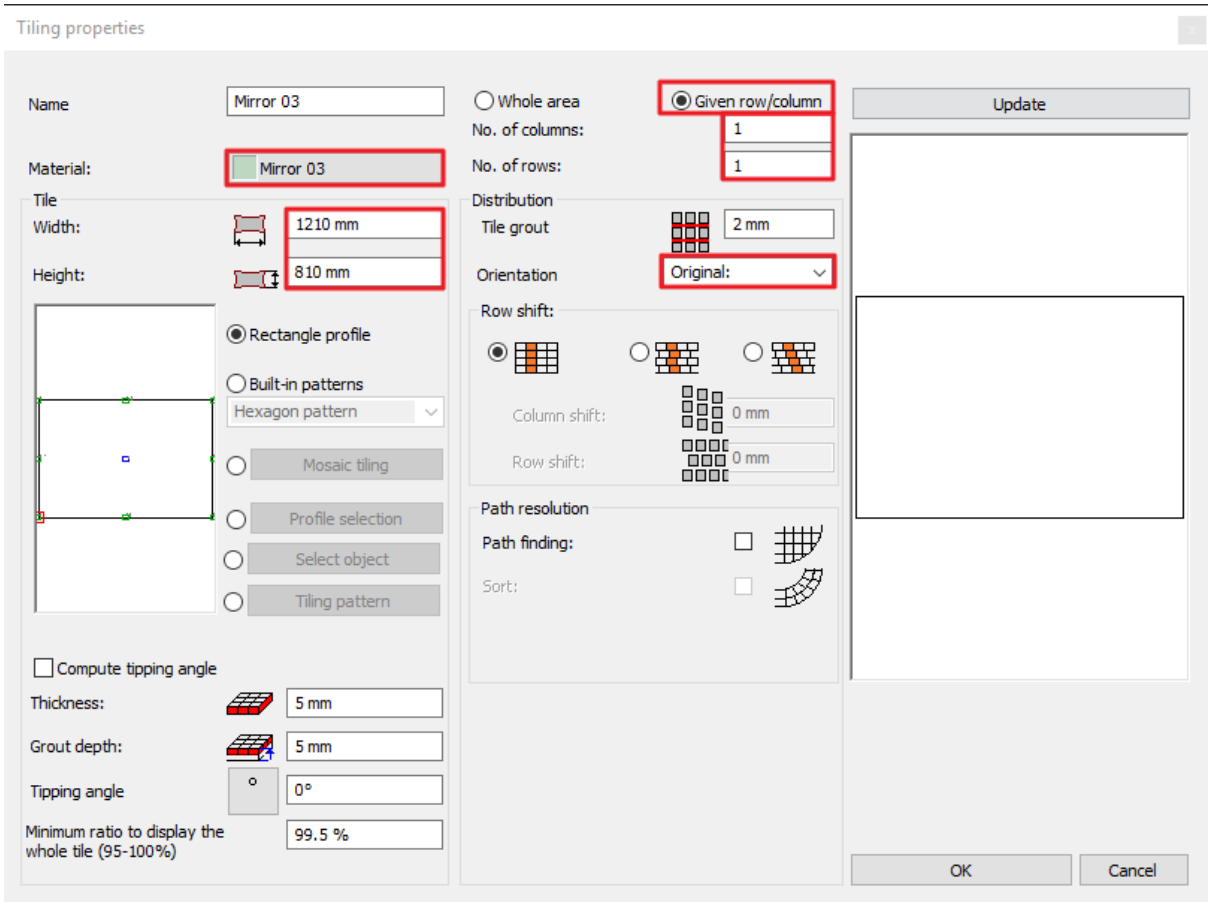
- Select Add new command from the Ribbon bar.
- Mirror dimension: the height is 4 tiles (including the decor stripe: 60 mm wide), the length is 3 tiles. The starting point of the mirror will be the first tile to the right side of the door and the fourth tile from floor.
- When we finished drawing the background area of the mirror, close it by pressing Enter. Now the Material Library appears and here select the material named “White”.



- Click on Add tiles from the Ribbon bar. Next, select the recently created background area, as we want to place the mirror here.



- In the appearing Tiling properties dialog select the material named „Mirror 03” as the material of the tiles and set the size: 1210 x 810 mm. Set the number of columns and rows to 1.

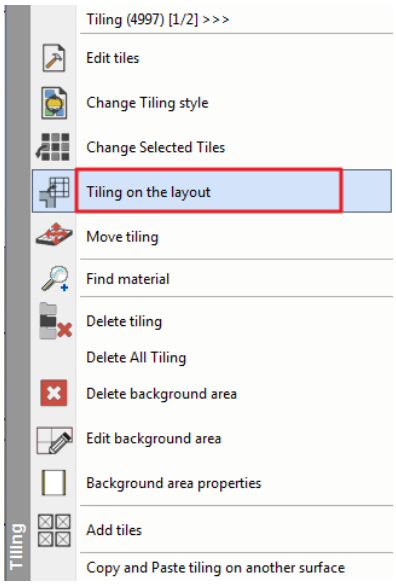


- Close the dialog with the OK button and place the mirror. Define the rotation, which is horizontal in this case.

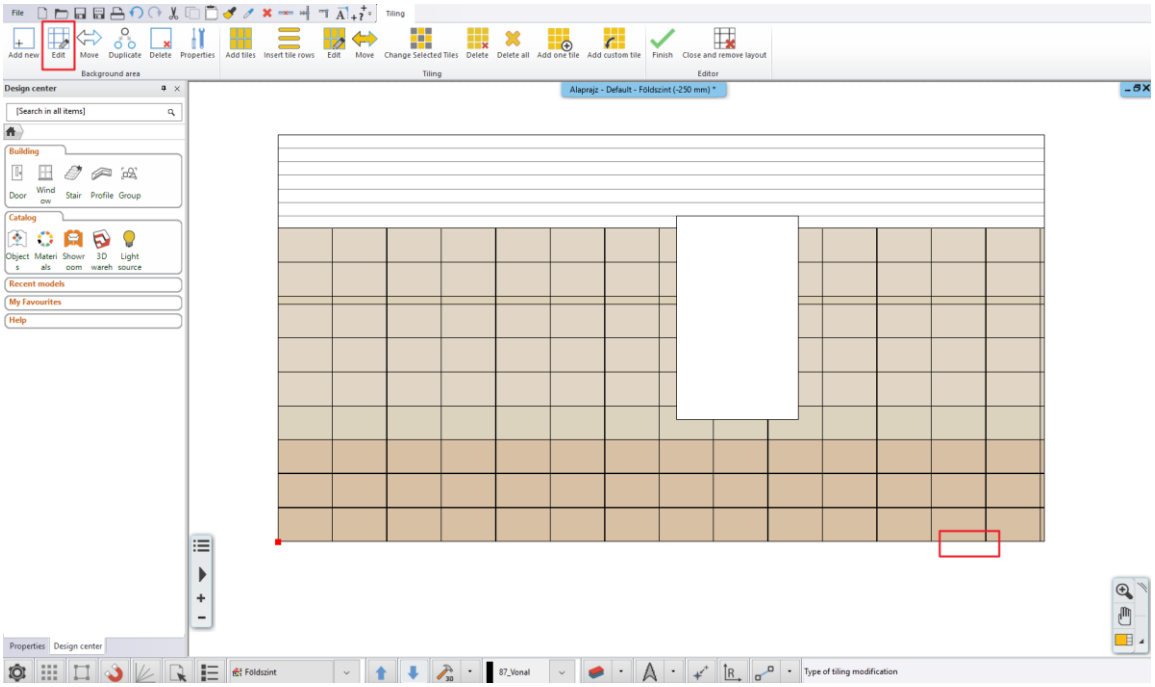
3.7. Edit the background area on the layout

In order to get a good consignation at the end of our work, we need to remove tiles from the wall behind the toilet’s parapet wall. We do this by modifying the background area of the tiling.

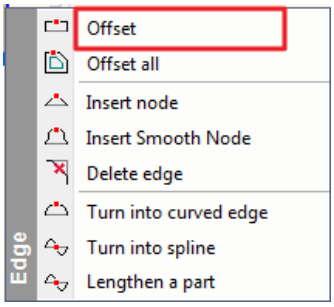
- Right click on the wall behind the bathtub and from the appearing Tiling menu, choose the Tiling on the layout command.



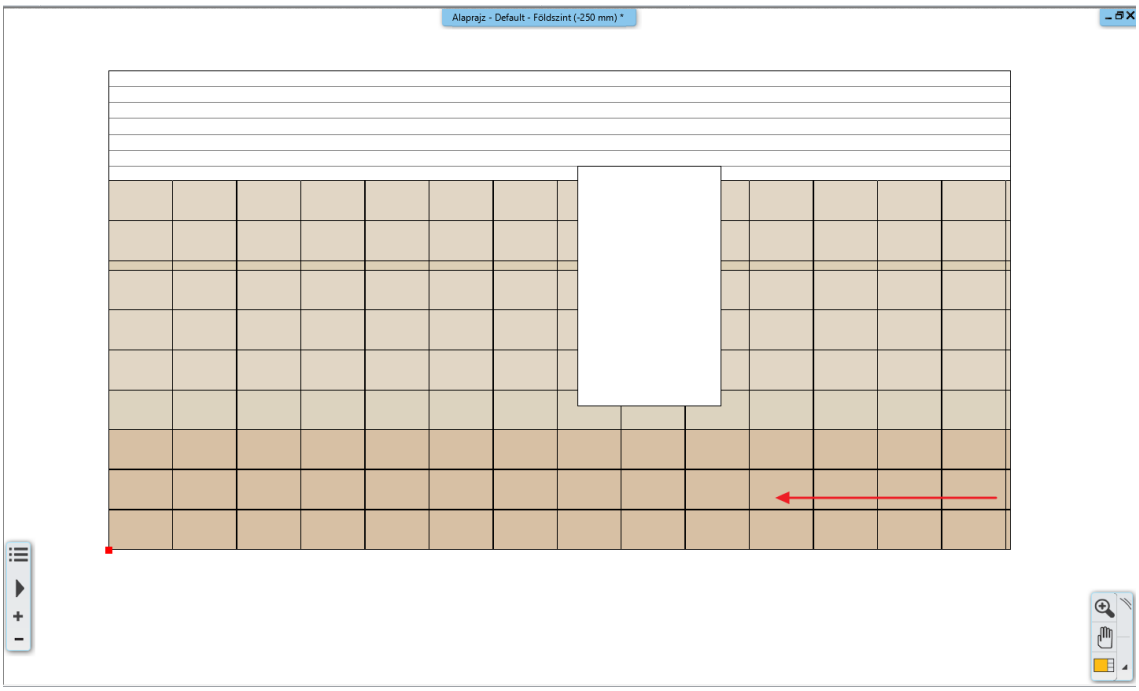
- The program activates the 2D window. There you can place the layout.
- Click the Edit command on the Ribbon bar, and then select the first row.



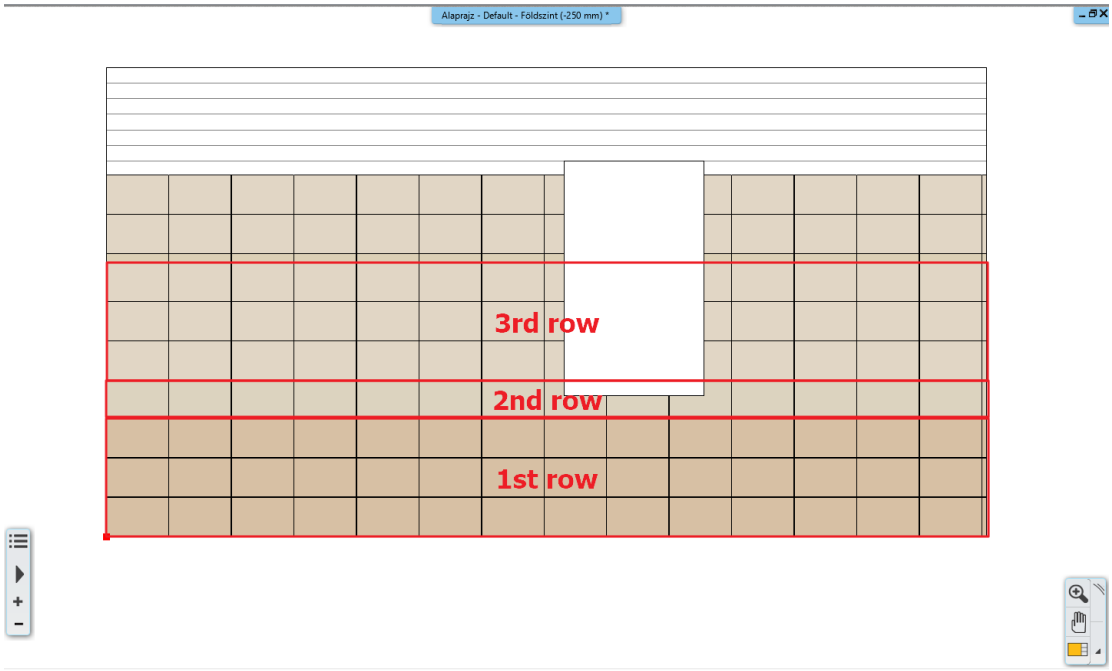
- Move your mouse above the contour line of the area on the right side and click when the shape of the cursor changes. From the Edge menu, select the Offset command.



- Move the selected edge from the right side by four tiles.

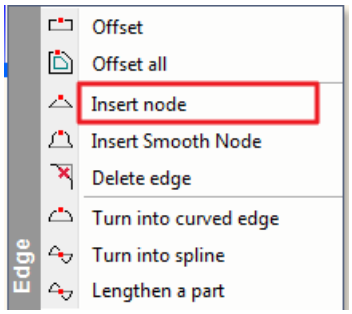


- Repeat this with the second row.

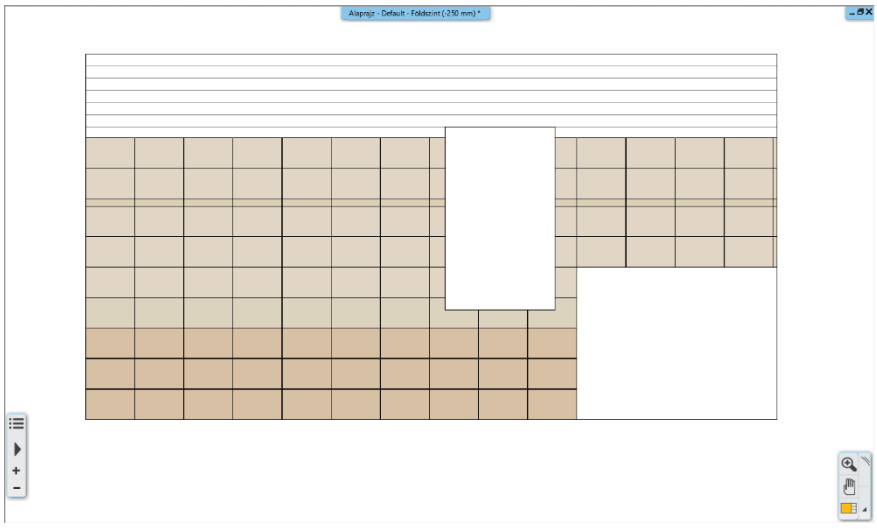


We have to move only the bottom line of tiles in the third row. This can be done as follows:

- Start the same way as before: select the Edit command from the Ribbon bar.
- Move your cursor to the right contour line of the background area and click when the cursor shape changes.
- This time, choose the Insert node option.

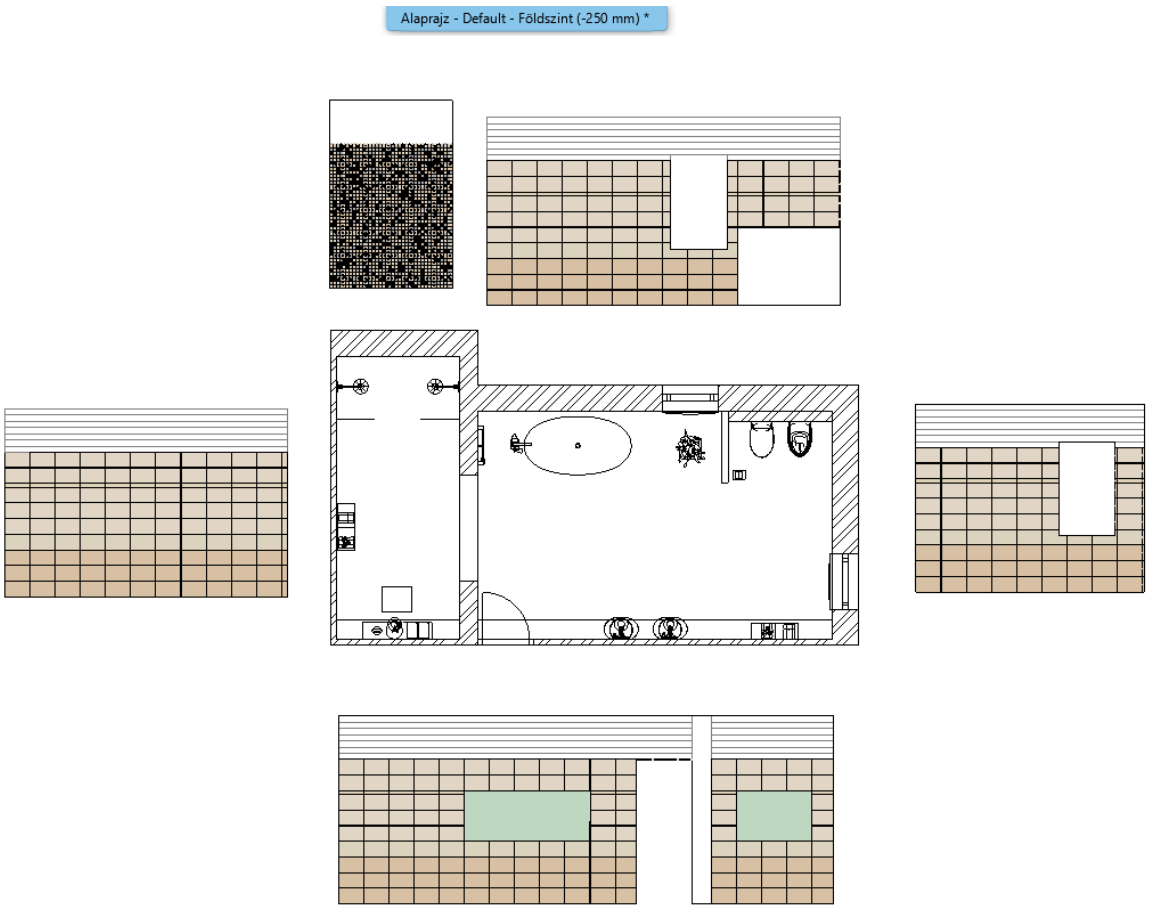


- Insert a node to the top of the first line of tiles of the background area.
- Then click on the right edge of the background area below the recently placed node, and when the cursor changes, use the Offset command to adjust the last row of tiles to the others.
- As a result we should get a layout like this:



3.8. Tiling layouts

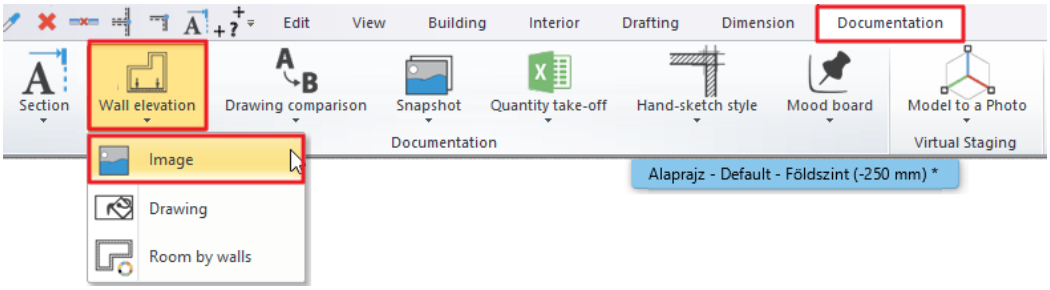
- The **Ribbon bar / Interior / Tiling / Tiling in 2D / Tiling on wall side** command can be used to create and place layouts. The Tiling on floor" option can be used to create the tiling layout of the floor.
- Use the Dimension command for the dimensioning.



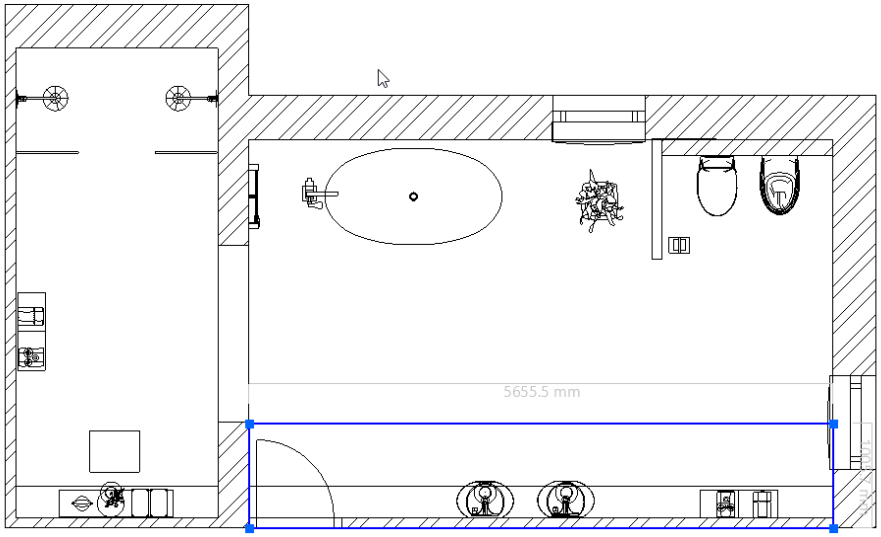
3.9. Wall elevation view

The tiling layout offers you a line drawing visualization of the tiles.
If you need a coloured visualization of the tiling we suggest you to use the wall elevation view.

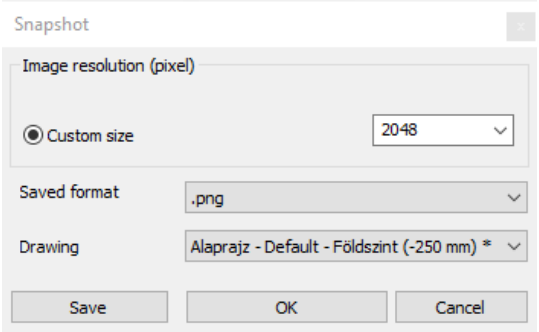
- Click on the **Ribbon bar / Documentation / Wall elevation / Image** command.



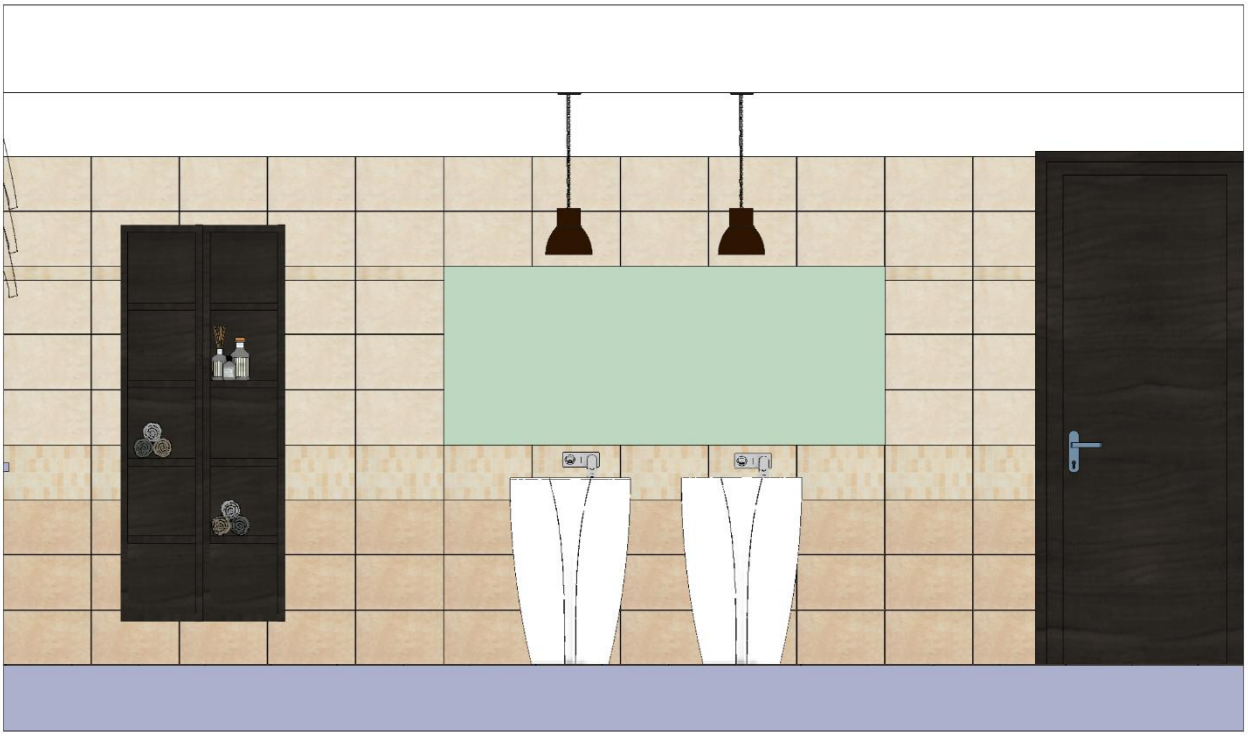
- Click on the internal part of the wall.
- Move the orange arrow and click. The blue rectangle appears. This sows the area which will be on the elevation view. You can adjust it now.

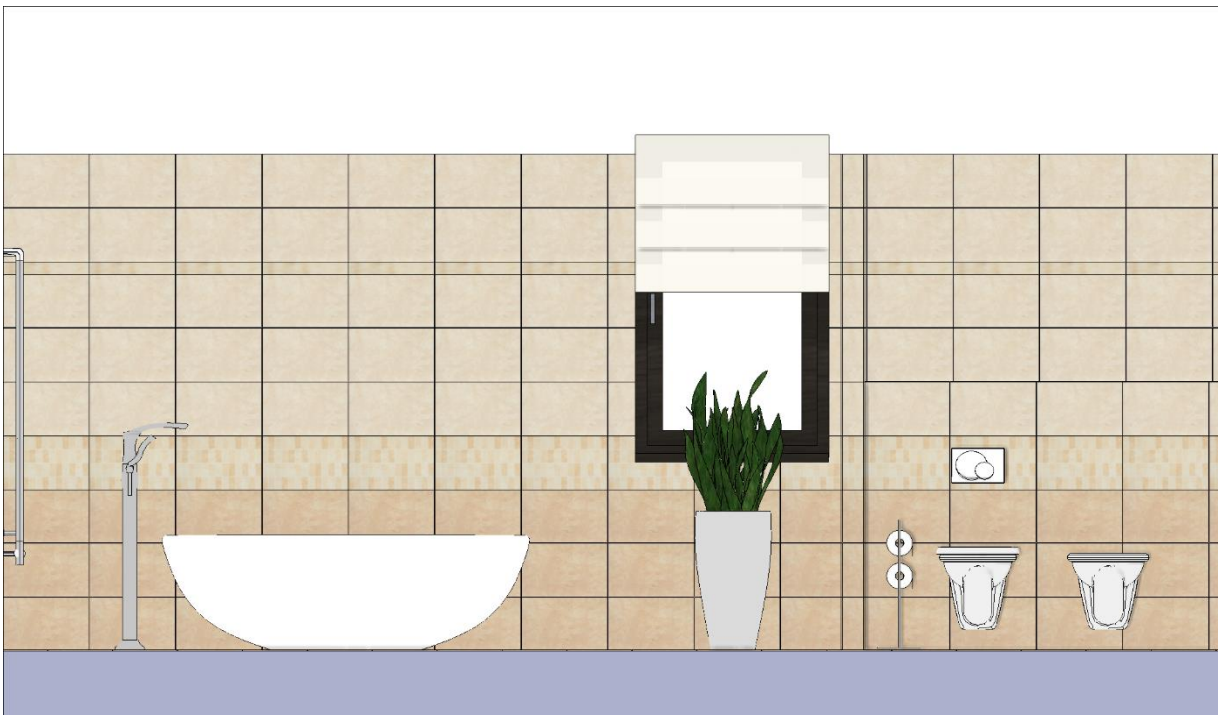


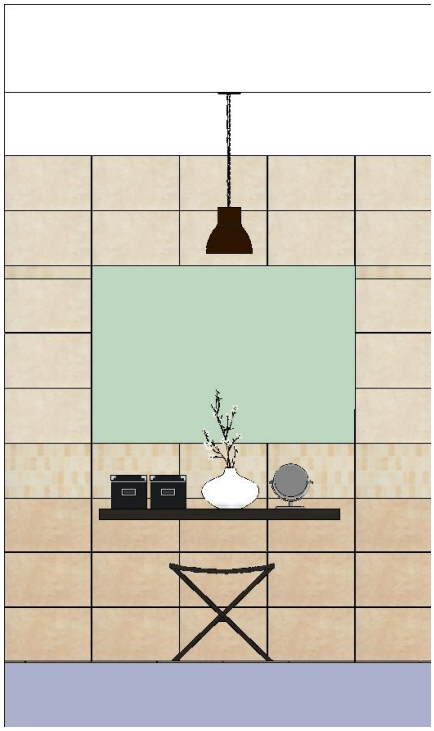
- Hit Enter.
- The Snapshot dialog appears. Click on the Save button to save it to your computer as a jpg or click OK to place it in the project.

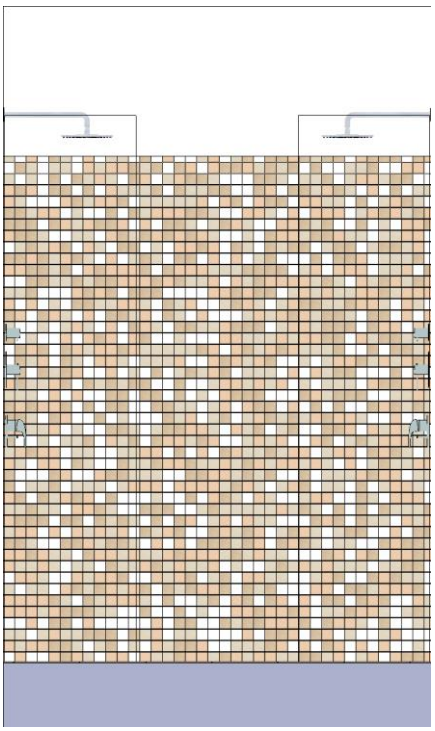


- Place the wall elevation view in the project. Move it on the appropriate place. Repeat the previous method for all walls. Use the dimension command to measure them.





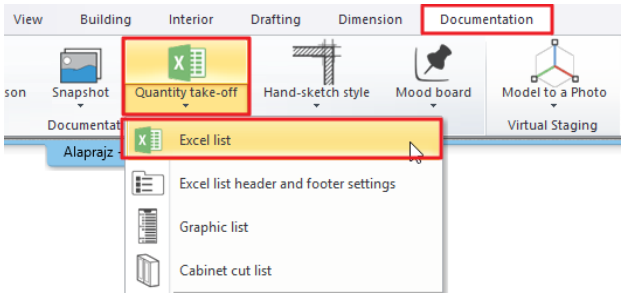




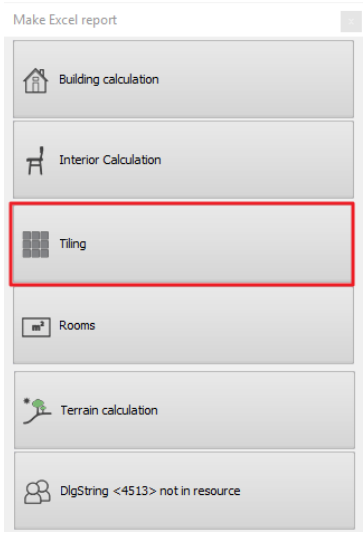
3.10. Tiling consignation

In order to make a record of the total number of tiles used in the project, we need to create a Tiling Consignation. Quantity take off reports help you to order the required quantities from the manufacturers.

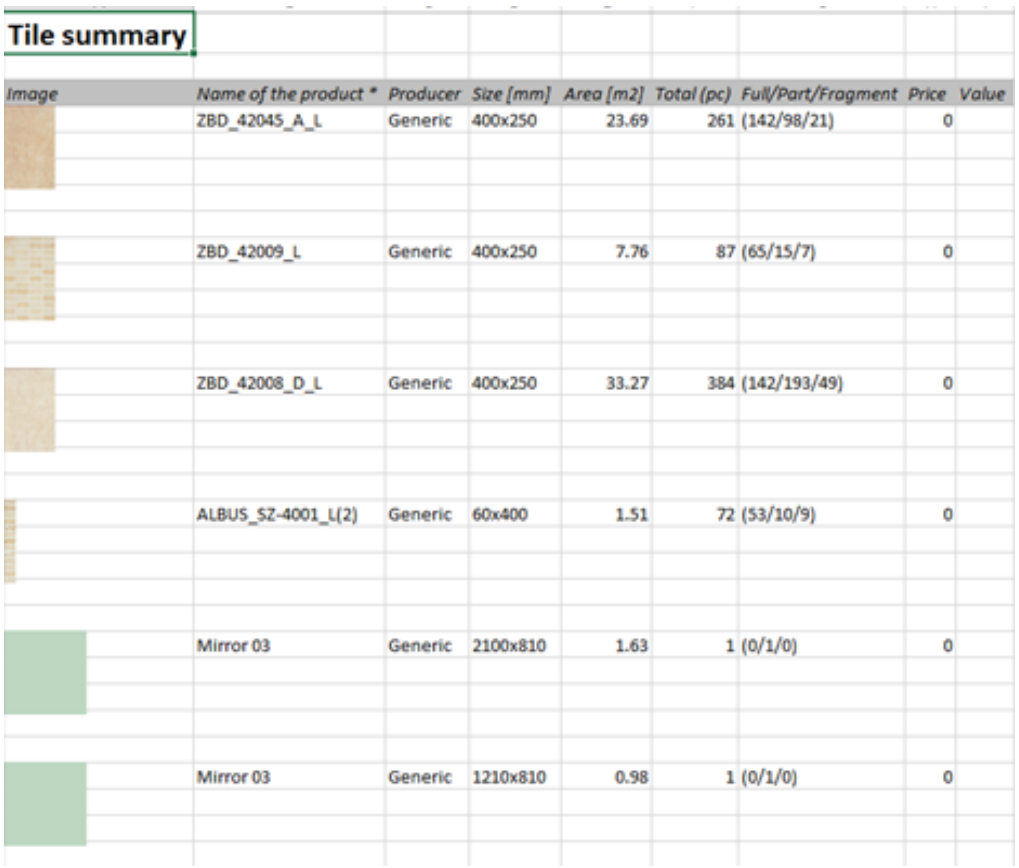
- Click on the **Ribbon bar / Documentation / Quantity take-off / Excel list** command.



- In the appearing dialog select Tiling.



- Name the Excel file. An Excel file opens, in which all tiles are listed by type, size, the area they cover, total number of pieces, number of full tiles and fragments.



Tile summary

Image	Name of the product *	Producer	Size [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
	ZBD_42045_A_L	Generic	400x250	23.69	261	(142/98/21)	0	
	ZBD_42009_L	Generic	400x250	7.76	87	(65/15/7)	0	
	ZBD_42008_D_L	Generic	400x250	33.27	384	(142/193/49)	0	
	ALBUS_SZ-4001_L(2)	Generic	60x400	1.51	72	(53/10/9)	0	
	Mirror 03	Generic	2100x810	1.63	1	(0/1/0)	0	
	Mirror 03	Generic	1210x810	0.98	1	(0/1/0)	0	

3.11. Rendering - optional

Workshop 4: Kitchen Design

4. Workshop 4: Kitchen Design

With the help of the Kitchen Design tool you can create complete kitchen layout to include base cabinets, worktops, wall units and accessories. You can freely extend the list of catalogue items in the libraries of the software by downloading ready- made objects, or by creating custom made items which can become a part of the kitchen layout.

This course goes through the design of a kitchen project and provides you the following principles and basic skills in both 2D and 3D.

- Furniture design: base cabinets, worktops, wall units and accessories
- Visuals: Finishes and materials from producers, shadows, photorealistic/rendered images

Suitability: Suitable for those designers just participated on the reception room preliminary course.

As an example, we will be using Andrea Nagy's completed kitchen project.
The goal will be to come up with the same result as shown in the example:

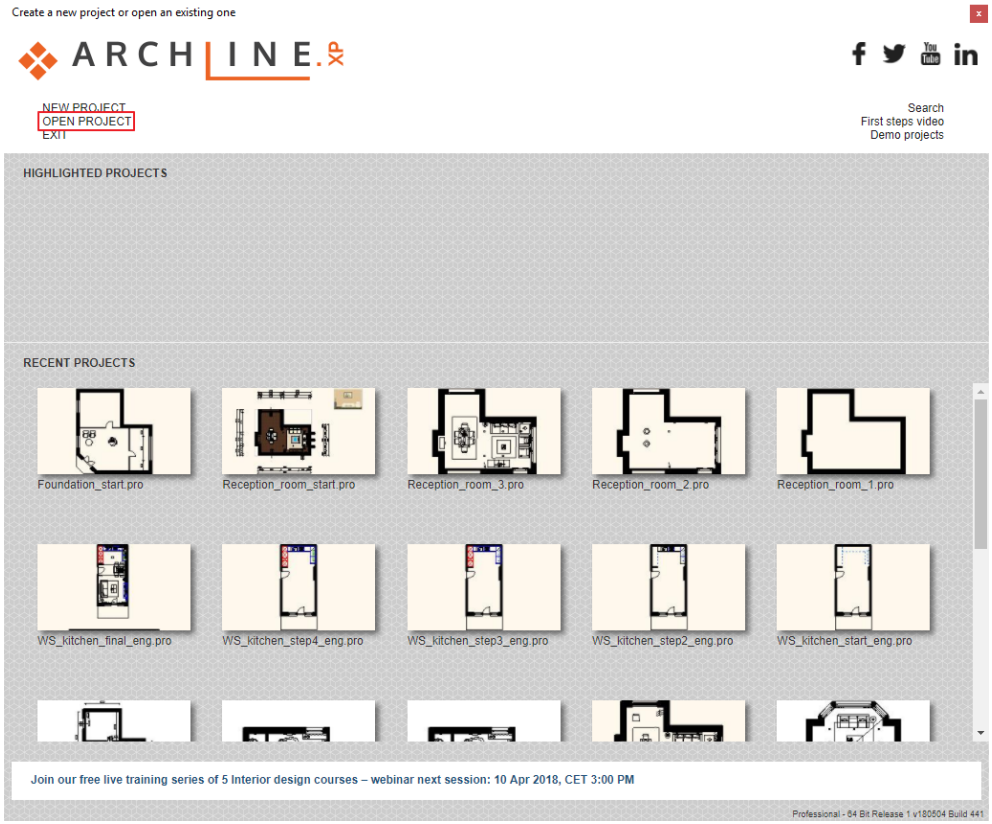
- Please open the following playlist in your browser:
  https://www.archlinexp.com/education/webinars/interior-design-3-kitchens

4.1. Open and save the Project

Let's start by opening and working on Andrea's initial project, which, for the moment, does not include any tiles.
We will work on this project.

If you have not downloaded the **Workshop - Preliminary level project yet, please** download it from the website and install it. It includes all project for all preliminary workshops.
http://www.archlinexp.com/education/workshops/workshop-application-preliminary

- Start ARCHLine.XP® Professional.
- Click on the Open Project:
- Choose the:
…\Documents\ARCHLine.XP Draw\2018\Workshop – Preliminary\Kitchen_design\WS_kitchen_start_eng



Save project as …

Before starting to design it is recommended to save your project with other project name in order to don't overwrite the original one.

- Clicking on the **File menu / Save project as** command.
- Click on the *Save* button and give another name: *WS_kitchen_01*
and Save.

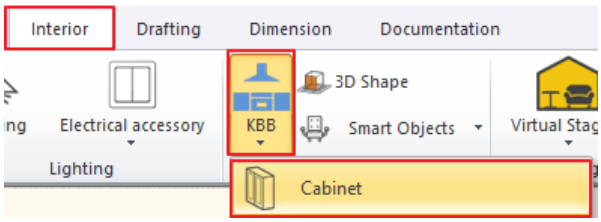
Furniture library

You will find the furniture to be used in this project here: Design center: Objects \ Kitchen.

4.2. Base cabinets

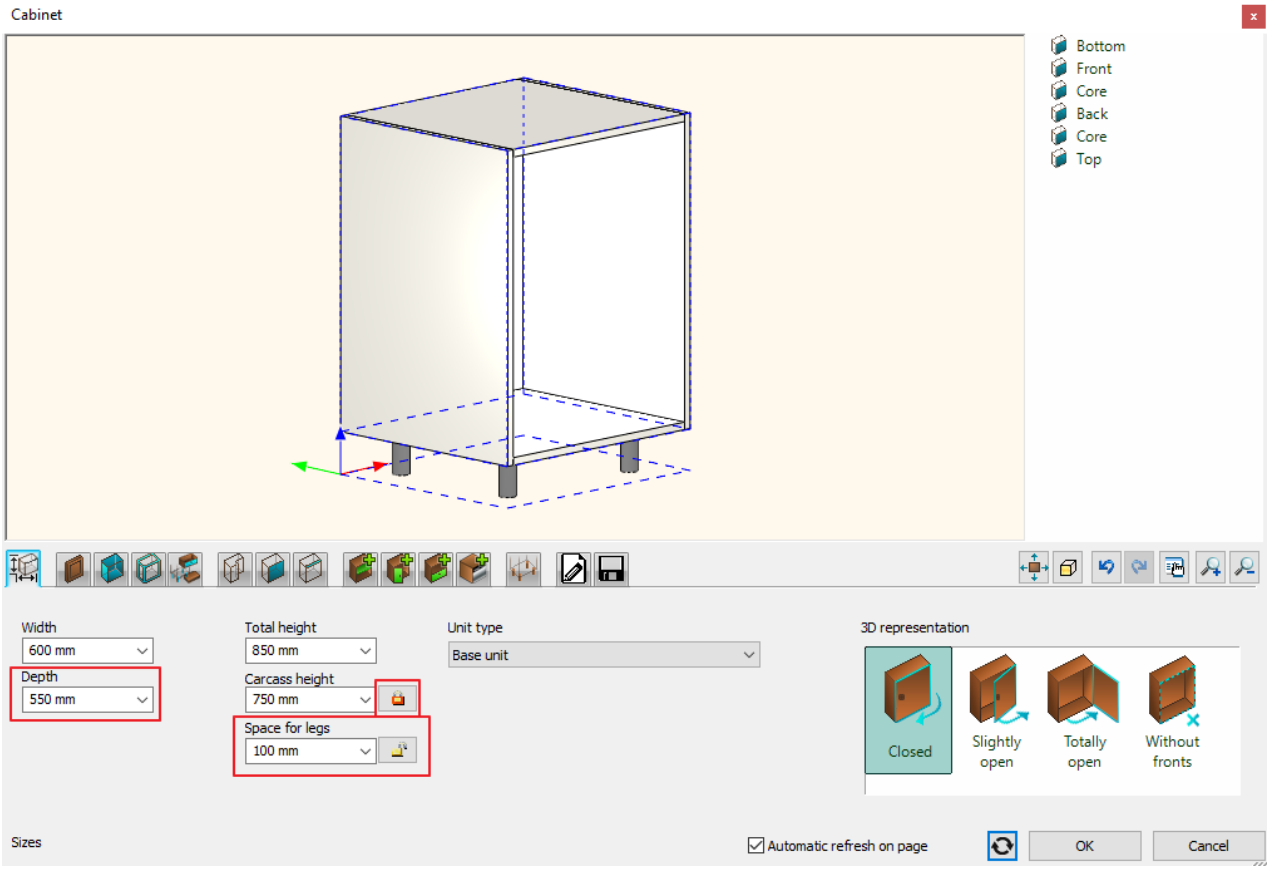
Creating the base cabinet

- Click on the **Ribbon bar / Interior / KBB / Cabinet** icon.

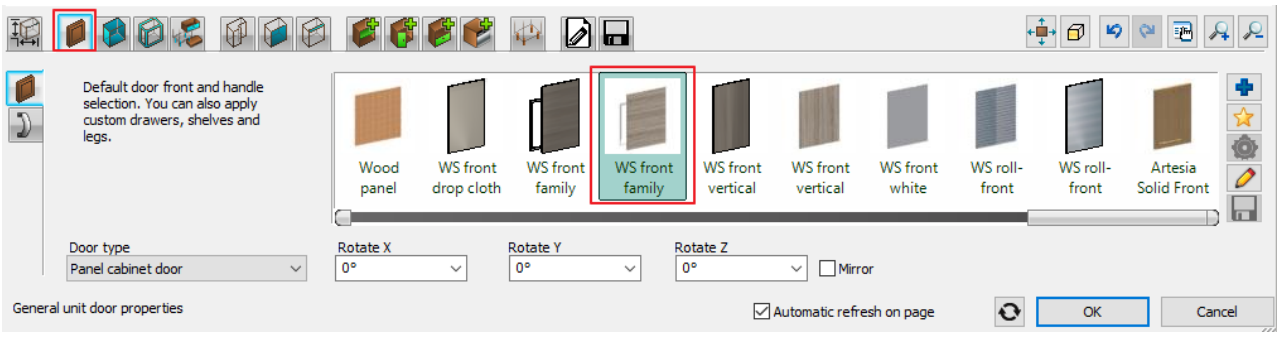


- The Cabinet properties window appears.
- Set the following properties:

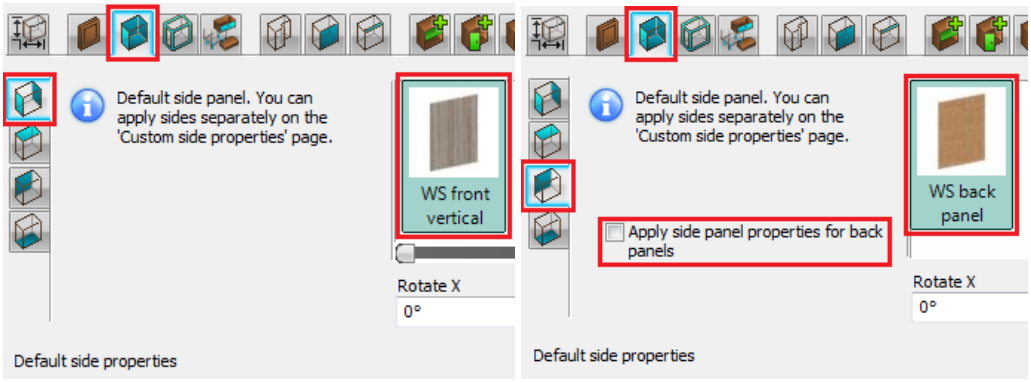
Sizes page – Set *depth* to 550 mm. Lock *Carcass height* by pressing the button, and then decrease *Space for legs* to 100 mm.



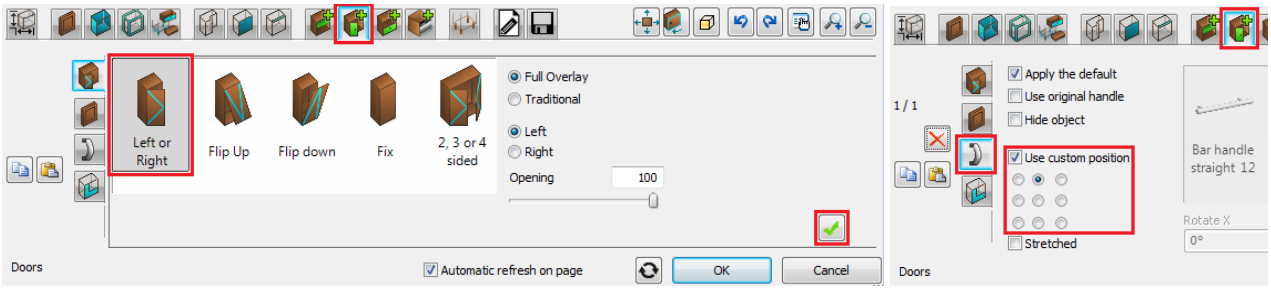
General unit door properties page – Select the „WS front family" cabinet door family.



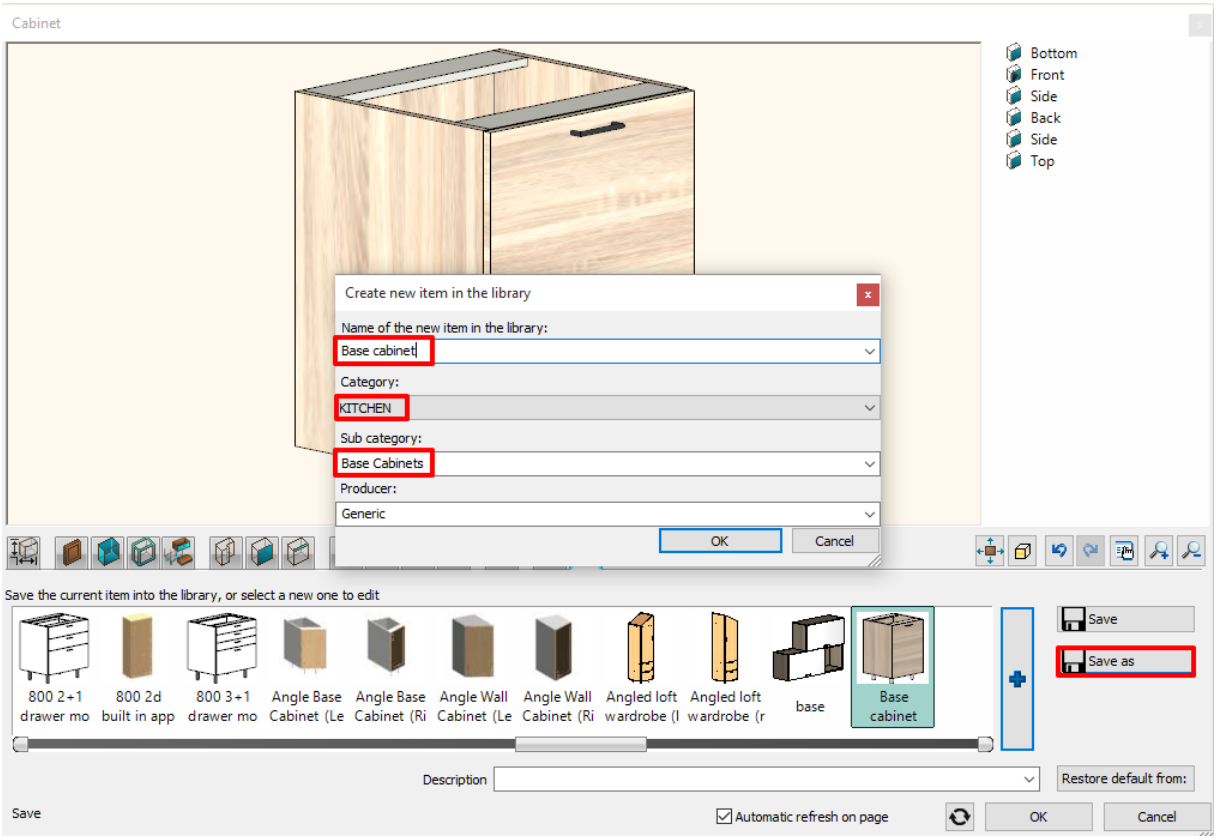
Default side properties – Select the „WS front vertical" side panel. On the *Back* tab switch „Apply side panel properties for back panels" off and select „WS back panel" as the default back panel.



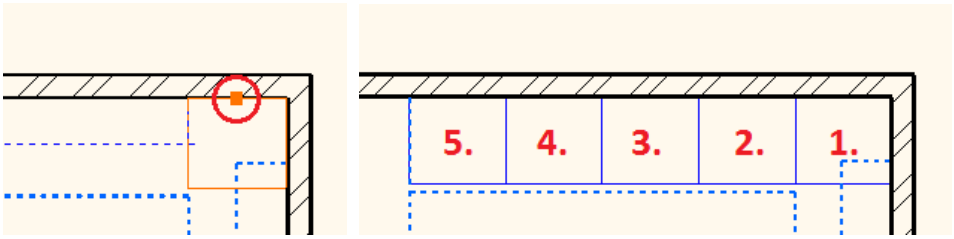
Doors page – First add a new default door by pressing the button. On the *Handle* tab switch *Use custom position* checkbox on and select the top-center handle position.



Save page – save the cabinet.

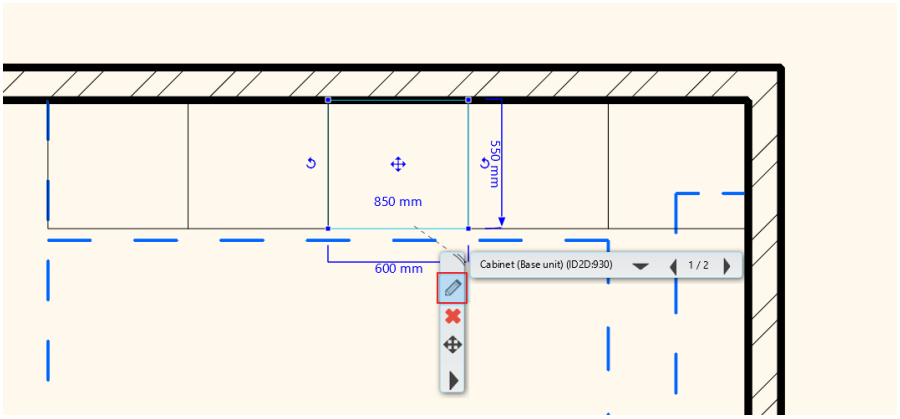


- Finally close the window by pressing the OK button. Place 5 instances of the cabinet onto the drawing next to each other, beginning from the top-right corner of the room.

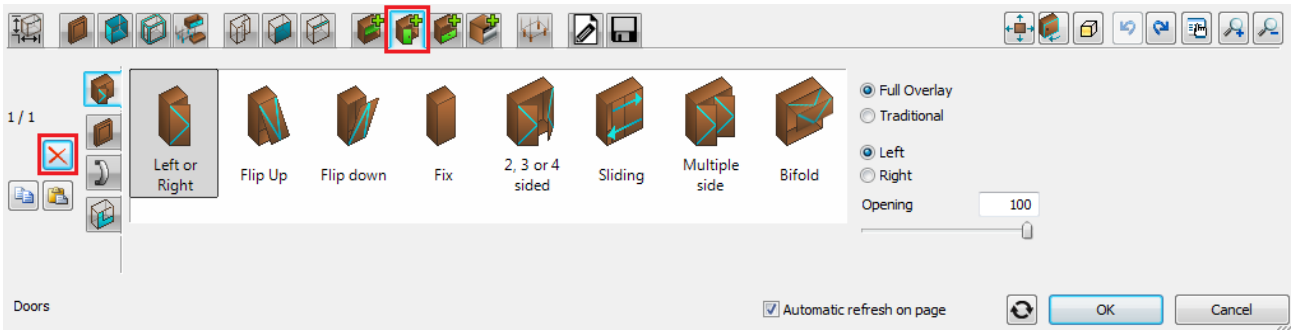


Drawer cabinet

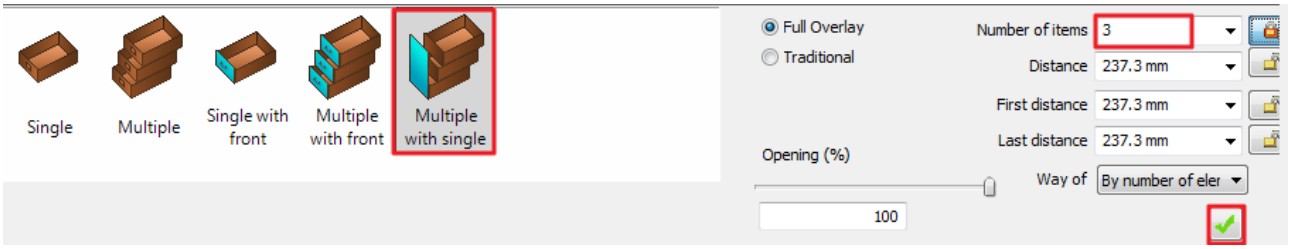
- Modify the middle cabinet.



- Select the door: ALT+Click on it (or turn to the Doors page). Delete the selected door clicking on the marker.



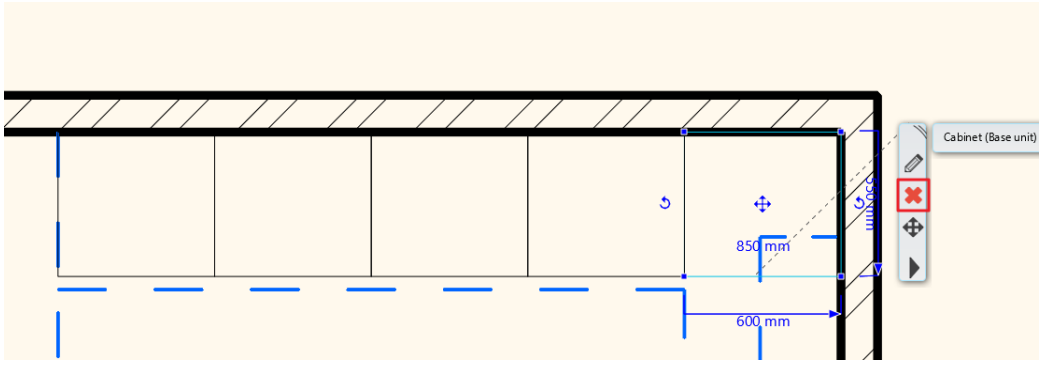
- On the drawer page select the option „Multiple with single”, set the number of drawers to 3, finally insert the drawers by pressing the button.



Save page – save the element.

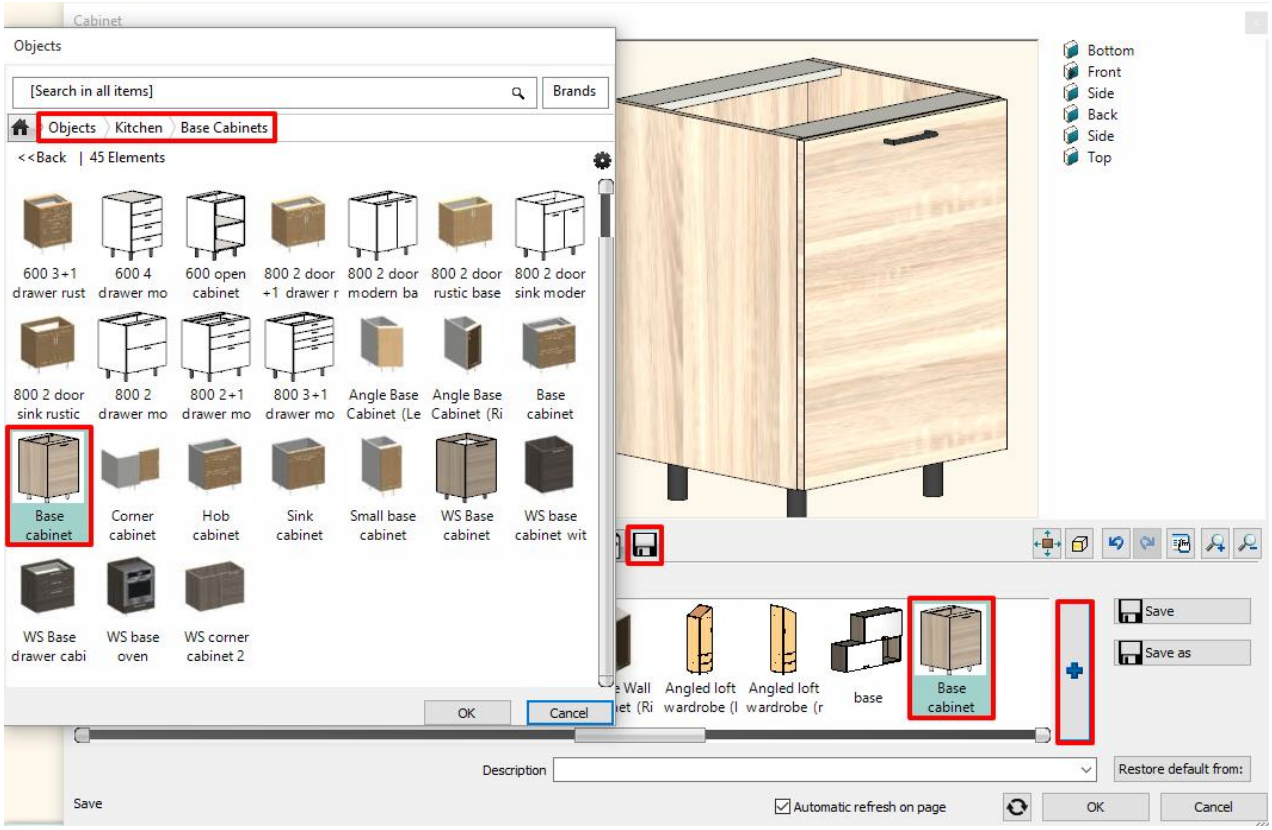
Corner cabinet

- Delete the cabinet at the wall corner.



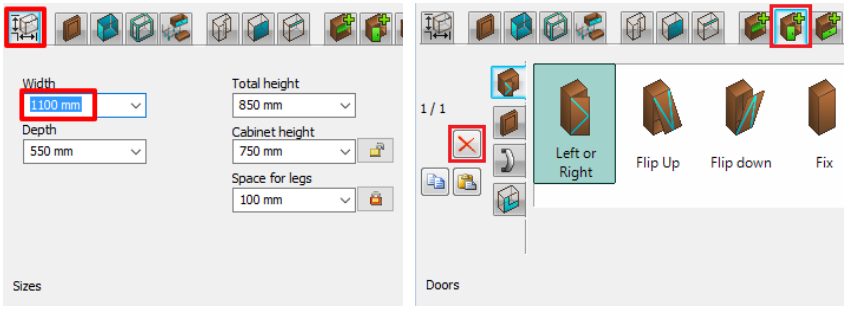
- Click on the **Ribbon bar / Interior / KBB / Cabinet** icon.

Save page – load the previously saved one door base cabinet.

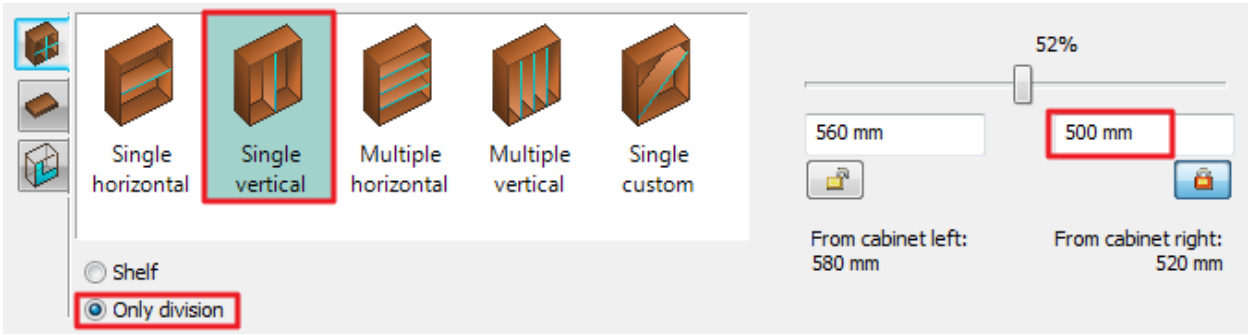


Sizes page – change the width to 1100 mm.

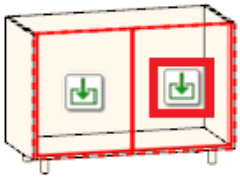
- Select the door: ALT+Click on the door (or turn to the Doors page) and delete the selected door by pressing the button.



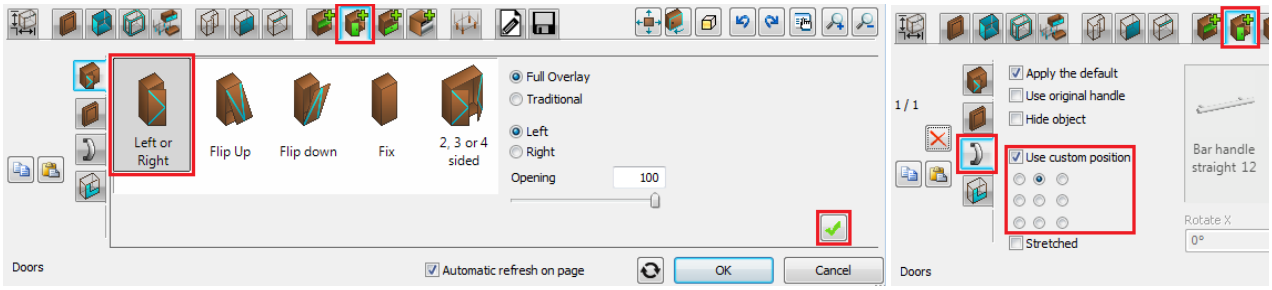
On the Dividers page select the „Single vertical” divider, check the „Only division” checkbox, set the distance on the right side to 500 mm and then insert the division by pressing the button.



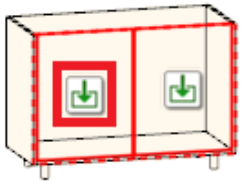
- Click on the button in the right empty zone on the preview.



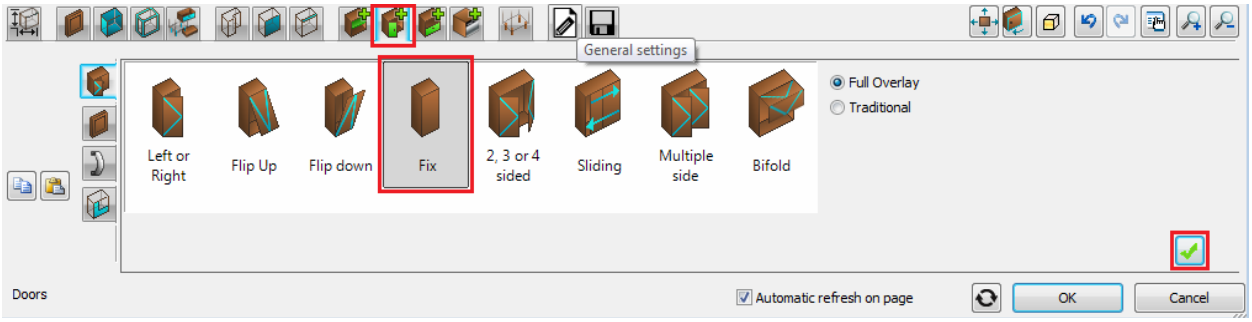
Turn to the Doors page , and then place the door by pressing the button. On the *Handle* tab switch *Use custom position* checkbox on and select the top-center handle position.



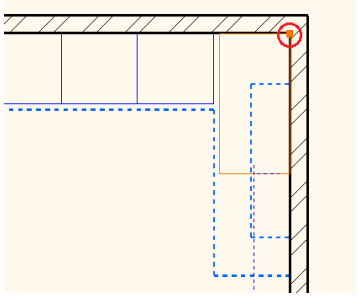
- Click on the button in the left empty zone on the preview.



Select the „Fix” door and insert it by pressing button.



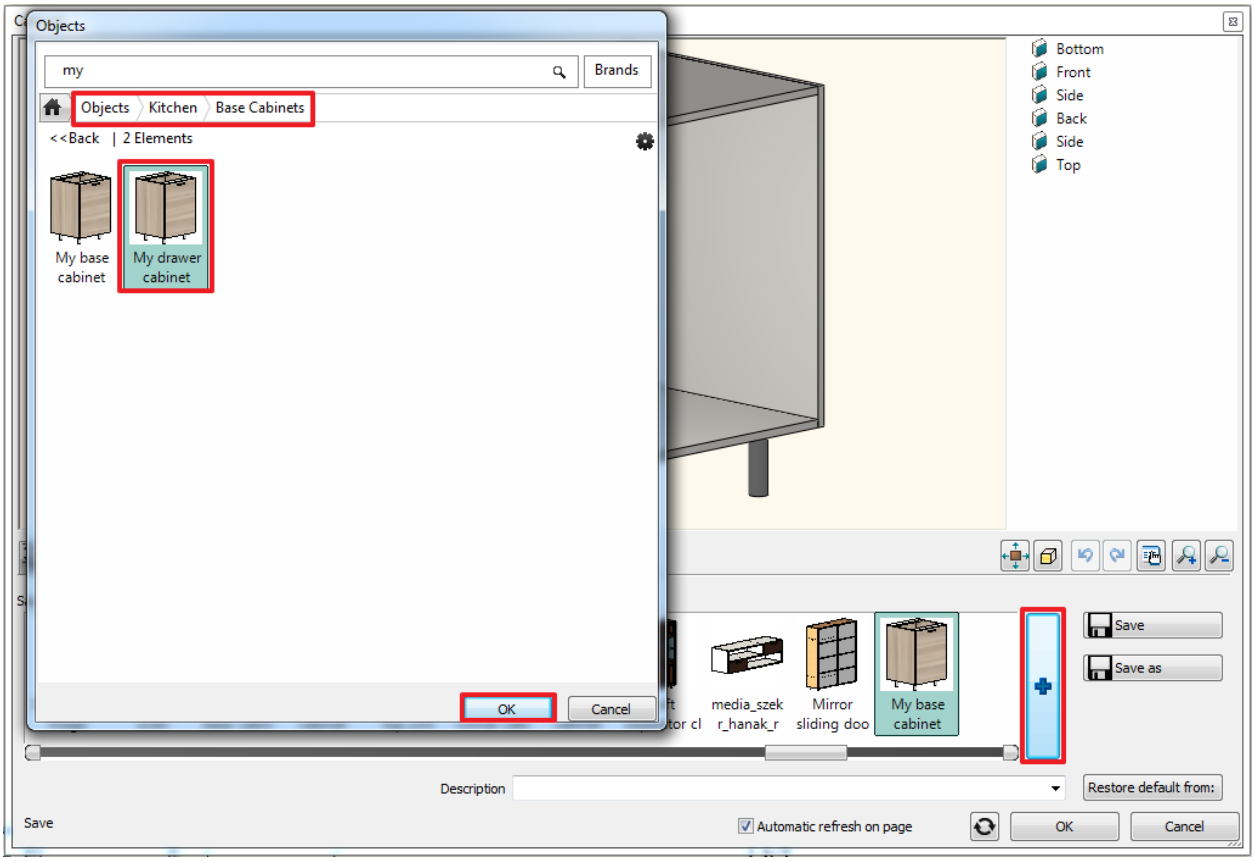
- Place the corner cabinet into the top-right wall corner.



Wide drawer cabinet

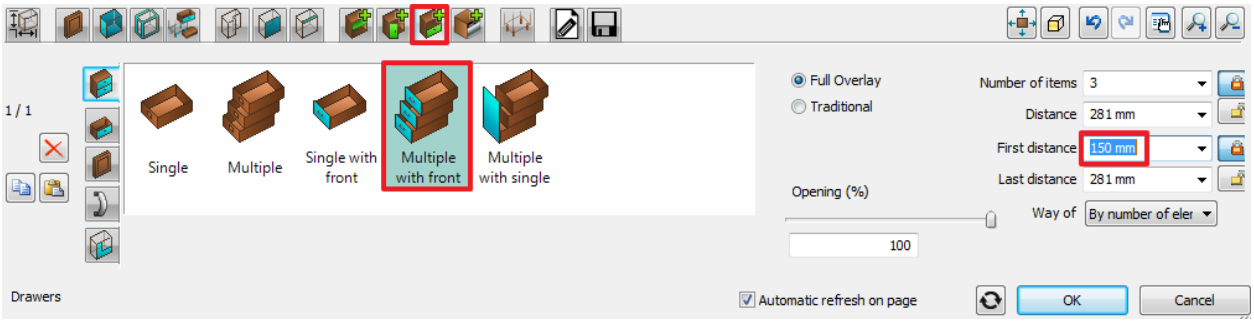
- Click on the **Ribbon bar / Interior / KBB / Cabinet** icon.

Save page – load the previously saved drawer cabinet.

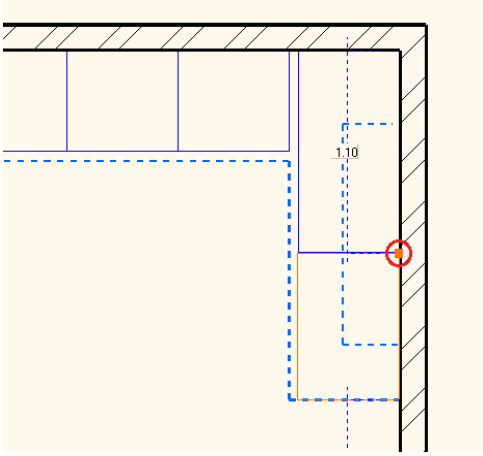


Sizes page – Set the width to 800 mm.

- Select the drawer: ALT+Click the drawer (or turn to the Drawers page). Change the type of the drawer to „Multiple with front” and set the height of the first drawer to 150 mm.

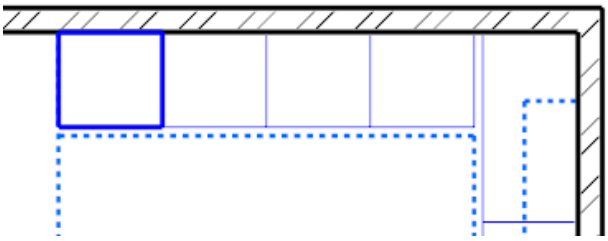


- Close the dialog and place the wide drawer cabinet onto the wall on the right side, next to the corner cabinet.



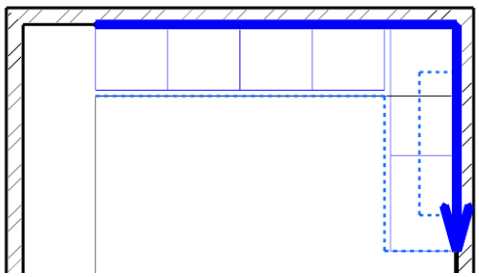
Replace the base cabinet on the left side with a dishwasher

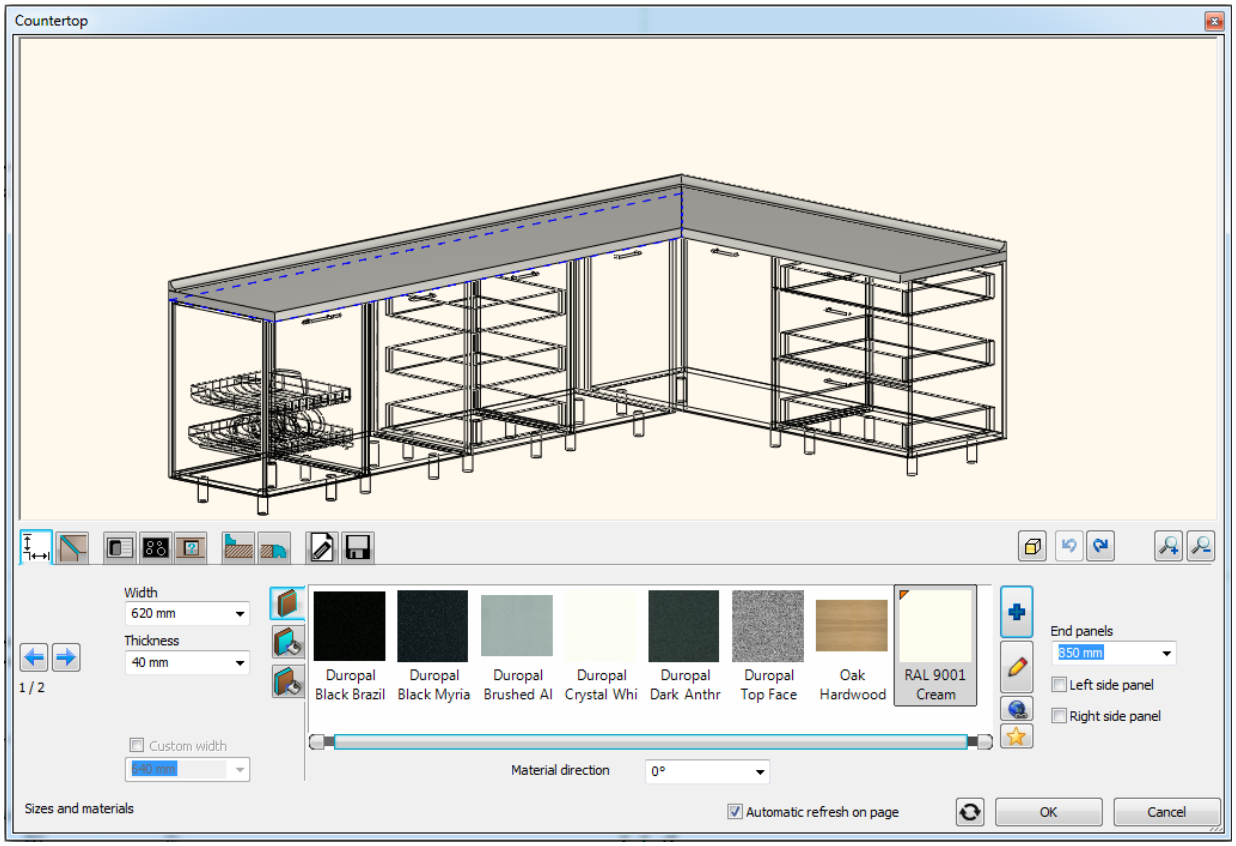
- On the Design Center ad navigate into the category “Objects / Kitchen / Dishwasher”. Drag and drop the “WS dishwasher” element onto the cabinet on the left side. In the appearing menu select “Replace unit with same dimensions”.



4.3. Countertop

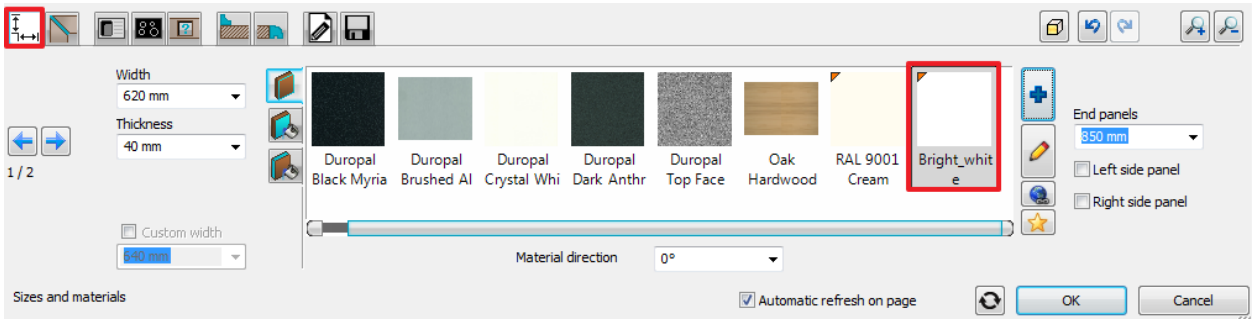
- Click on the **Ribbon bar / Interior / KBB / Countertop** icon and then choose the “Countertop by profile” from the appearing menu.
- Draw the reference line on the floor plan.



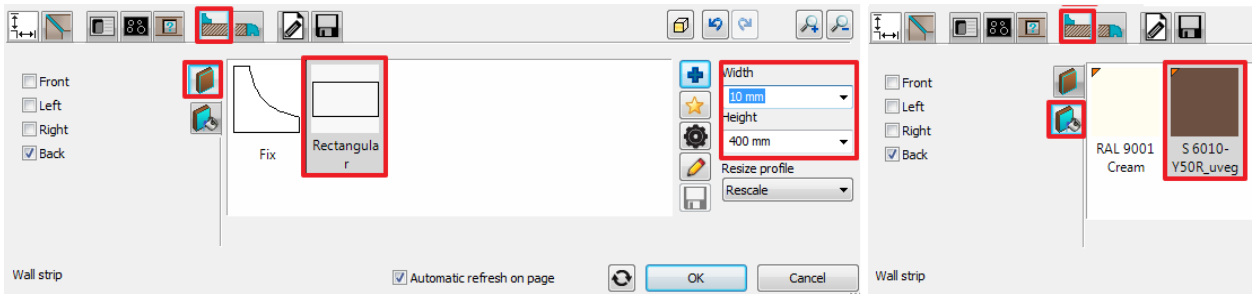


- Set the following properties:

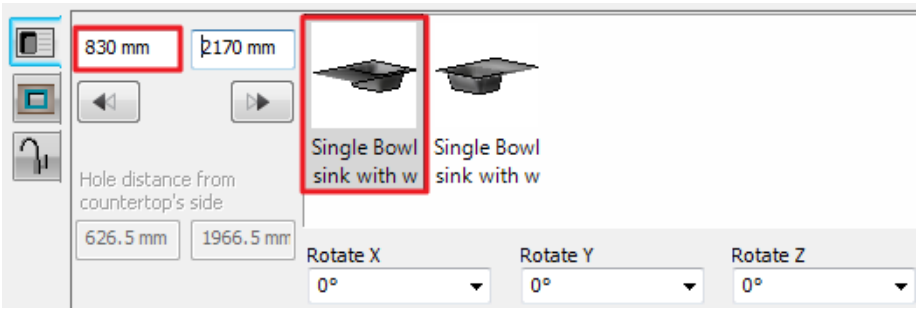
Sizes and materials page – material: “Bright white”.



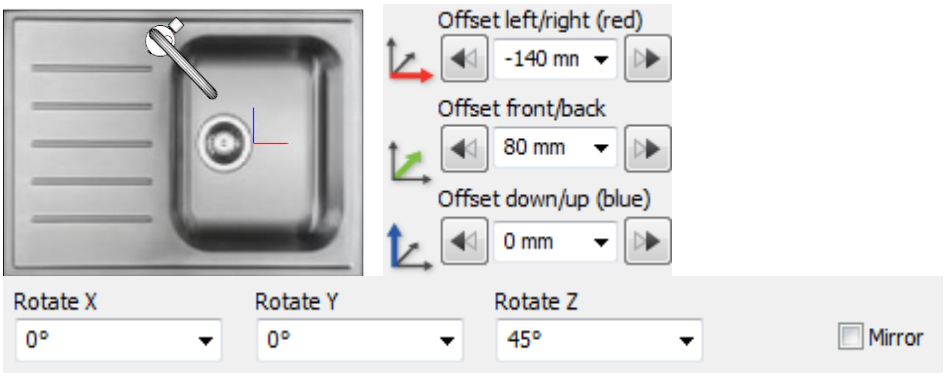
Wall strip page – section profile: rectangle (height: 400 mm, width: 10 mm) material: “S 6010-Y50R_uveg”.



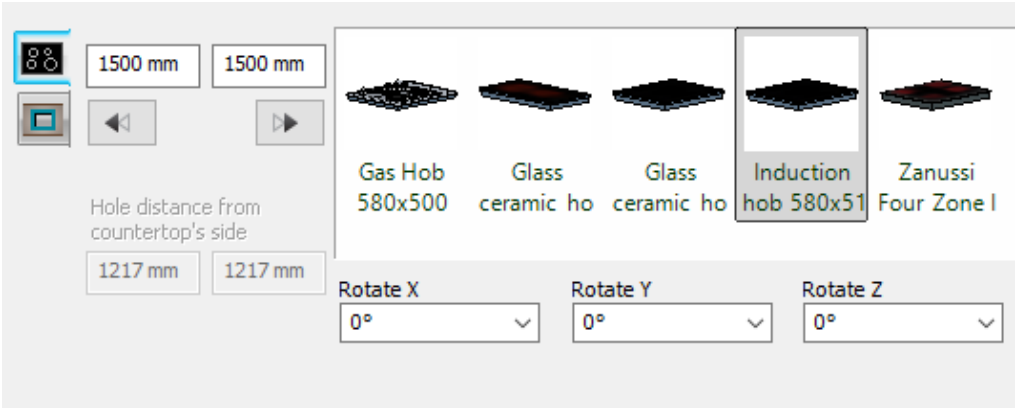
Sink page – Select the sink called „Single bowl sink with work surface on left”, set the distance from the left side to 830 mm, finally create the sink by pressing the button.



Click on the **„Tap” tab**, select „Tap” and move it to the appropriate position: Rotate Z: +45°, Offset left/right: -140 mm, Offset front/back +80 mm.

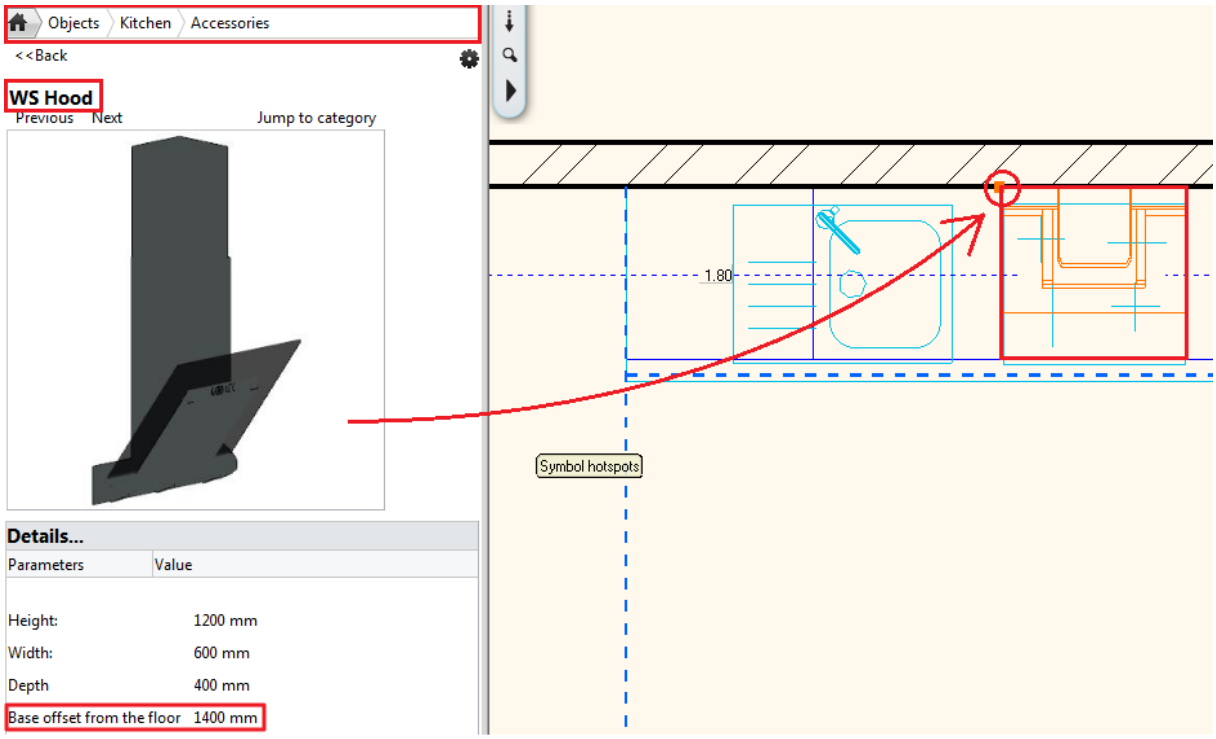


Hob page – Select „Induction hob 580x510”, set the distance from the left side to 1500 mm, and then create the hob by pressing the button.



4.4. Hood

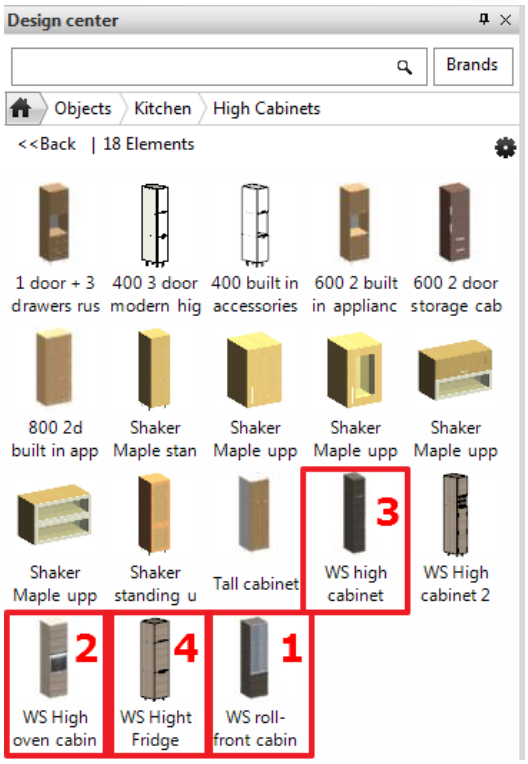
- Search for the „WS hood” in the Design Center. Set its relative height to 1400 mm and place it onto the floor plan over the cabinet.

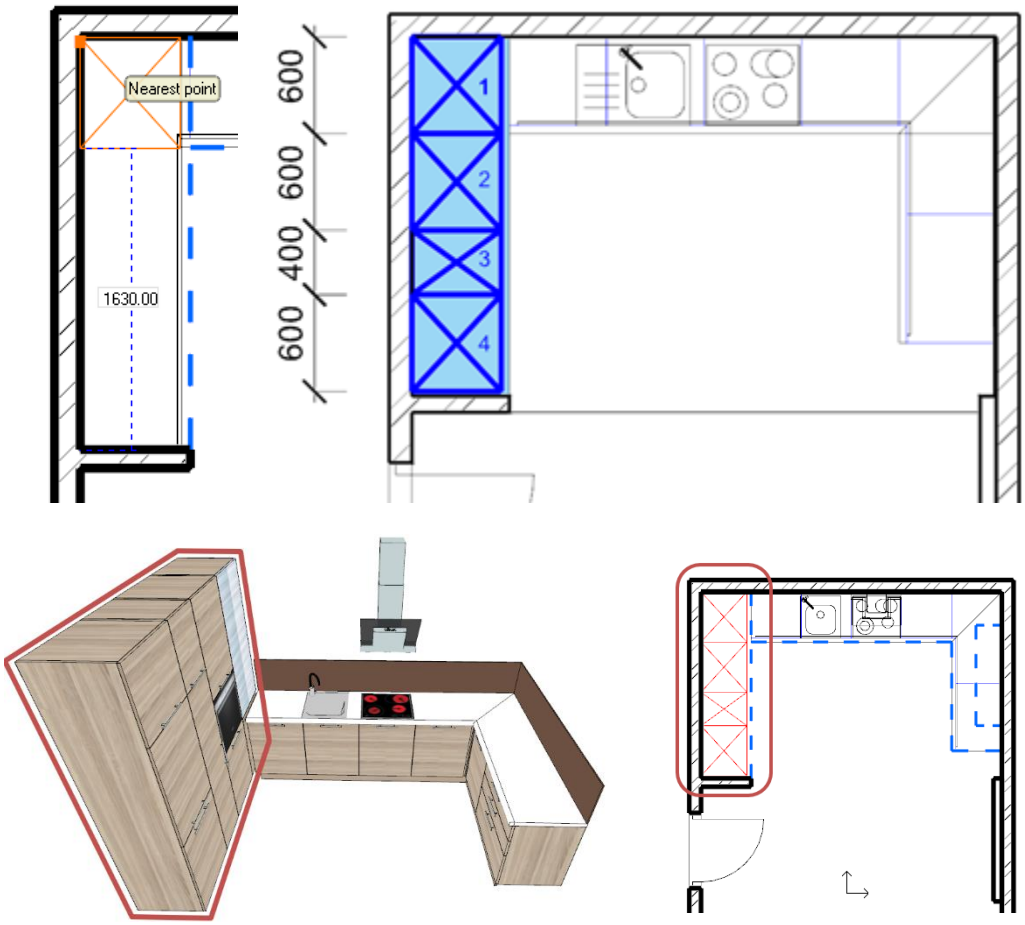


4.5. Adding cabinets

Add high cabinets

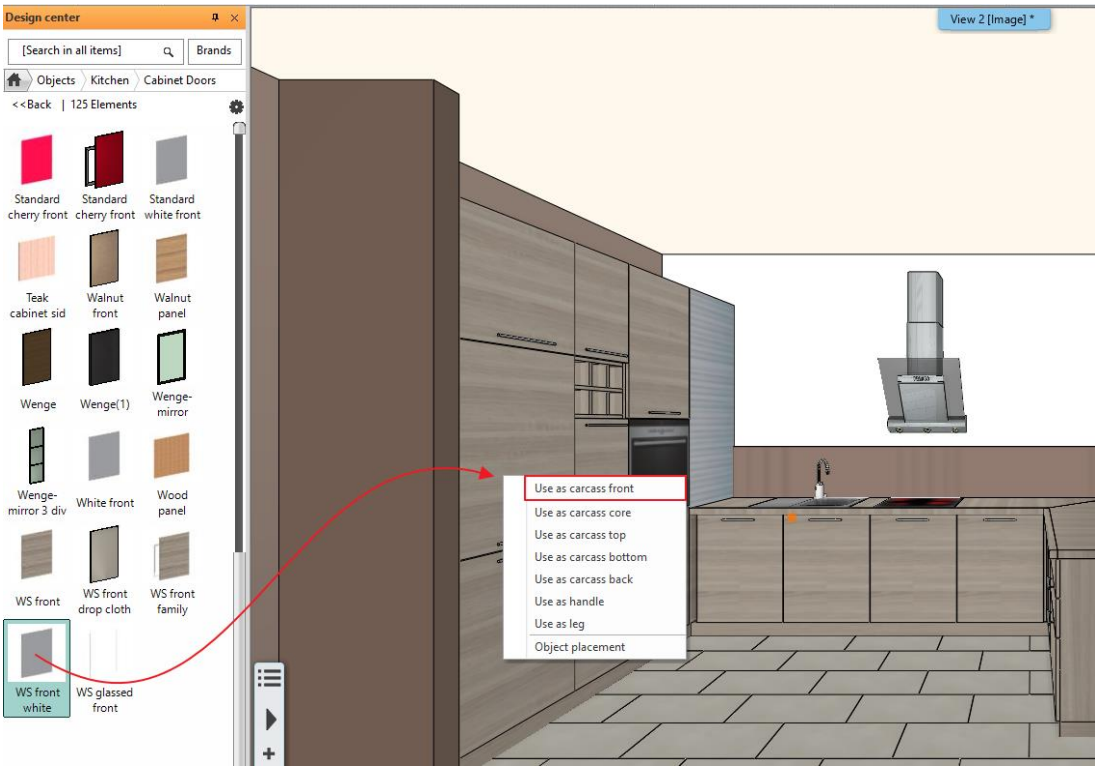
- Open the “**Objects / Kitchen / High cabinets**” category in the Design Center.
- Drag the “WS roll-front cabinet” ① and drop it onto the wall on the left side, into the top-left corner.
- Drag and drop the “WS High oven cabinet” ②, “WS high cabinet” ③ and “WS High Fridge” ④ next to each other similarly.

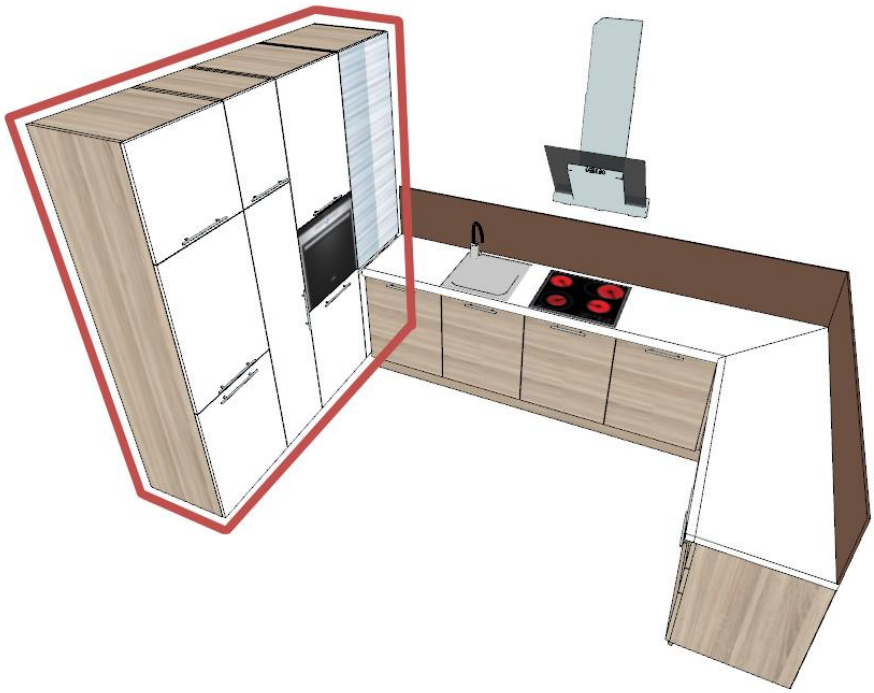




Change the front doors of the high cabinets

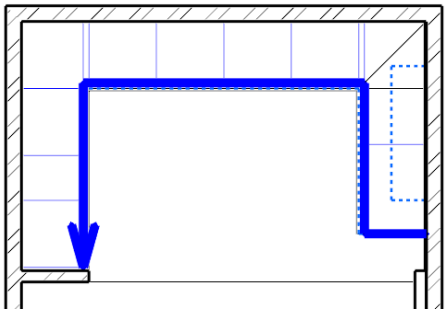
- Open the "**Objects / Kitchen / Cabinet doors**" category in the Design Center.
- Drag the "WS front white cabinet" and drop it onto the first high cabinet.
- Select "Use as carcass front" in the appearing menu and then click on the other high cabinets one after the other to change their front doors too.





4.6. Creating plinth

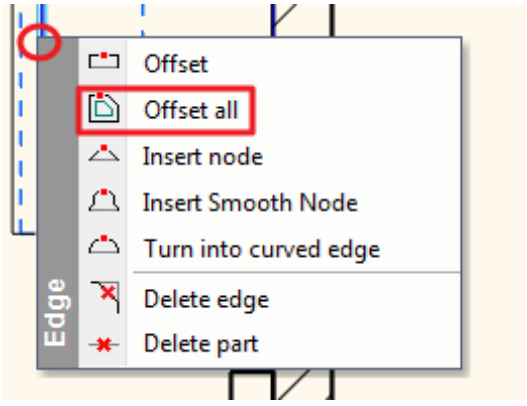
- Navigate to the **Ribbon bar – Interior – Sweep – Horizontal moulding** and draw the reference line on the floor plan.



- Set the following properties:

  Section profile page – frontal profile: Rectangle simple (Height: 100 mm, Width: 20 mm), material: “egger_h1145_st10_natural_bardolino_0”.
  Set the reference point of the profile to the right bottom corner of the profile after opening its properties by clicking on the cogwheel icon on the Section profile tab.

- Move the plinth 50 mm closer to the walls.



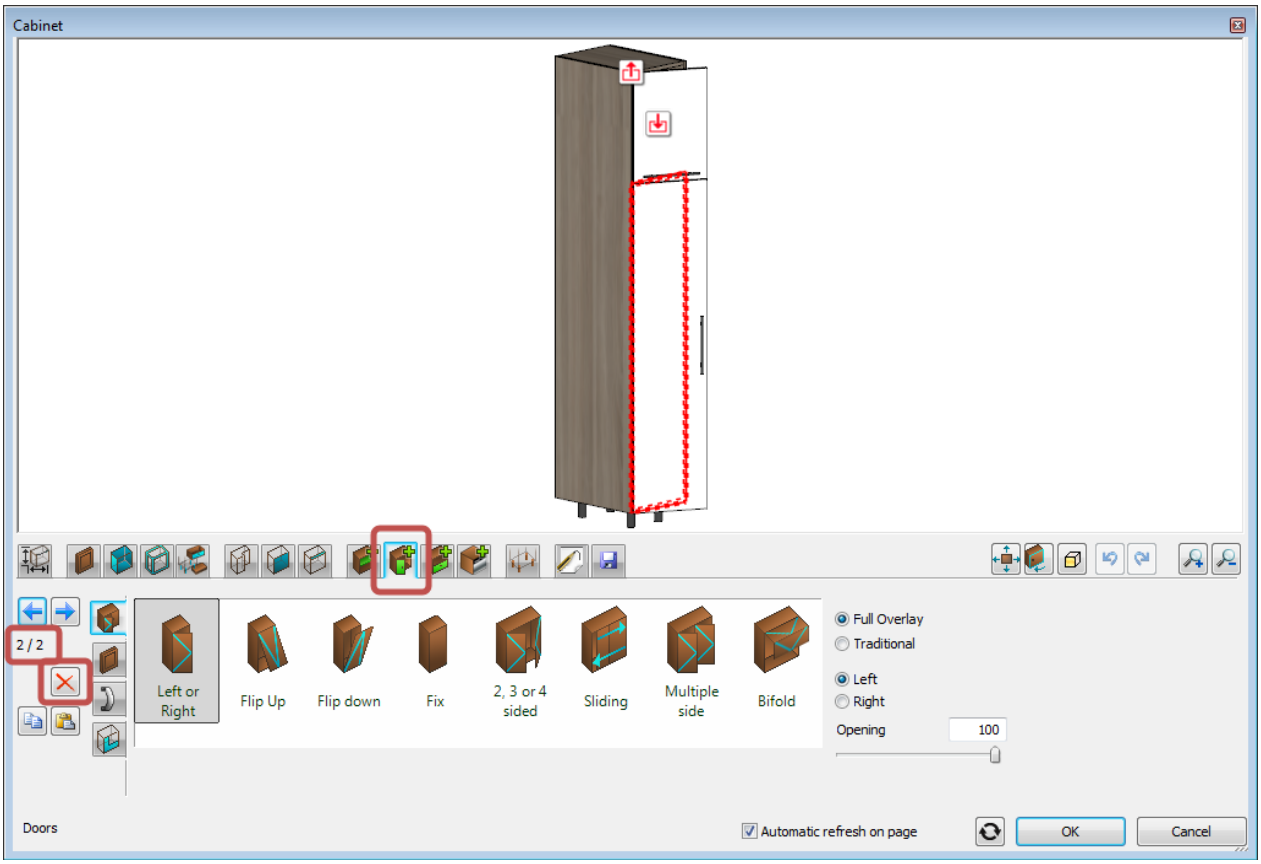
4.7. Editing cabinets

You can completely skip this section by replacing the 400 mm wide high cabinet by the “WS high cabinet 2”.

Edit the 400 mm wide high cabinet.

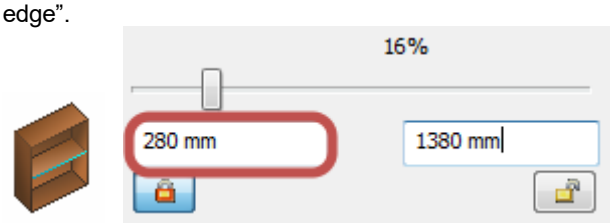
Delete the bottom door.

- Navigate to the Doors page. In the preview window click on the bottom door. Once it is selected (marked with a red outline) you can delete it by clicking on the Delete button.

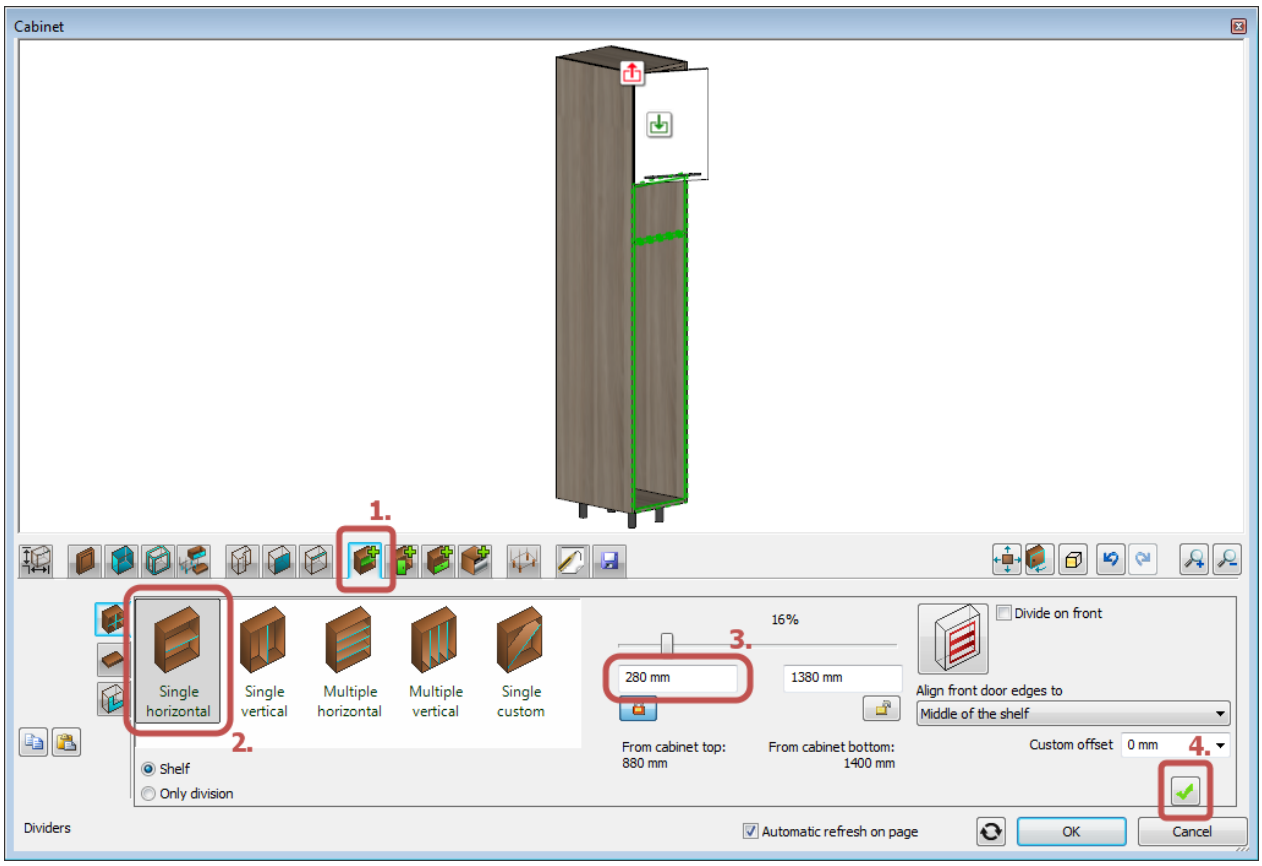


Add a shelf

- Navigate to the Dividers page.
  The current empty zone is marked by a green outline on the preview, now you can add a new divider into it.
- Select the single horizontal divider, set its position to 280 mm from top, and set “Align front door edge” to “Bottom shelf edge”.

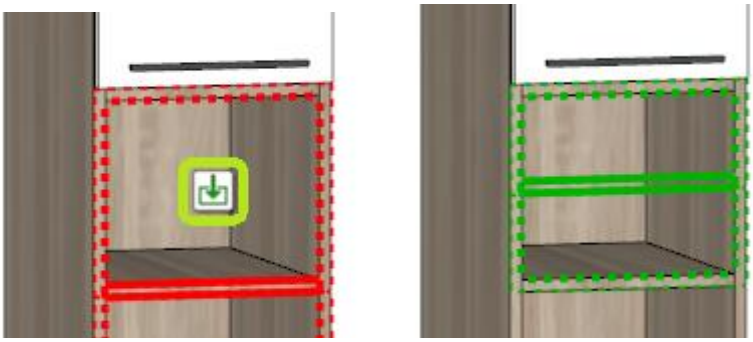


- Finally add the new shelf by clicking on the Create button.



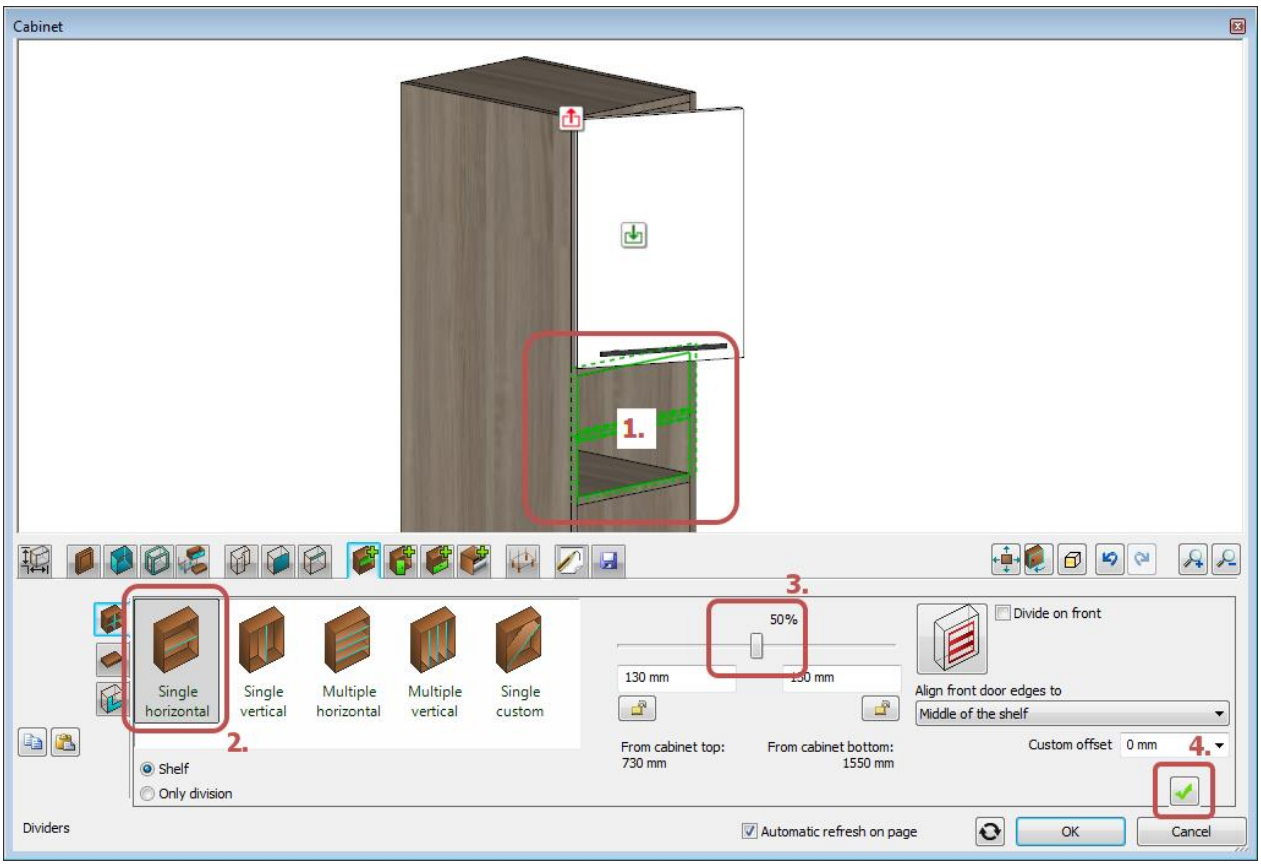
Add more dividers

- Stay on the Dividers page. Navigate into the zone over the new shelf by clicking on the icon in it.

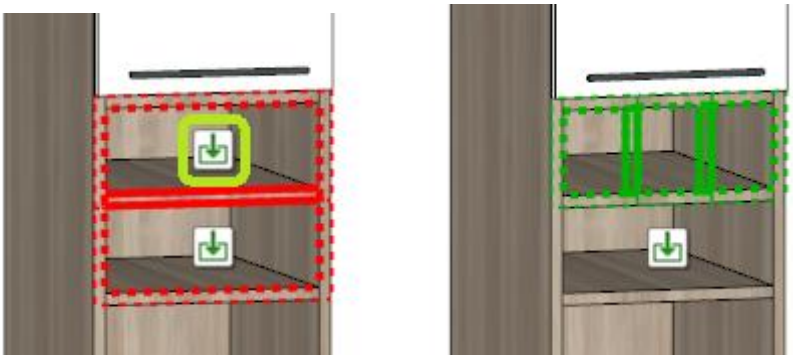


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

- Set the position to 50% by using the slider and add the new shelf by clicking on the Create button.

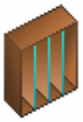


- Stay on the Dividers page. Navigate into the upper zone over the new shelf by clicking on the icon in it.

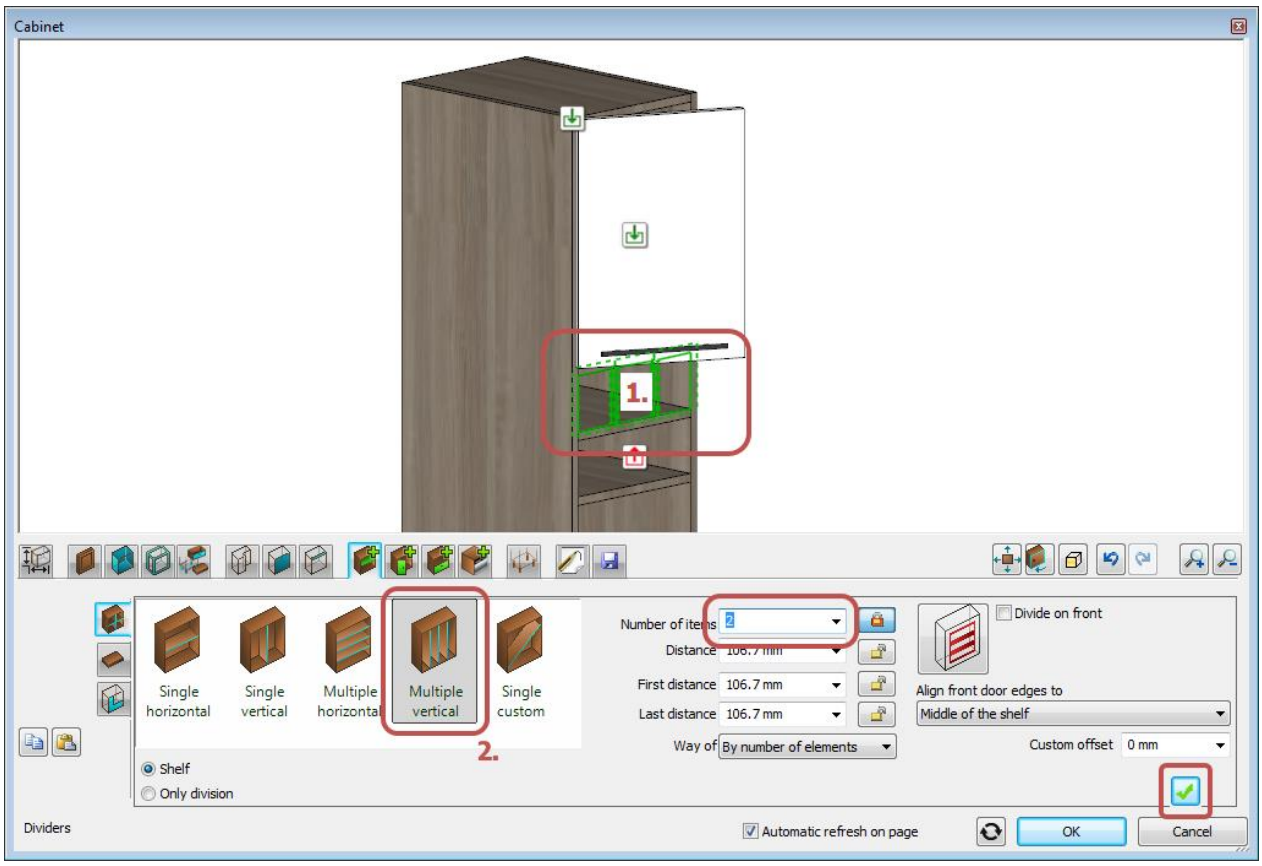


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

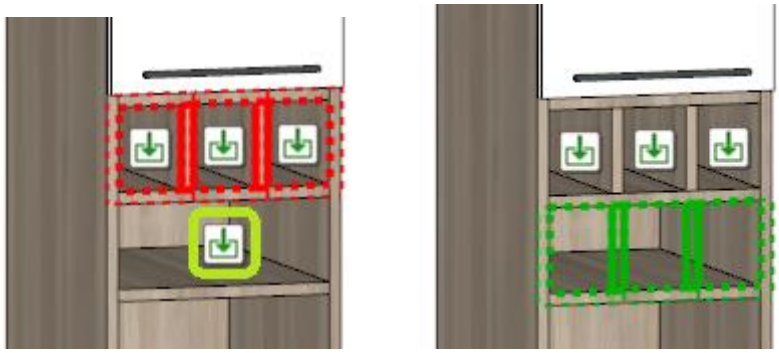
- Select the “Multiple vertical” divider. Set the “Number of items” to 2.



- Add the new divider by clicking on the Create button.



- Stay on the Dividers page. Navigate into the wide zone under the vertical by clicking on the icon in it.

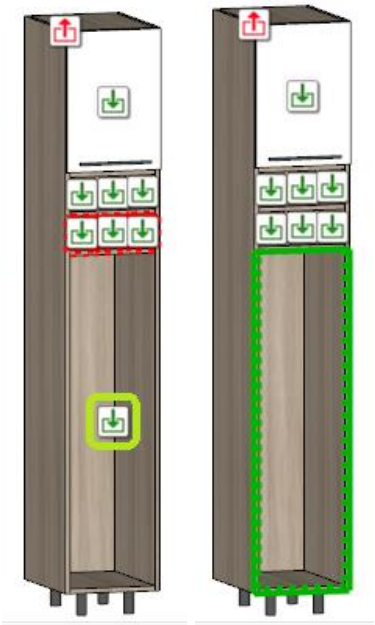


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

- Add the new divider by clicking on the Create button.

Add a drawer

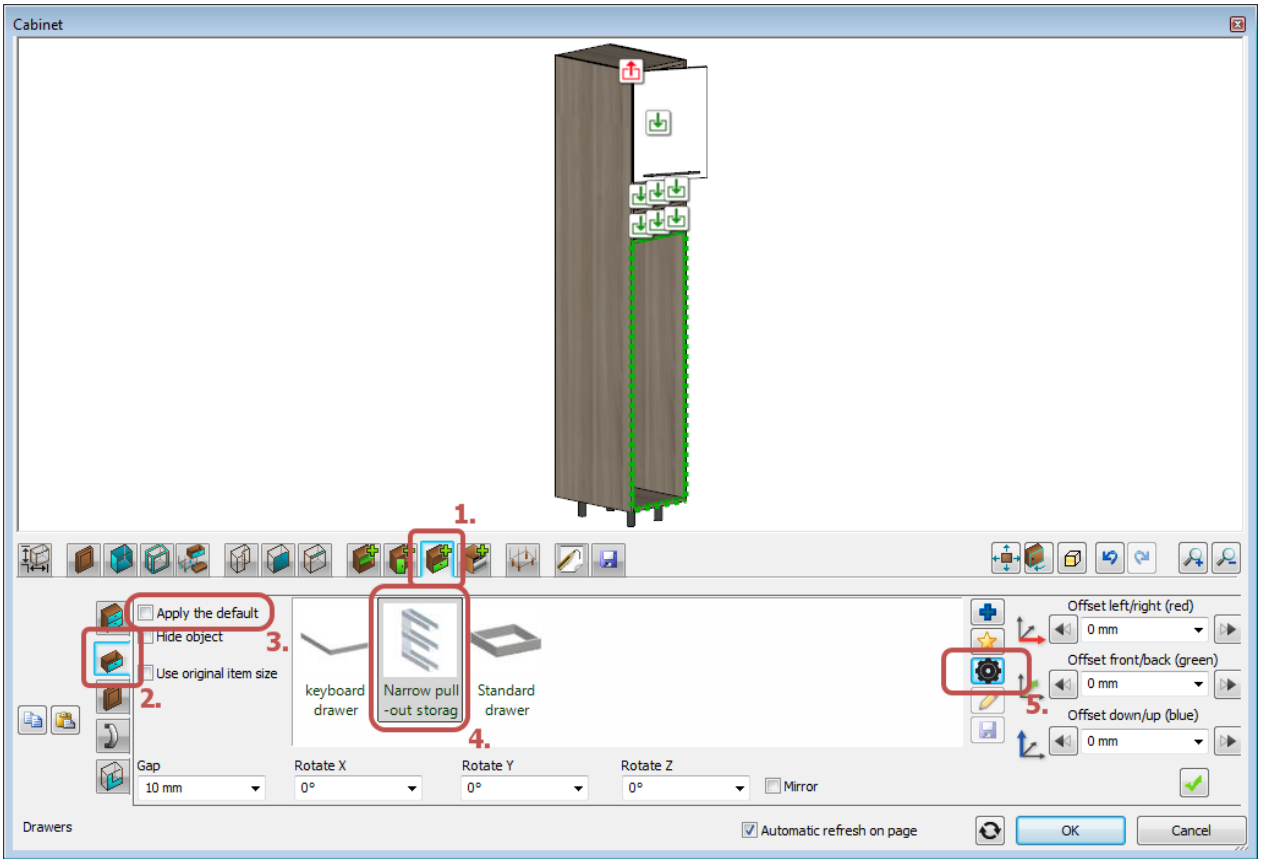
- Navigate to the Drawers page. Navigate into the bottom empty zone by clicking on the icon in it.

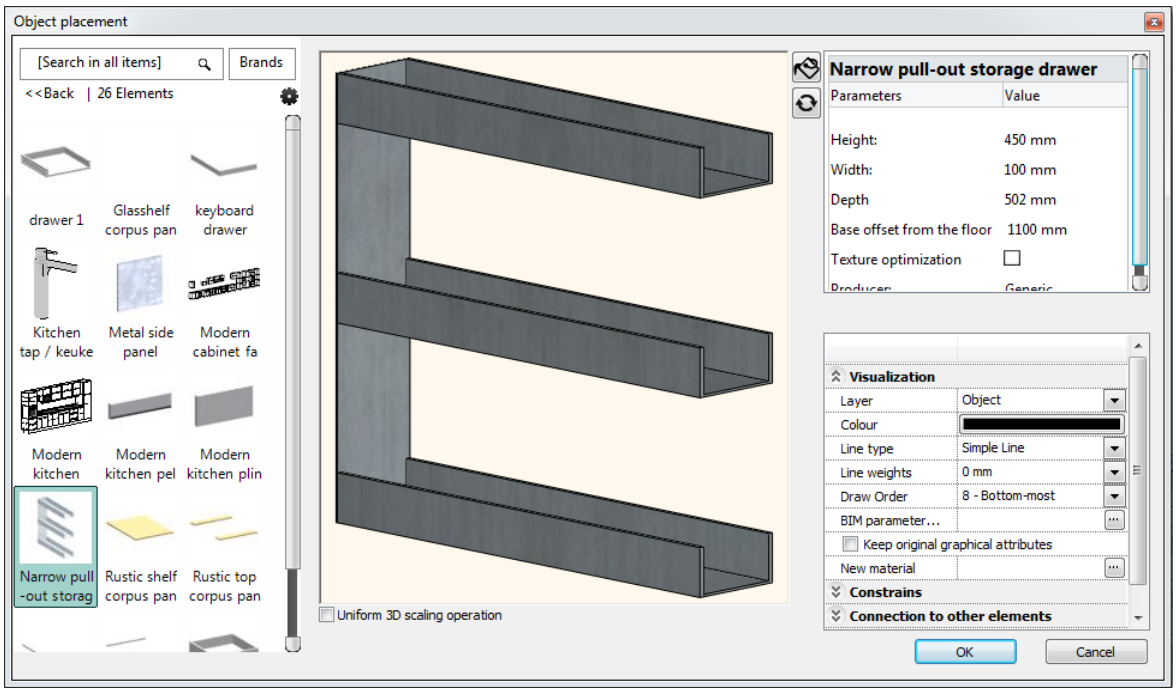


The current empty zone is marked by a green dotted outline on the preview, now you can add a new drawer into it.

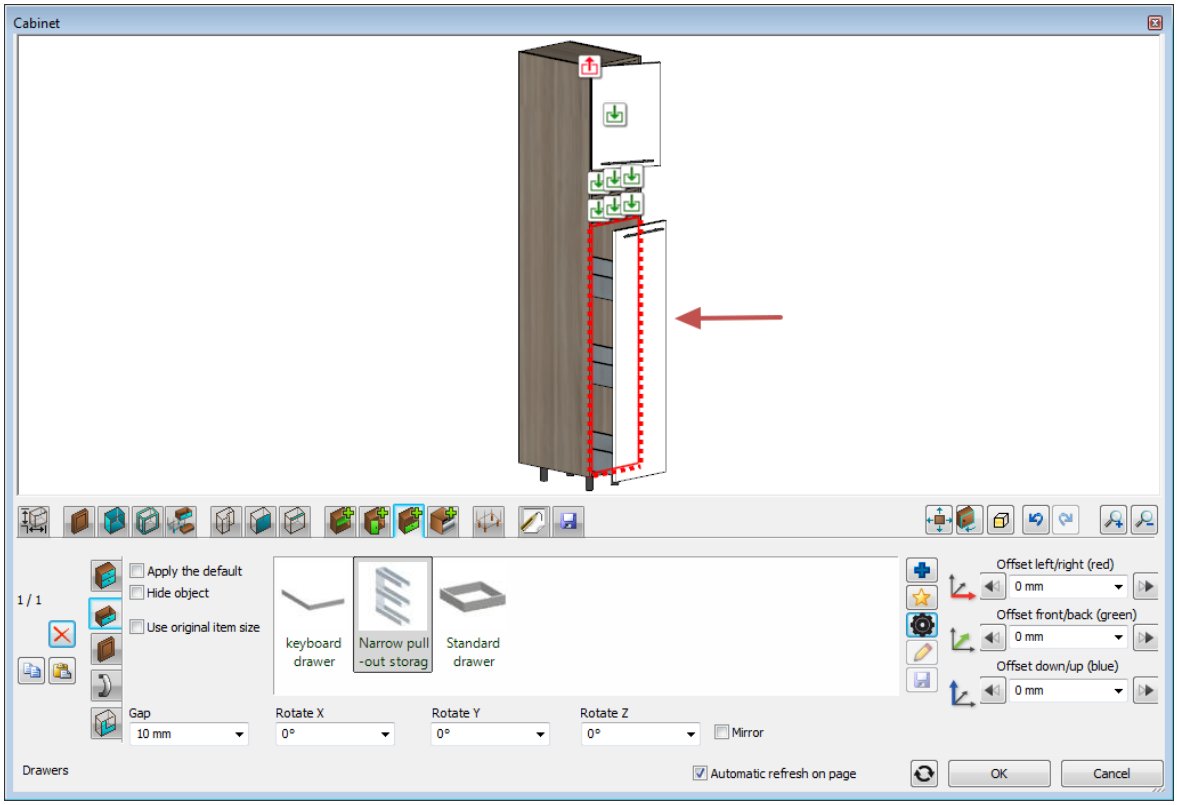
- Select “Single with front” drawer type.

- Navigate on the Drawer object tab. Clear the “Apply the default” checkbox to use a custom drawer.
- Select “Narrow pull-out storage drawer”.
- Click on the Object properties button and modify the height of the object to 1100 mm.

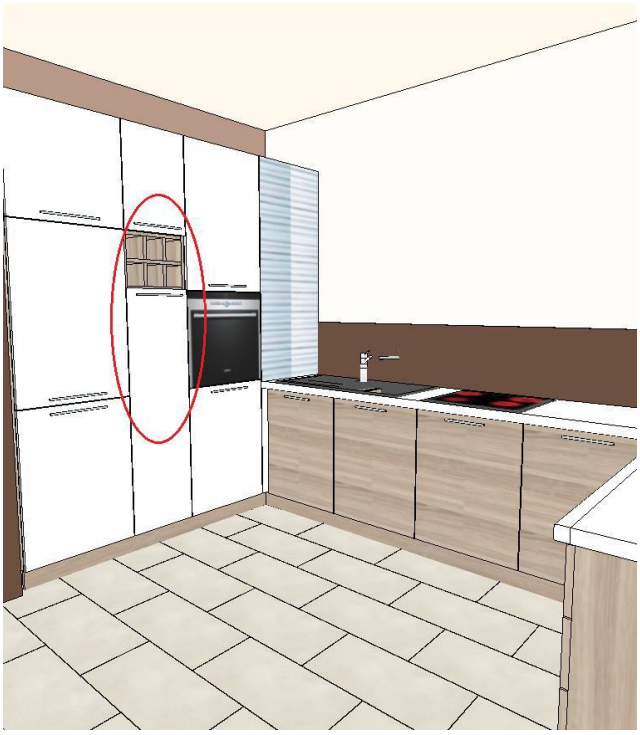




- Add the new divider by clicking on the Create button.



The result will look like this:



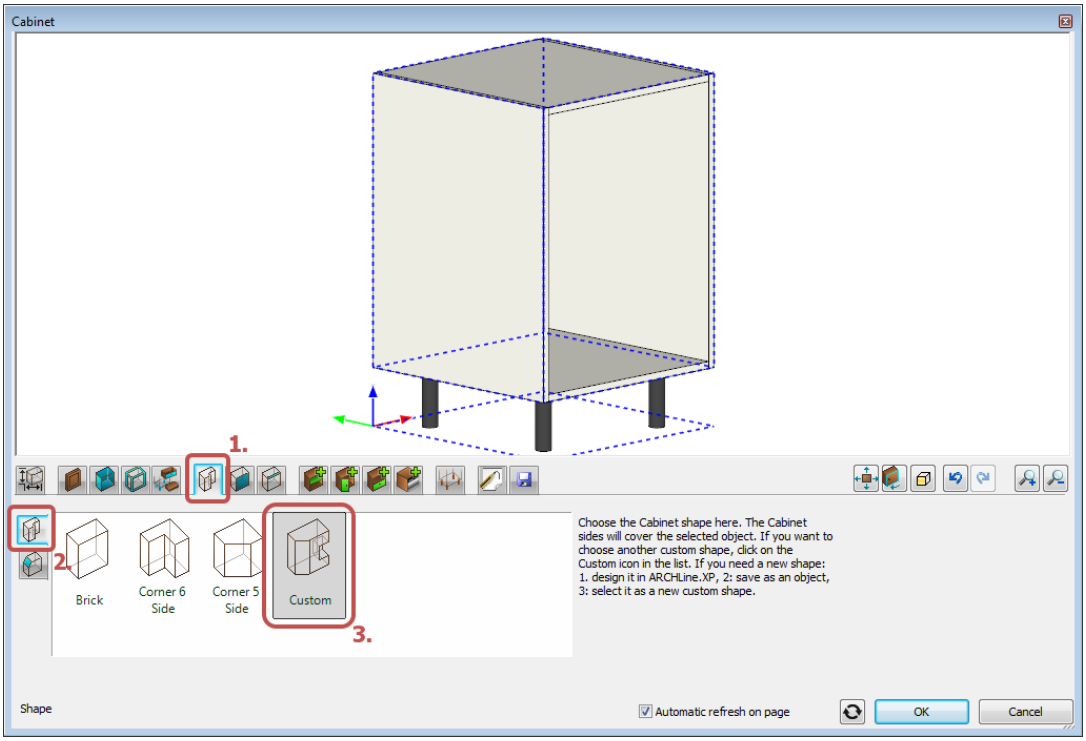
If you would like to start from here or if you feel that you could not follow all the previous steps, please load the following project file: WS_kitchen_step3_eng.pro.

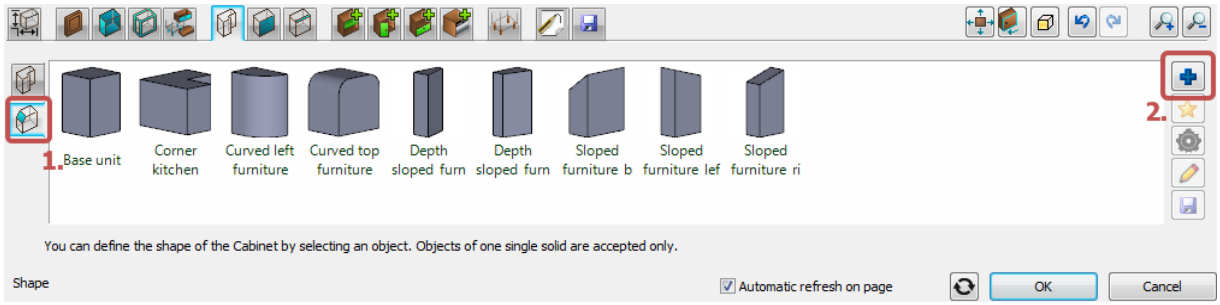
You can completely skip this section by placing the “WS Custom wall cabinet” from the Design Center.

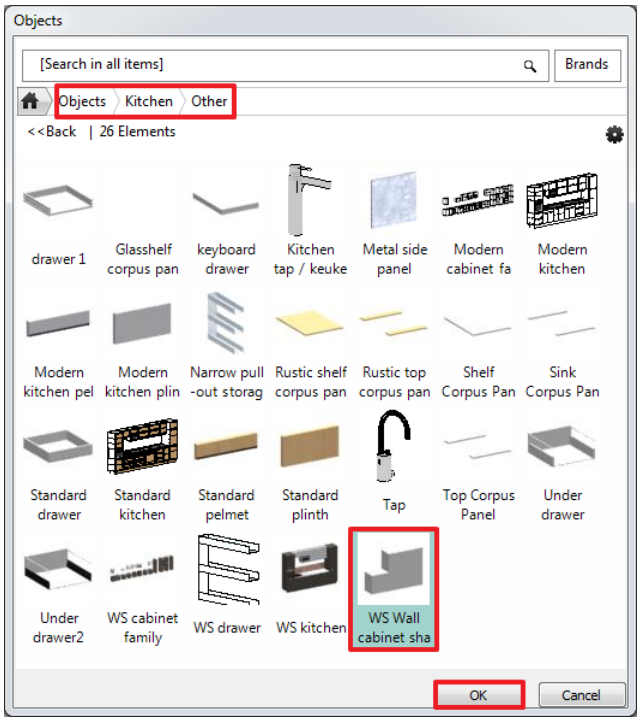
- Click on the **Ribbon bar / Interior / KKB / Cabinet** command.

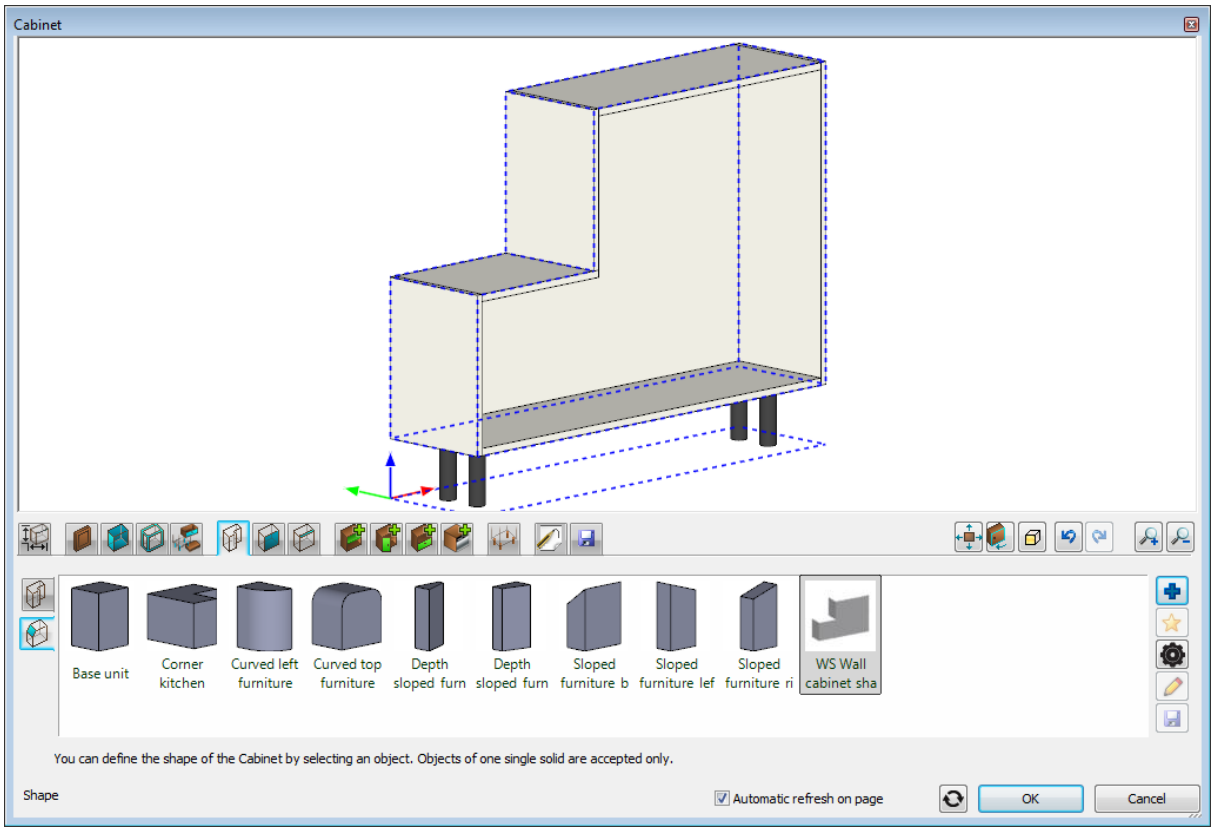
Define the shape and size

- Navigate to the **Shape** **page**. Select “Custom shape”.
- Now you can select an object as cabinet shape. Select the “WS Wall cabinet shape” from the category “Objects / Kitchen / Other”.

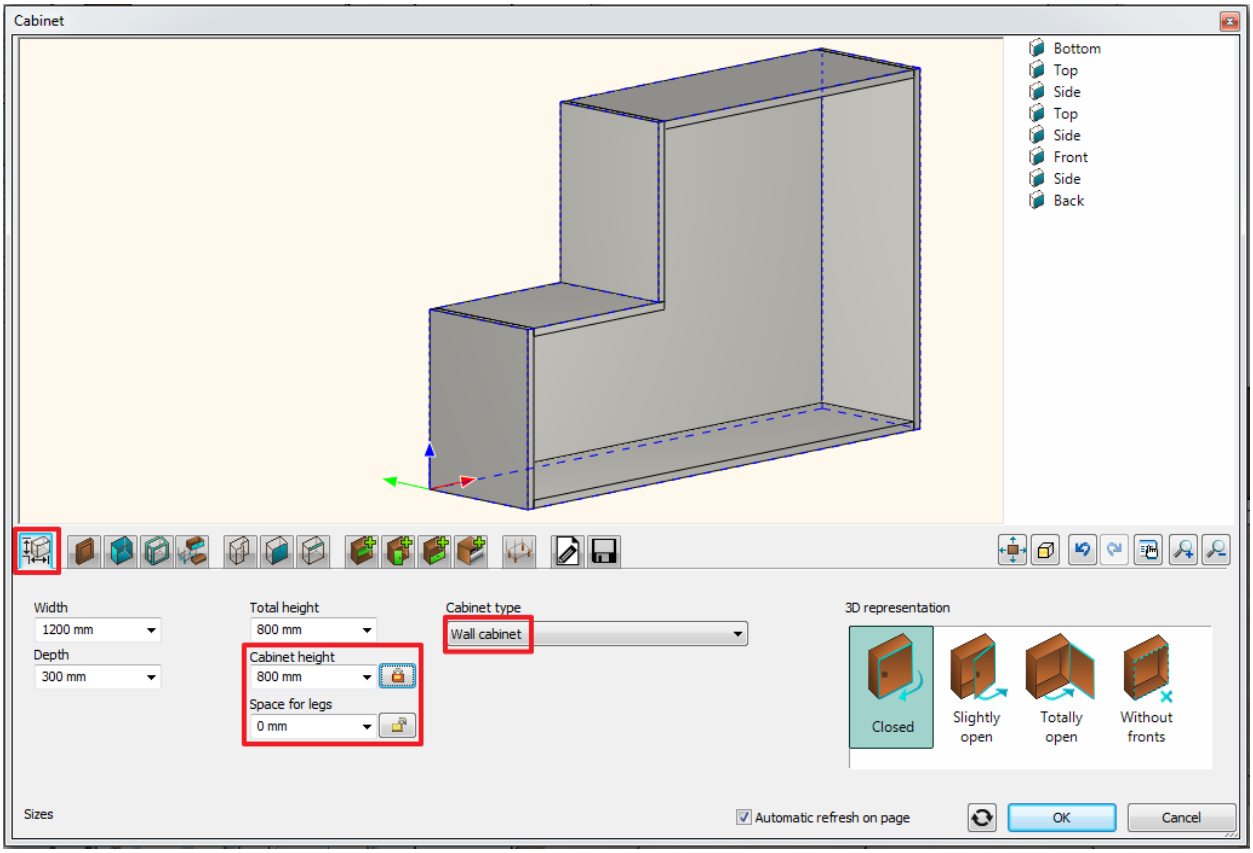



1.
Base unit
Corner kitchen
Curved left furniture
Curved top furniture
Depth sloped furn
Depth sloped furn
Sloped furniture b
Sloped furniture lef
Sloped furniture ri
2.
You can define the shape of the Cabinet by selecting an object. Objects of one single solid are accepted only.
Shape
Automatic refresh on page
OK
Cancel


Objects
[Search in all items]
Brands
Objects
Kitchen
Other
<<Back | 26 Elements
drawer 1
Glasshelf corpus pan
keyboard drawer
Kitchen tap / keuke
Metal side panel
Modern cabinet fa
Modern kitchen
Modern kitchen pel
Modern kitchen plin
Narrow pull -out storag
Rustic shelf corpus pan
Rustic top corpus pan
Shelf Corpus Pan
Sink Corpus Pan
Standard drawer
Standard kitchen
Standard pelmet
Standard plinth
Tap
Top Corpus Panel
Under drawer
Under drawer2
WS cabinet family
WS drawer
WS kitchen
WS Wall cabinet sha
OK
Cancel


Cabinet
Base unit
Corner kitchen
Curved left furniture
Curved top furniture
Depth sloped furn
Depth sloped furn
Sloped furniture b
Sloped furniture lef
Sloped furniture ri
WS Wall cabinet sha
You can define the shape of the Cabinet by selecting an object. Objects of one single solid are accepted only.
Shape
Automatic refresh on page
OK
Cancel

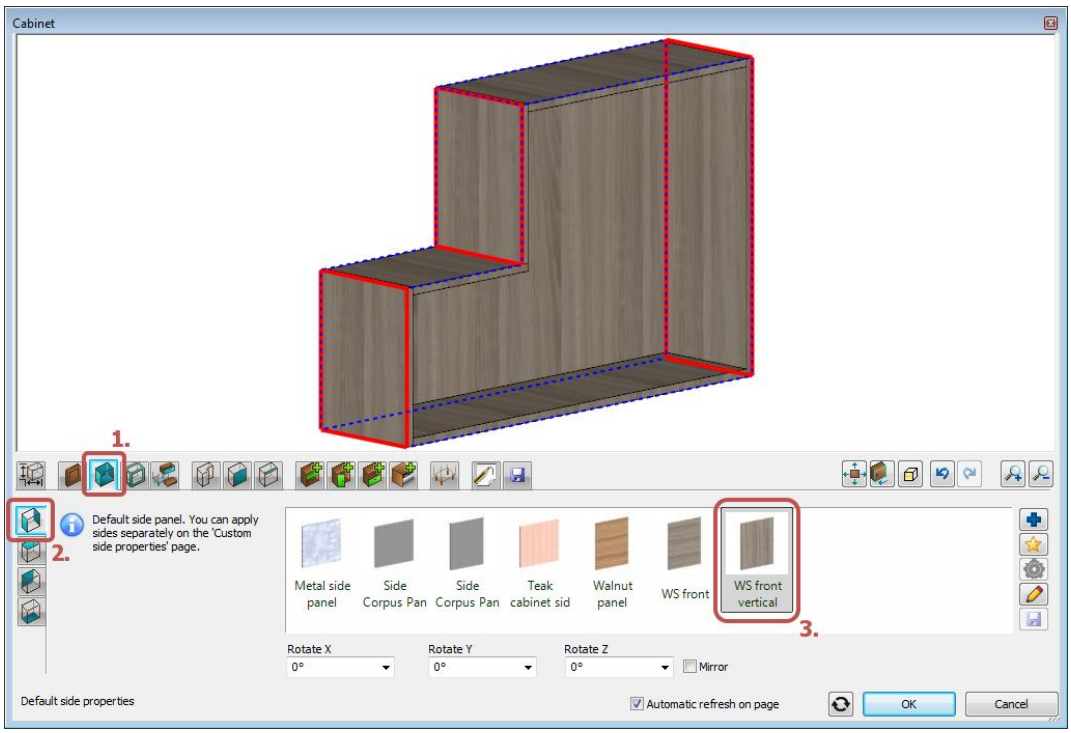
- Navigate to the Shape page. Set “Space for legs” to zero and “Cabinet height” to 800 mm. Select the “Wall cabinet” as “Cabinet type”.



Modify the defaults

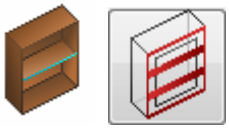
If you skip this step you can assign all the following settings to the cabinet later as well.

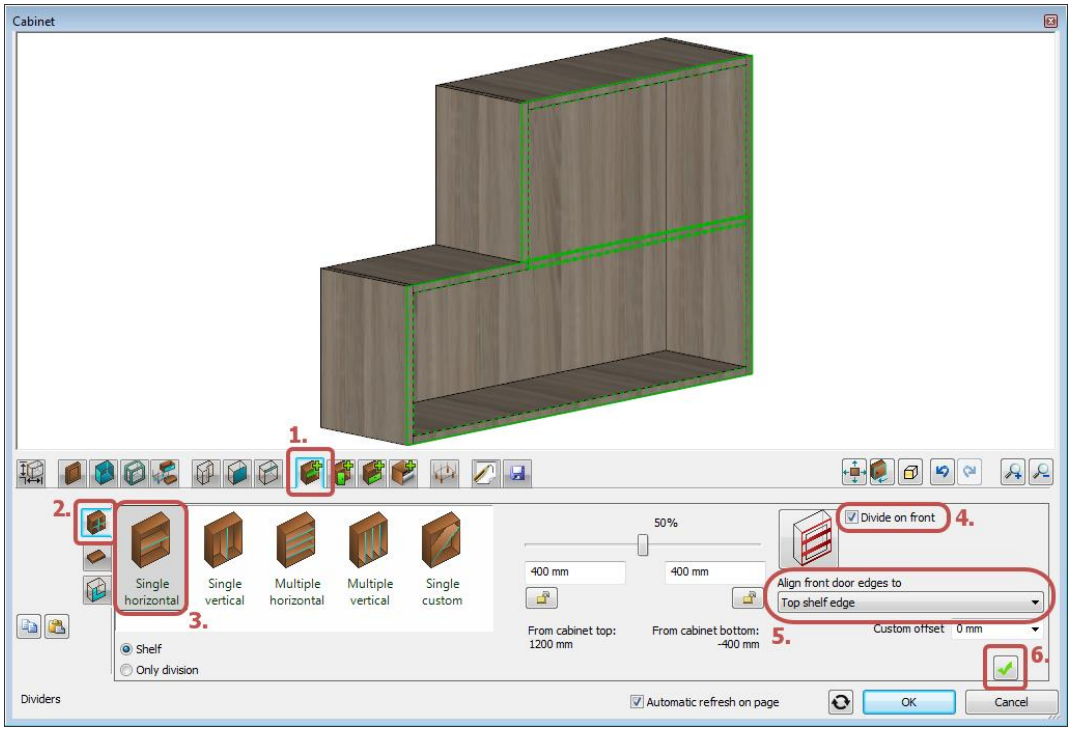
- Navigate to the General front properties page. Select “WS front white” as the default front from the category “Objects / Kitchen / Cabinet doors”.
- Navigate to the Door handle tab. Select “Bar handle straight 120” as the default door handle. (These settings haven’t any noticeable effect since we do not have any front doors so far.)
- Navigate to the Default side properties page. Select the “WS front vertical” as the default side panel from the category “Objects / Kitchen / Cabinet doors”.



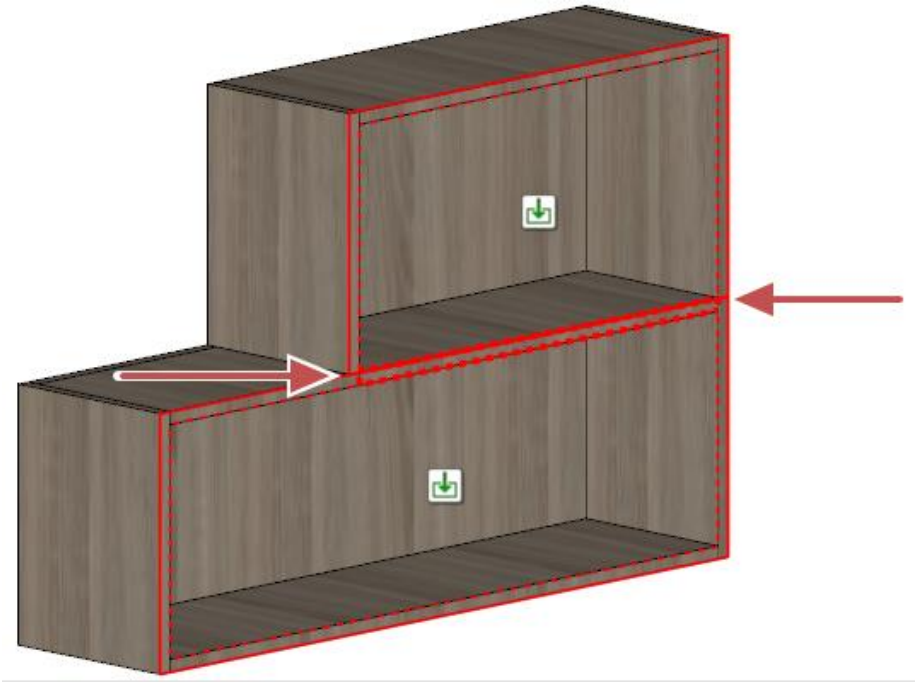
Add a horizontal divider

- Navigate to the Dividers page. The current empty zone is marked by a green outline on the preview, now you can add a new divider into it.
- Select the “Single horizontal” divider, leave the position (50%) unchanged.
- Switch on the “Divide on front” checkbox and set “Align front door edge” to “Top shelf edge”.



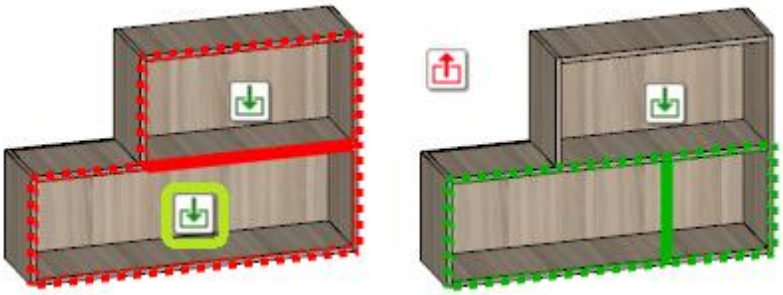


- Add the new divider by clicking on the Create button.



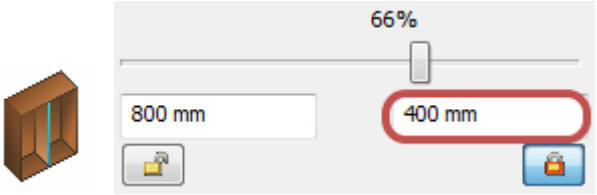
Add a vertical divider.

- Stay on the Dividers page. Navigate into the bottom empty zone by clicking on the icon in it.

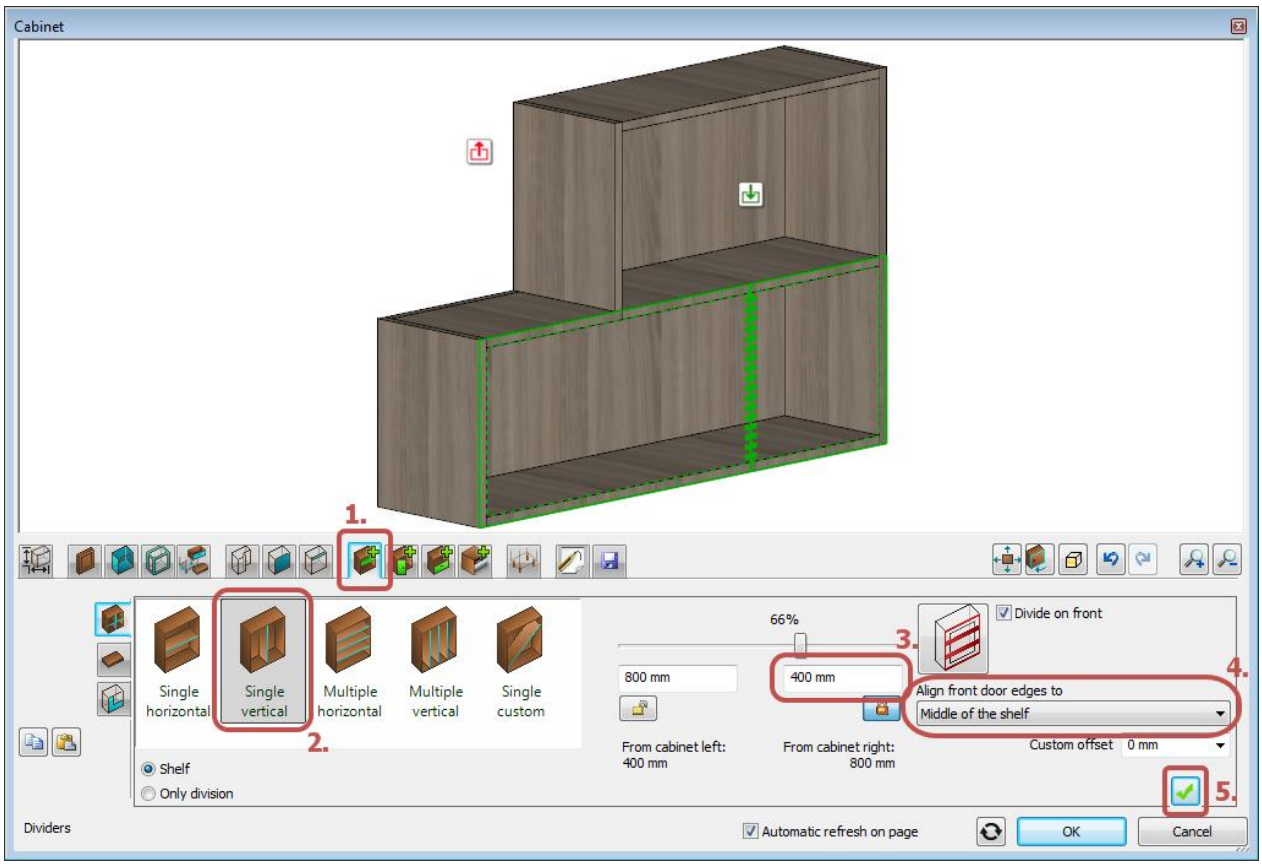


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

- Select the “Single vertical” divider and set the position form the right end to 400 mm.

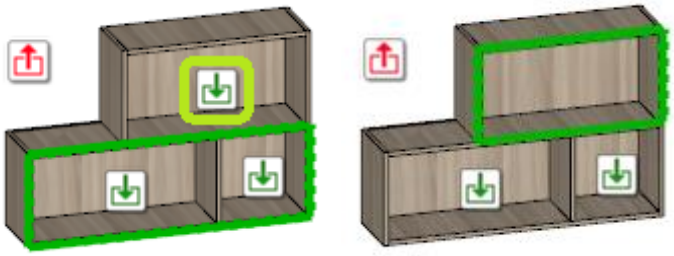


- Add the new divider by clicking on the Create button.



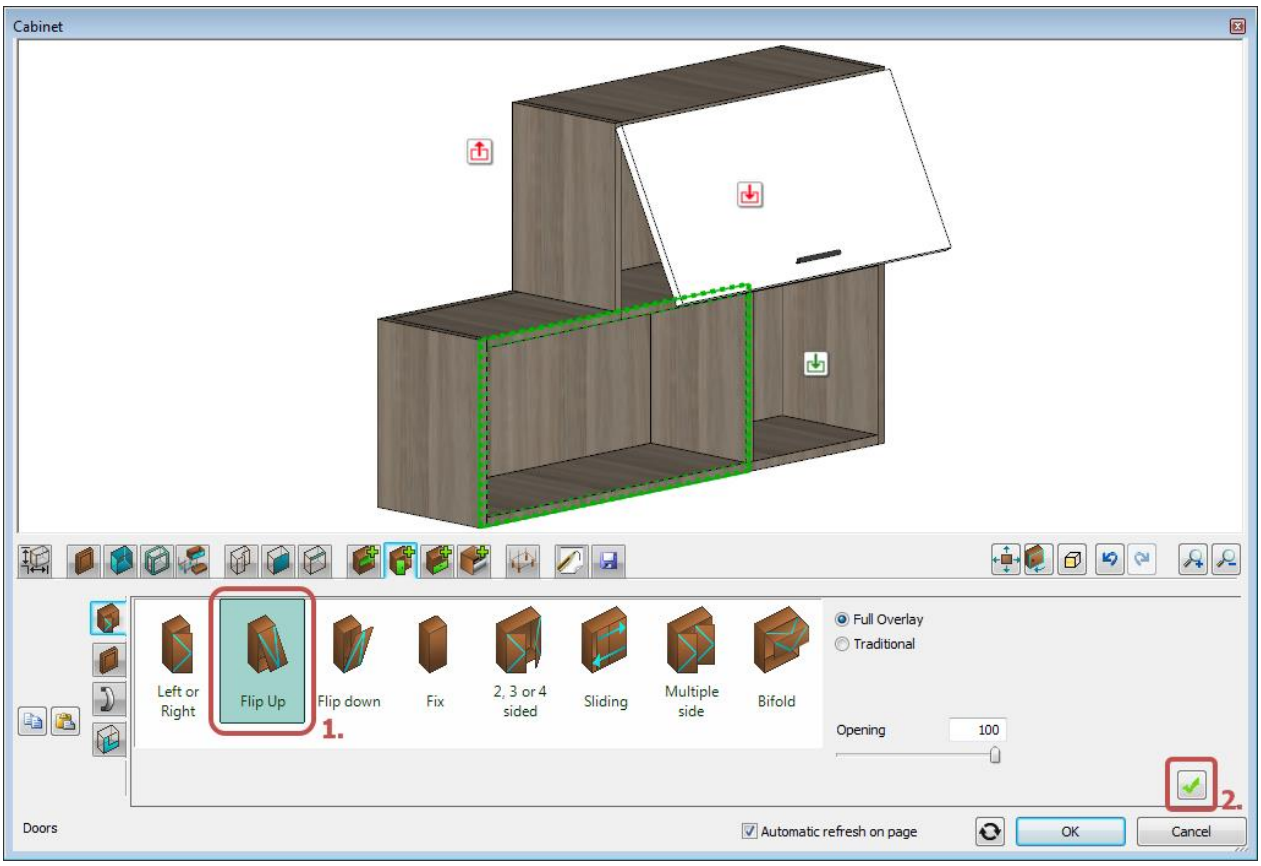
Add doors

- Navigate to the Doors page. Navigate into the top empty zone by clicking on the icon in it.

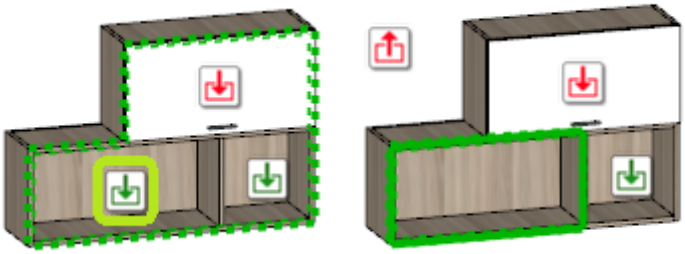


The current empty zone is marked by a green dotted outline on the preview, now you can add a new door to it.

- Select the “Flip up” door.

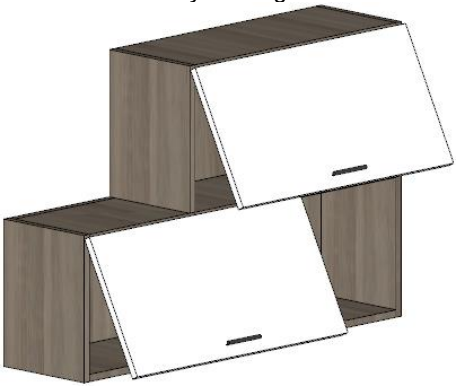


- Add the new door by clicking on the Create button.
- Navigate into the bottom-left empty zone by clicking on the icon in it.



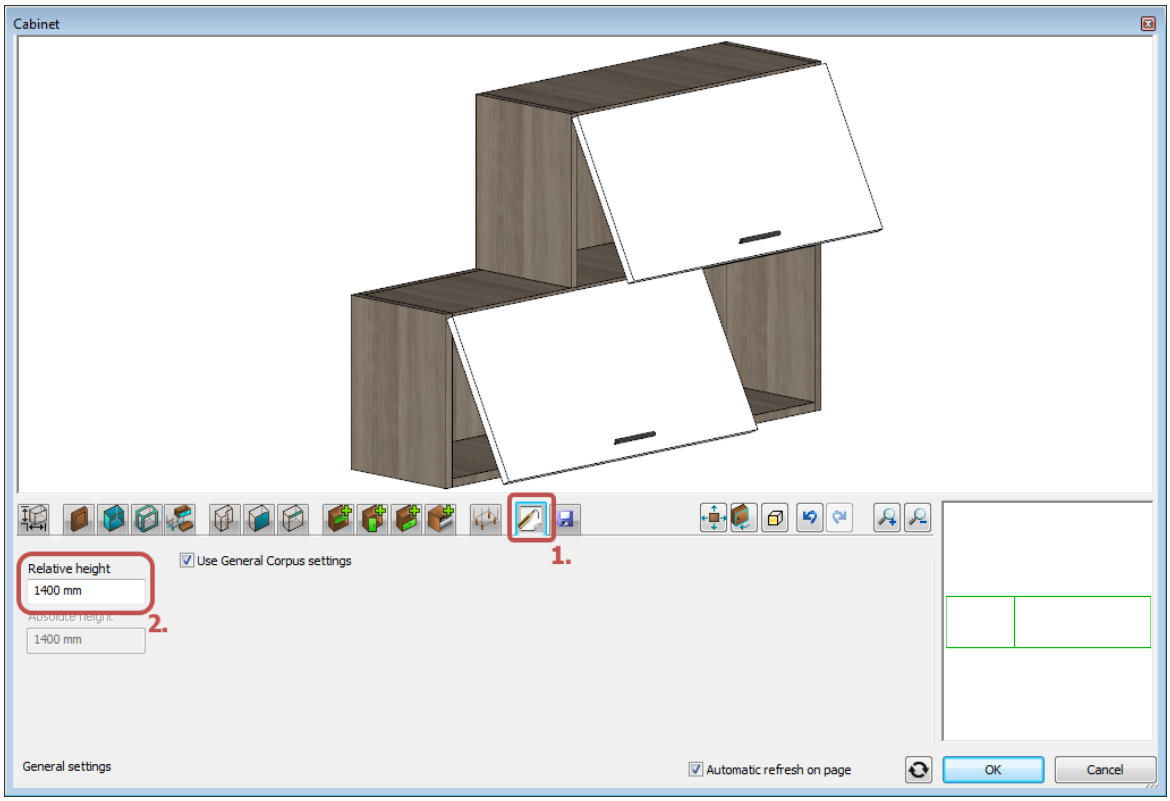
The current empty zone is marked by a green dotted outline on the preview, now you can add a new door to it.

- Add a new door by clicking on the Create button.

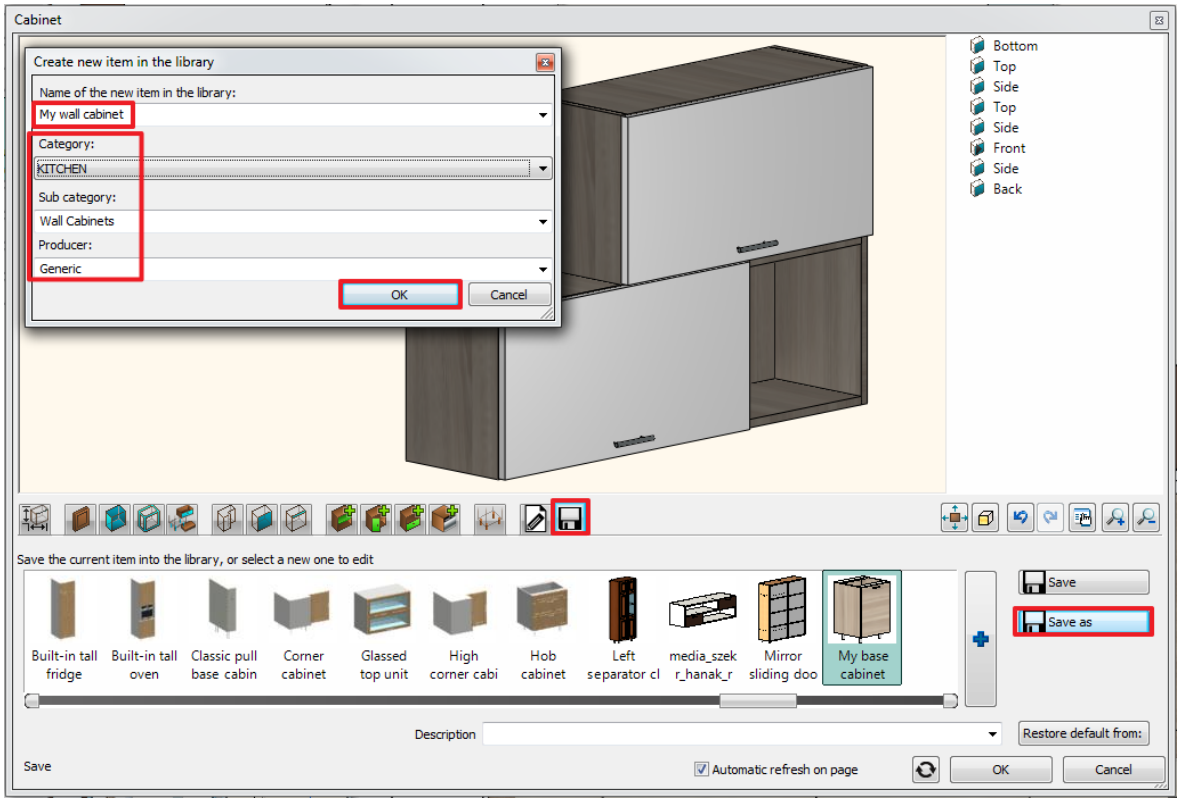


Save the object

- Navigate to the General settings page. Set “Relative height” to 1400 mm.

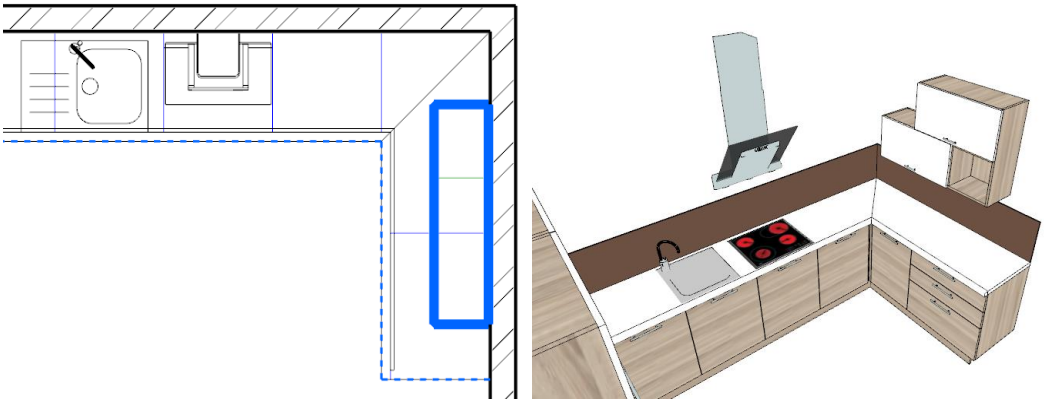


- Navigate to the Load/Save page. Click on the “Save as” button and save the cabinet into the “Objects / Kitchen / Wall cabinets” category.



Place the object.

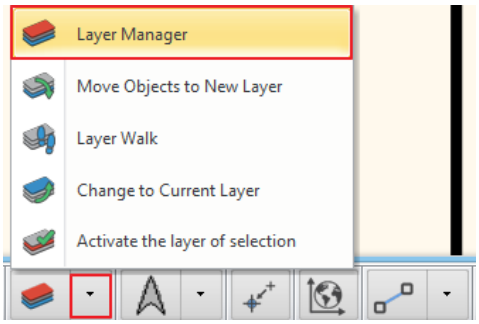
- Close the dialog and place the new cabinet with drag and drop to its position.



If you would like to start from here or if you feel that you could not follow all the previous steps, please load the following project file: WS_kitchen_step4_eng.pro.

4.8. Enable the visibility of the final drawing

There are other objects placed on this drawing with the same methods described above. You can enable their visibility if you click on the Layer Manager.

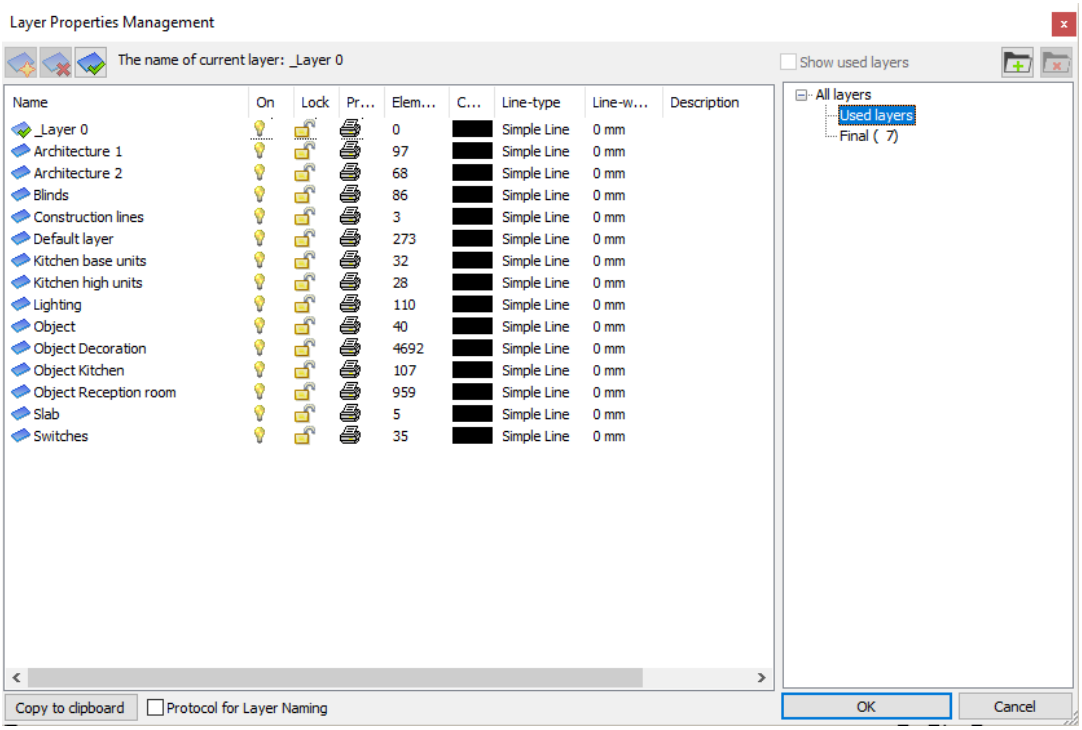


Enable the visibility of all the layers:

- Press the CTRL + A keys on your keyboard to select all the layers in the list.
- Click on one of the grey colour bulb icons to turn on visibility - this is represented with a yellow bulb icon.

Unlock all the layers for editing:

- Press the CTRL + A keys on your keyboard to select all the layers in the list.
- Click on one of the red lock icons to unlock all the layers - this is represented with an opened lock.



The 2D layout now represents all the objects.

- Click on the “Build 3D model” button (often called the “3D hammer”) and click “OK” in the appearing dialog to regenerate the 3D model.

Now the 3D model should look like the following image:

Rendering image: optional

Workshop 5: Documentation

5. Workshop 5: Documentation

The topic of this tutorial is learning how to create documentation for your clients and other professionals from a completed project in ARCHLine.XP. Based on the reception room project which had been created in the „First lesson", here we show the preparation of documentation.

- Mood board
- Snapshot
- Architectural floor plan
- Coloured floor plan
- Wall elevation views
- Plot layout

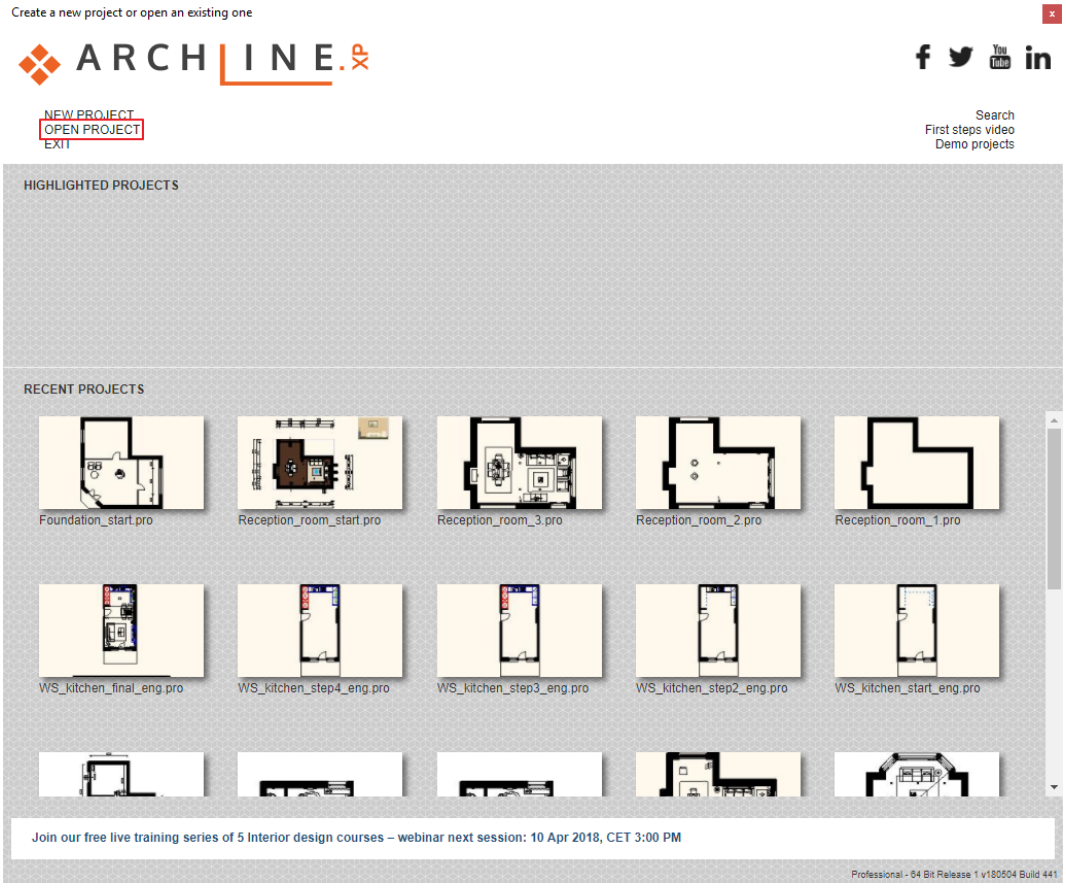
This lesson is recommended to those designers who attended on the first four preliminary workshops.

5.1. Open and Save the project

Let's start by opening the reception room project, which, for the moment, contains the furnished rooms. We will work on this project.

Please download **Workshop - Preliminary level project** from our website and install it. It includes all projects for all preliminary workshops.
https://www.archlinexp.com/education/workshops/workshop-application-preliminary

- Start ARCHLine.XP® Professional.
- Click on the Open Project:



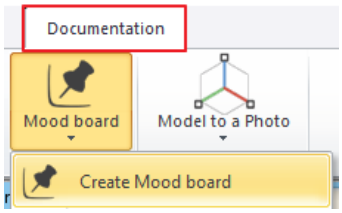
Choose the: …\Documents\ARCHLine.XP Draw\2018\Workshop - Preliminary\Reception_room\Reception_room_3

5.2. Creating mood board

The ARCHLine.XP Mood board feature is an easy-to-use tool to create collage by using the images of the colours, materials, and furniture of the project, helping the communication between designer and customer.

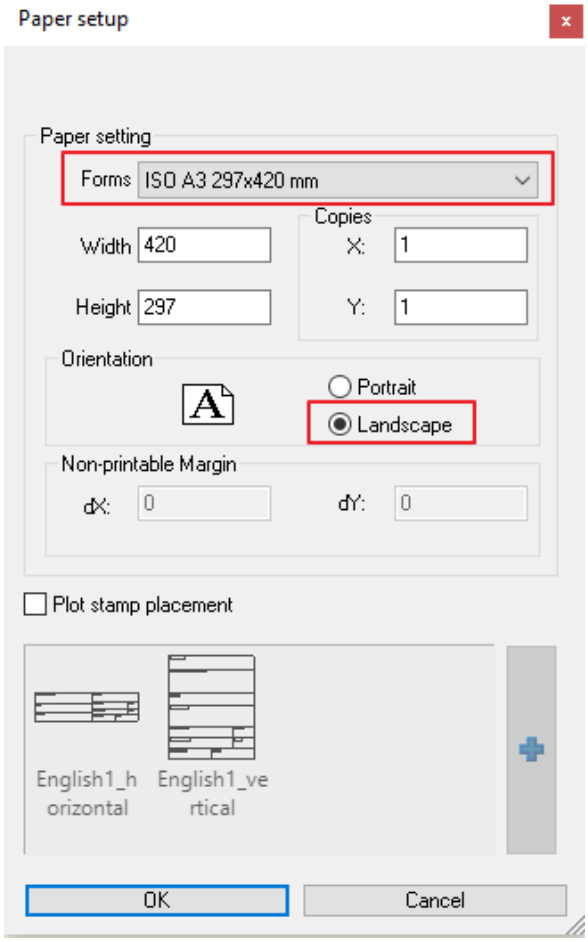
5.2.1. Open mood board

Click on the **Ribbon bar / Documentation / Mood board** and choose the **Create Mood board** command.

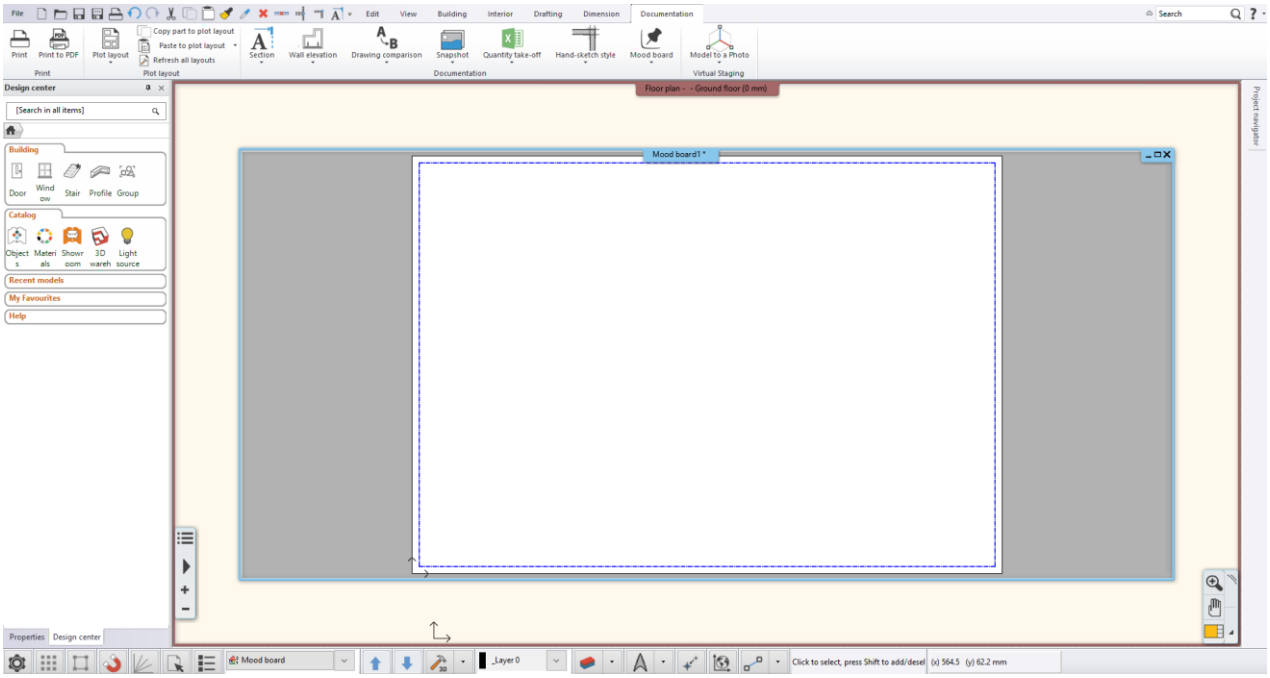


5.2.2. Paper setup

In the paper setup dialog window set the following properties:
Forms: ISO A3 297x420 mm
Orientation: Landscape
Click on OK button.

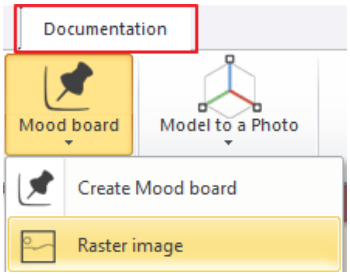


An empty page with the selected properties is created, on which you can optionally place images the following way:

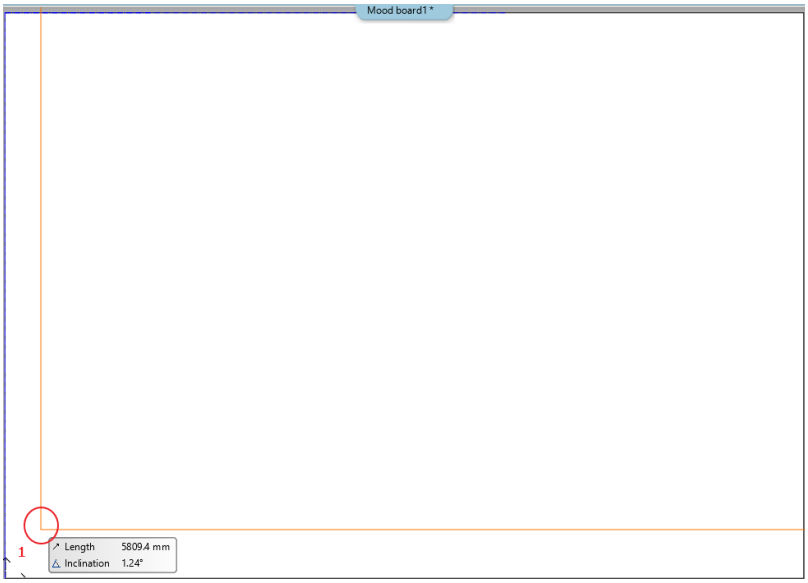


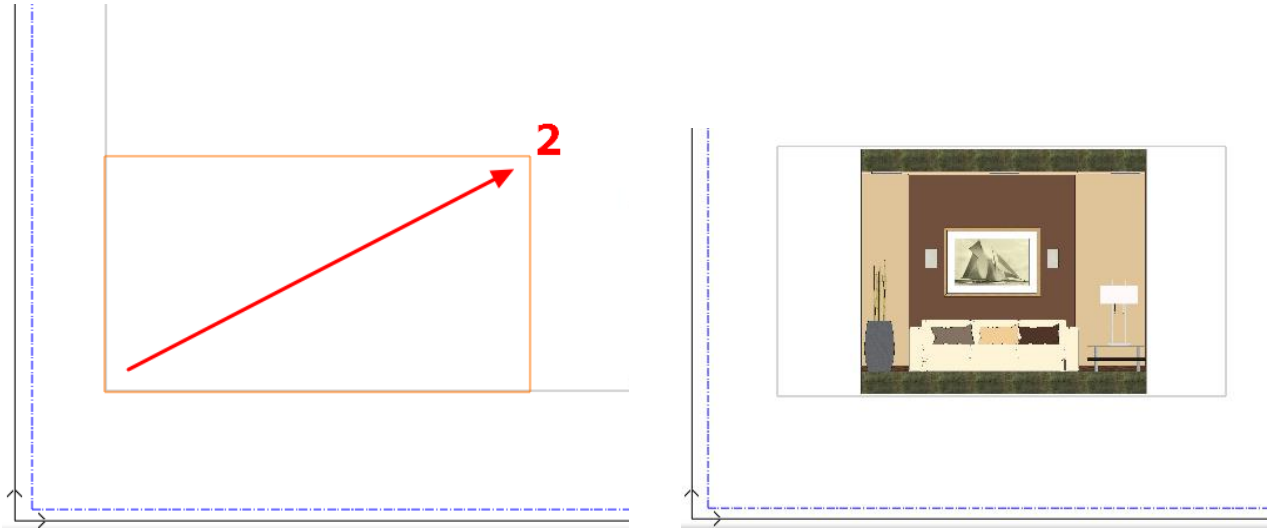
5.2.3. Place images

Choose the **Ribbon bar / Documentation / Mood board / Raster image** command, so you can select the images to be placed.



- Find the folder where images are saved, and click on the first image then use Open button. In the dialog window just click on OK button.
- The image appears with orange borderline under the plot layout.
- Place the image by clicking anywhere on the page (1),
- Then move the mouse to determine another point (2) of the rectangle surrounding of the image and click on the final position. (The size of the image can be modified later.)

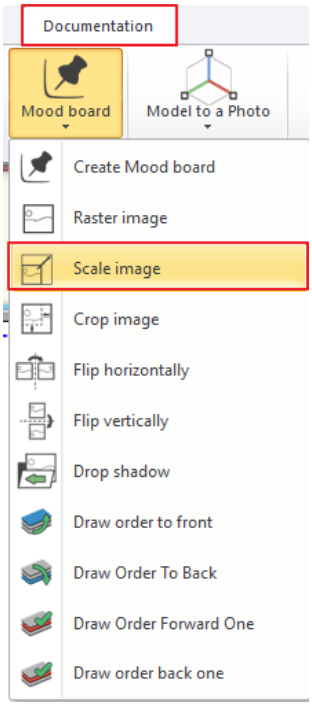




- Place 4-5 additional images from the previous folder in the same way.

5.2.4. Modify images

The image modifying options can be found under the Mood board command.



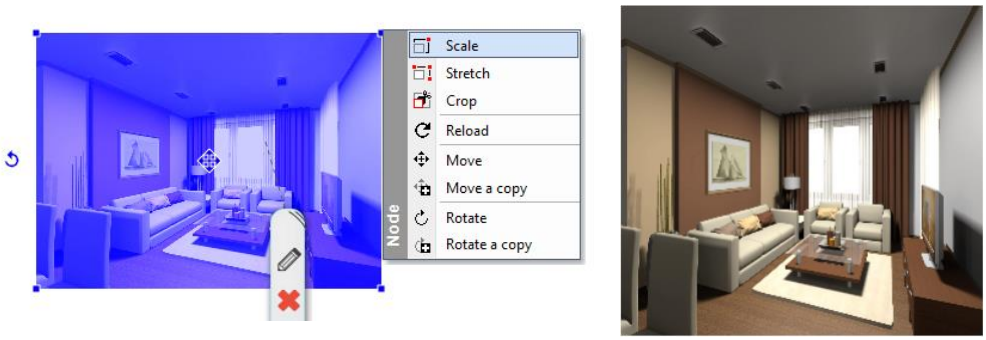
Resizing image

After selecting this command, click on the image you want to change. As an outline of the picture, an orange borderline appears, which can be moved to the desired size by moving the cursor. When you reach the right position, you can finalize the image size by clicking on it.

Please note: Resizing does not keep the original aspect ratio!

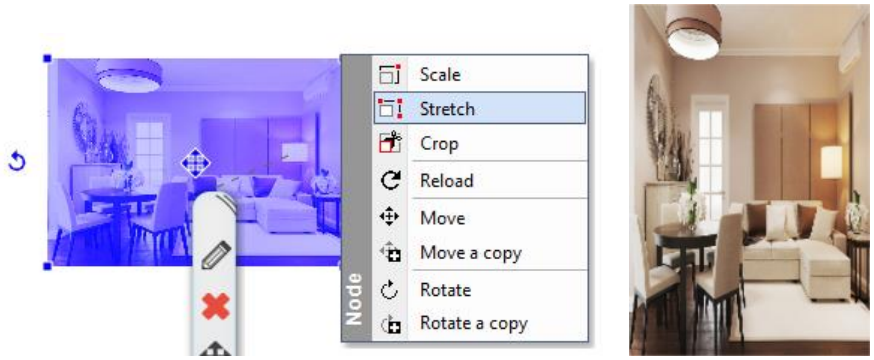
Scale image

The command is accessible by clicking on any reference points of the selected image. Using Scale image command you can resize the image proportionally to the original.



Stretch image

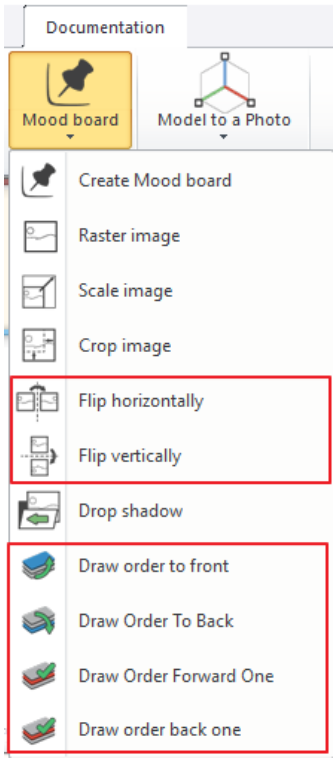
The command is accessible by clicking on any reference points of the selected image. Using Stretch command you can resize the image proportionally to the original. (It essentially results the same as the Scale image command.)



Order of image

While sorting pictures, you can specify their order. You can decide which is placed front or back.

On the **Ribbon bar / Documentation / Mood board / Draw order** menu, you can easily adjust the desired positioning of the images.

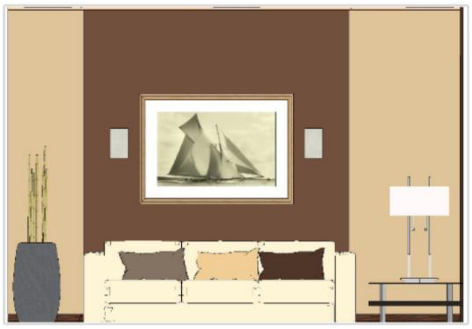


Flip image

Choose the **Ribbon bar / Documentation / Mood board / Flip horizontally** or **Flip vertically** command and click on one of the pictures.

Crop image

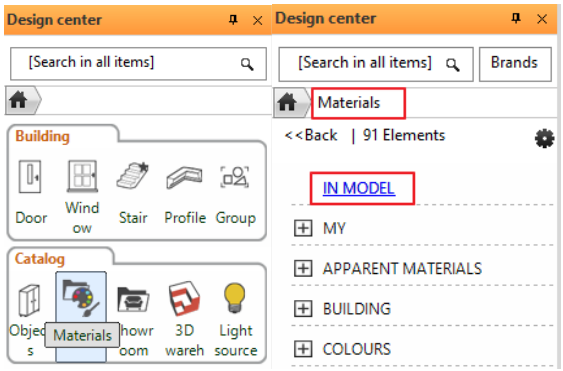
Start the **Ribbon bar / Documentation / Mood board / Crop image** command, and choose the position of the wall elevation view and cut its edges. By clicking on a given section of the orange borderline, you can move it parallel to cut off the area that is white. Press ENTER at the end of the process.



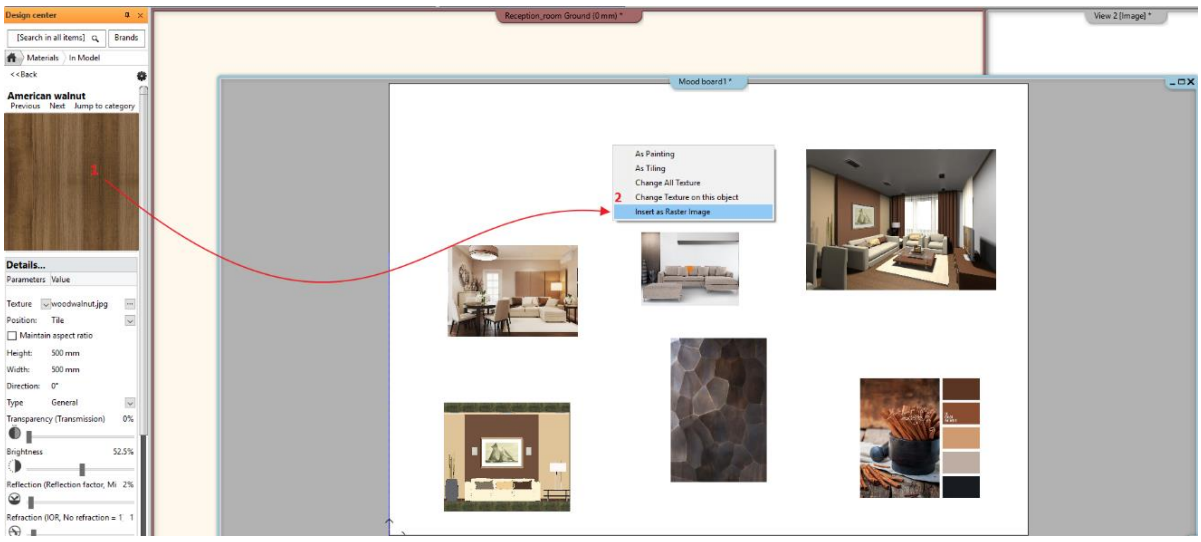
The crop command can be accessed by clicking on any reference points on the selected image. Obviously the images can be also rotated and moved.

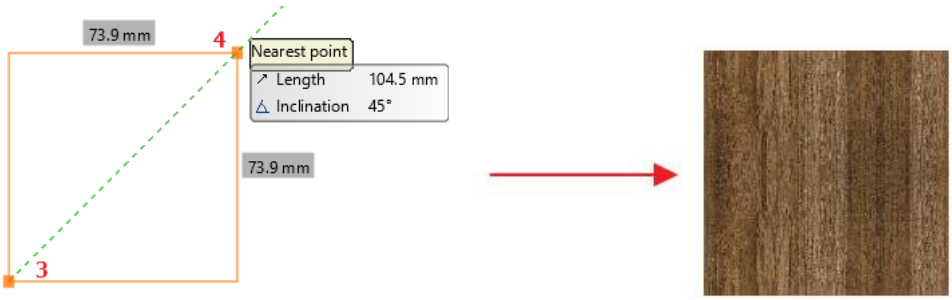
5.2.5. Place materials in same size

In the Mood Board you can place materials, fabrics, wallpapers which already had been used in previous projects. Under the Design Center / Materials category in the IN MODEL folder you can find the materials of the recent project.

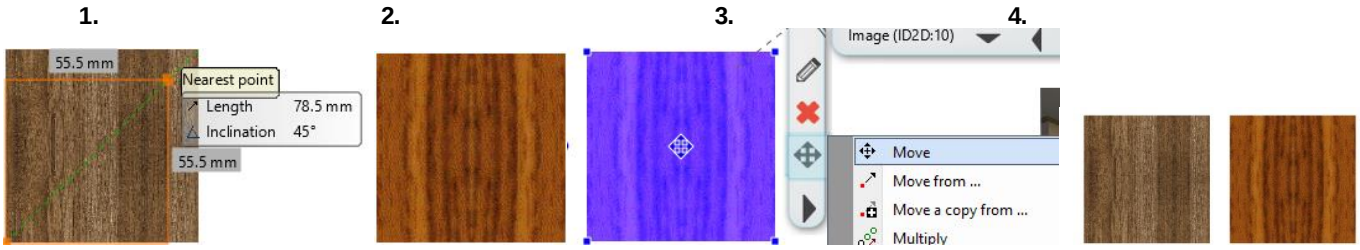


- Find the material you want to place onto the mood board (1) and simply use „Drag and Drop” method (pressing the left button of mouse) to move it over to the place where you want to place it and then release it.
- From the pop up dialog menu select the „Insert as Raster Image” command (2).
- The orange borderline appears then you can place the snap point with a single click (3) on the page.
- The image size can be modified after placing the first corner point by moving the mouse.
  When you reached the ideal size (4) of the image you can place it by a single click (5). If it is necessary, the size of the inserted image can be modified later.





The simplest way to place additional materials with the same size (e.g. in the same width) is to fit it onto the existing material on the mood board. This way, you can easily adjust the width of the image to be placed on the existing drawing.



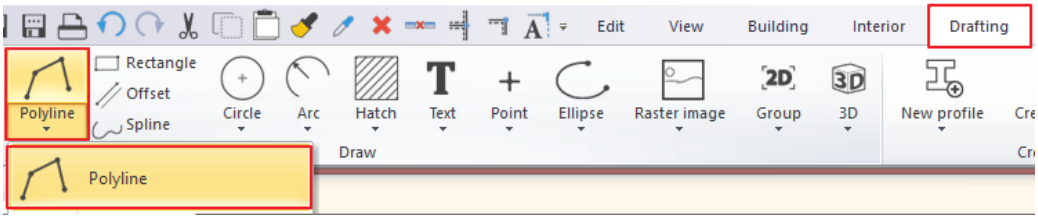
After placing the image, you can easily move it to the desired position so they don't cover each other.

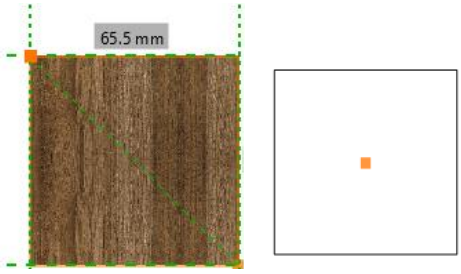
5.2.6. Place colours with hatch

Within materials of the project there are such items which can't be moved directly onto the mood board, these are the colours.
Each material is considered to be a colour, in case of placing the pop up menu does not include the "Insert as Raster Image" command. Colours can be displayed in mood board by hatching, which means that we have to fill a closed shape with colour. The process is the following:

Define the area and shape

Draw a rectangle using the same size as the previous materials. Use the drawing tools (e.g. **Ribbon bar / Drafting / Polyline / Polyline**) to define the contours of the area (redraw the borderline of the previous material and then move the contour).

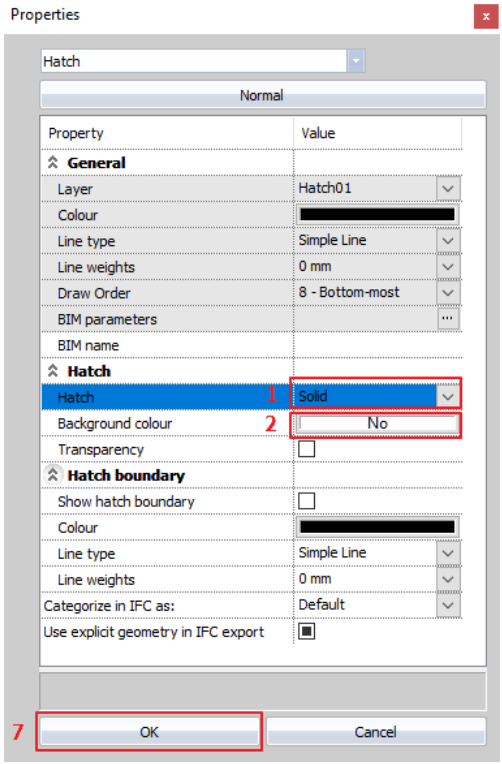


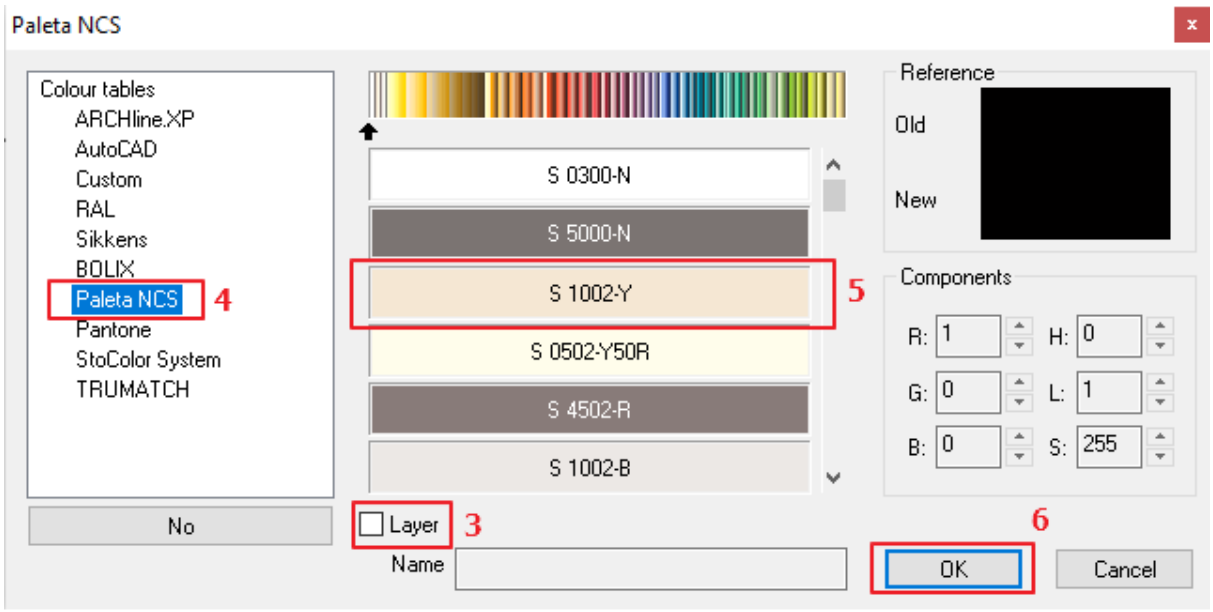


Define the properties of the solid area, as hatching

The applicable hatch properties can be specified in the **Ribbon bar / Drafting / Properties / Hatch** menu.

In the pop up dialog window, in Hatch, change the Pattern property to "Solid" (1) and with that the background colour is activated (2), so now it can be modified as desired. In the window opening, double-click on the Layer Marker box (3) to activate the colour palette. Select the Paleta NCS (4) from the left of the colour charts, then the corresponding colours appear in the middle. Find a brown or beige colour that fits into our project (5). OK (6). The colour you set above appears next to the Background Colour. Close the window with OK button (7).



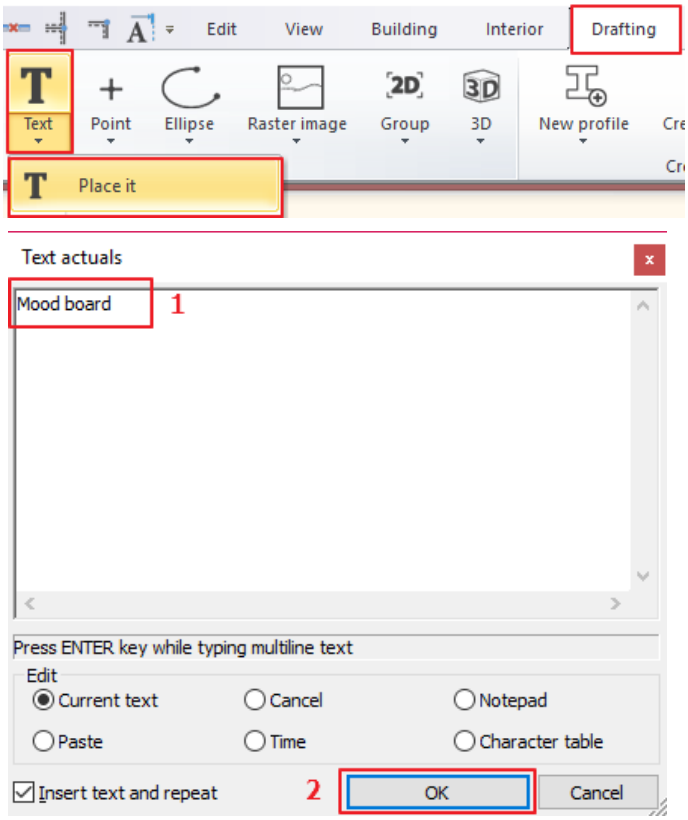


Placing the hatch

- On the **Ribbon bar / Drafting / Hatch / Hatch – pick point** command, click inside of the drawn rectangle, and press the ENTER. The selected colour fills out the rectangle.
- The hatch can be changed later by selecting the rectangle and you can change the background colour.

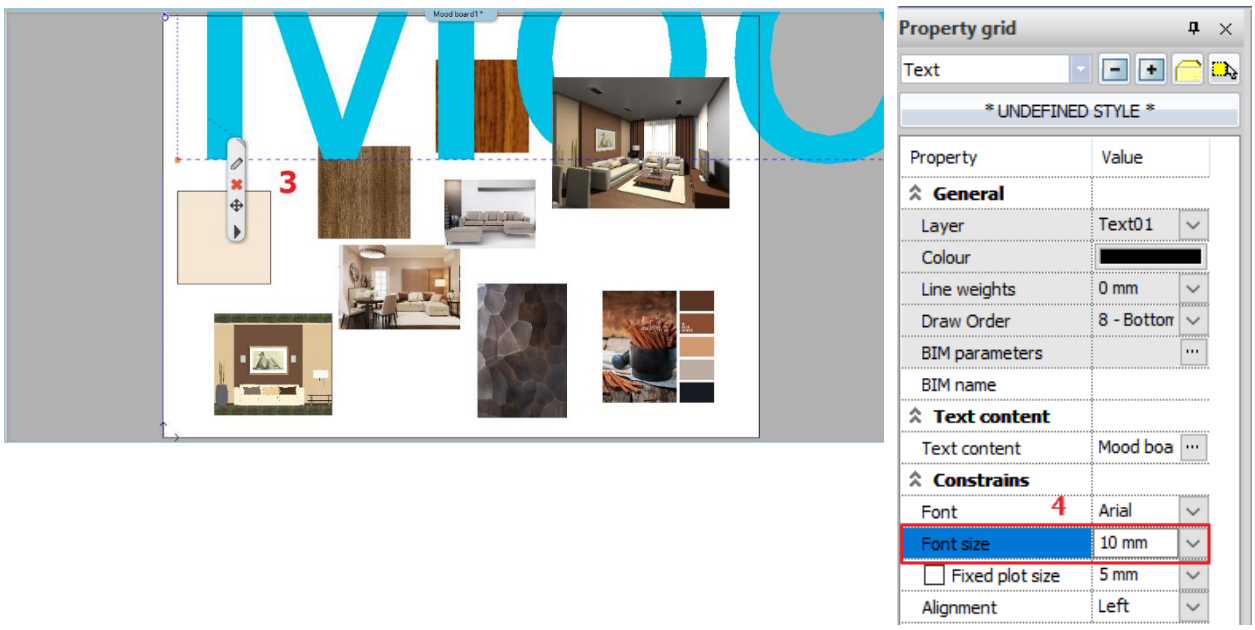
5.2.7. Text place

Place text on the mood board by **Ribbon bar / Drafting / Text / Place it** command. In the pop up Text actual window type the content that you want to place (1) and OK (2).



The orange contour of the textbox appears and one of the corner points is snapped by the cursor. Using this corner point, you can place the text on the drawing sheet by clicking anywhere. Now the text is placed, the Text Actual window appears again, and close the window by clicking on the Cancel button.

If the size of the inserted text is not appropriate, it can be changed later: Click on the text to select it (3) and in the Property grid window change the Font size parameter from 200 mm to 10 mm (4).



(You can also set text parameters in the **Ribbon bar / Drafting / Properties / Text** menu before placing them.)

The default text height is 200 mm because it appears at the optimal size of 1:50 or 1:100 on a scale with respect to drawing content. In case of mood board, however, the composition is made in a ratio of 1:1, so it is necessary to modify the text height afterwards. Other properties of the text, e.g. colour, font, etc. can be modified as if it is required.

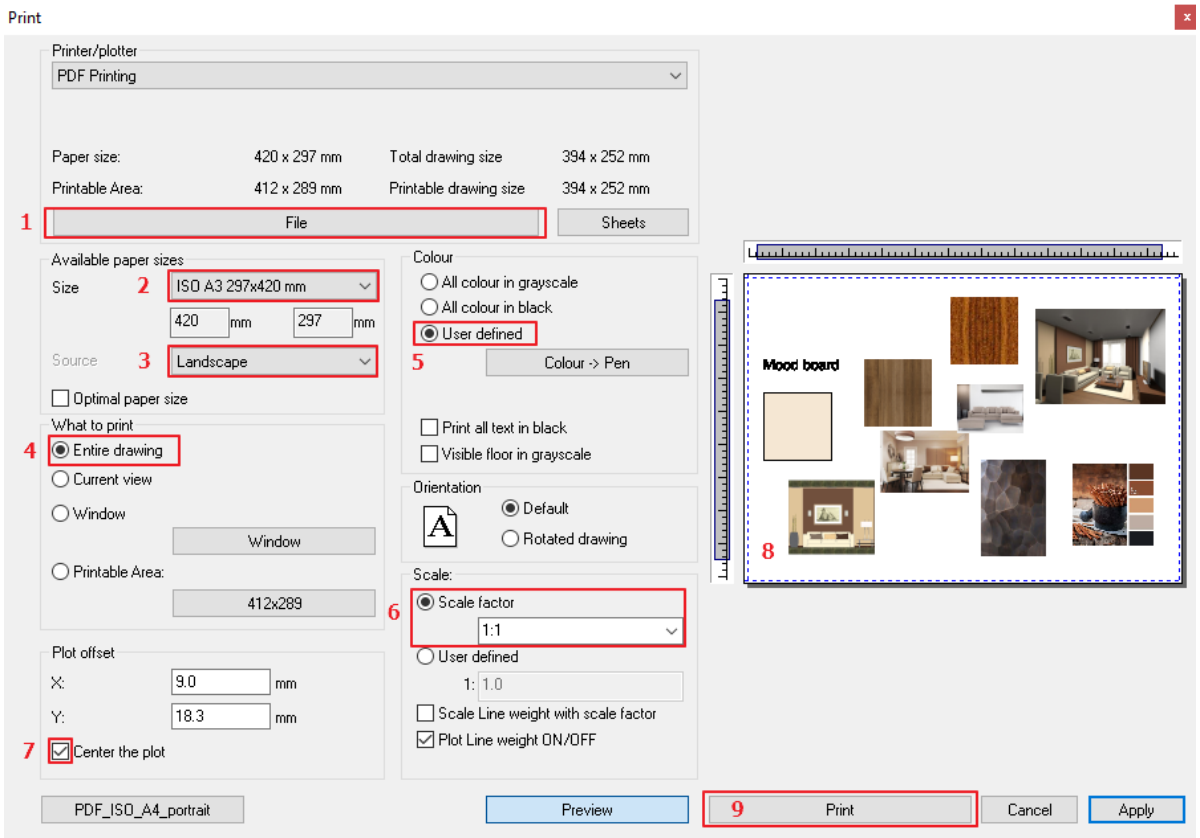
5.2.8. Print to PDF

Create a PDF file from the completed mood board.

Choose the **File menu - Print to PDF** command and set the following properties in the dialog window:

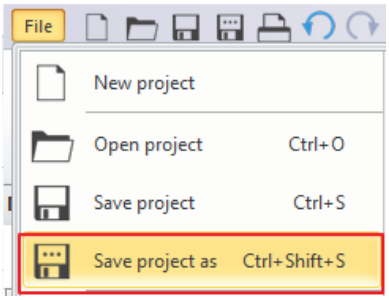
- **File:** Here you can specify the folder under the PDF will be saved and give name to the file. (1)
- **Available paper sizes:**
  Size: A3 (2)
  Source: Landscape (3)
- **What to print:** Entire drawing (4)
- **Colour:** User defined (5)
- **Scale:** Scale factor 1:1 (6)
- **Plot offset:** Center the plot (7)

If the desired result appears in the preview window (8), click the Print button to create the PDF (9).



Save your project

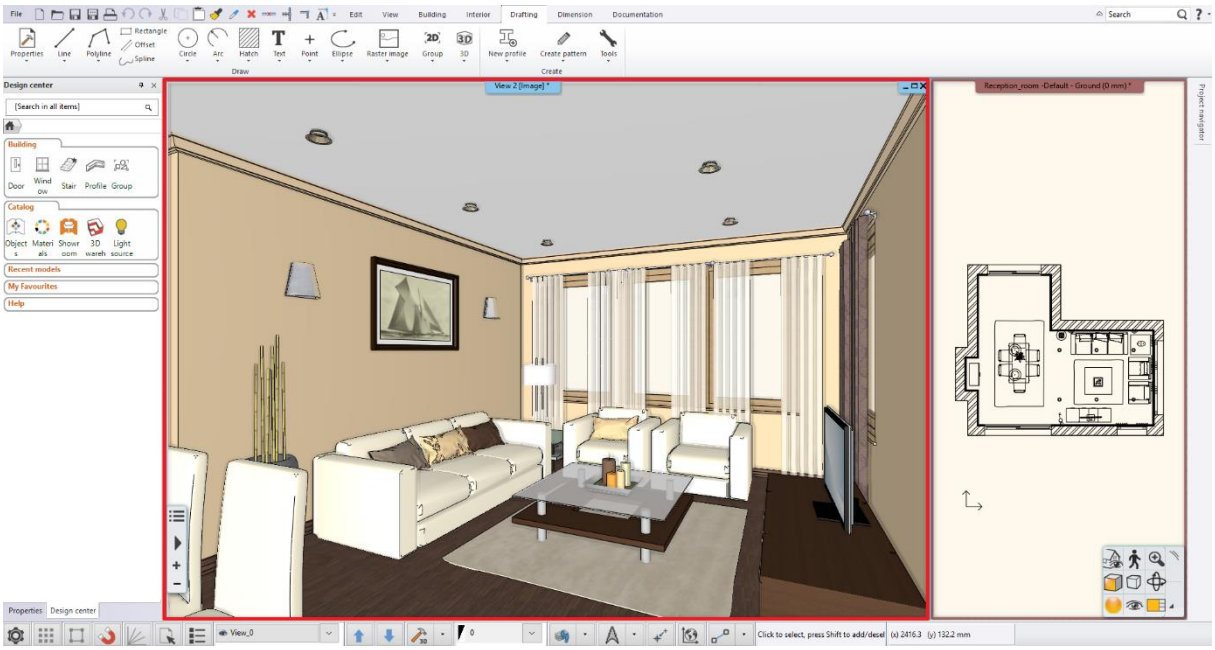
- Save the project under the requested project name.
- Choose File menu – “Save project as” command and type the file name to save the project.
- It is recommended that you regularly save the project during the work.



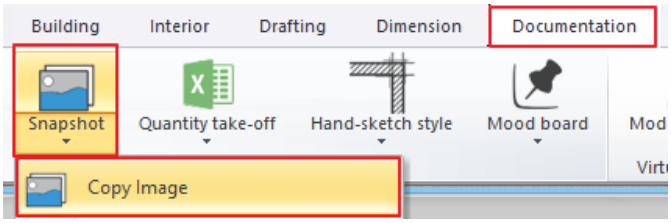
5.3. Creating snapshot

You can create a snapshot of any details or views of the model. This is not the same as the rendered, photorealistic image.

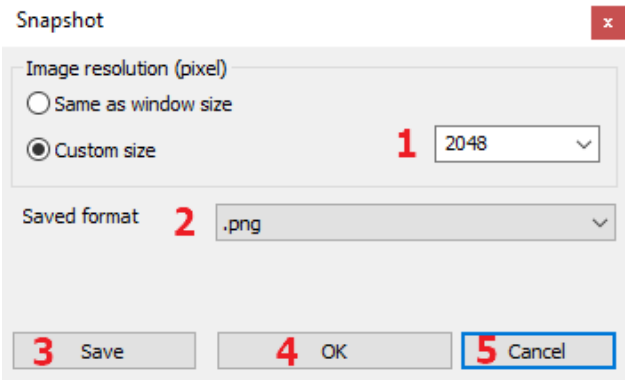
- Activate the 3D window to create snapshot.
- Select the saved view or set the model to the position you want to see on the final image from.



Click on the **Ribbon bar / Documentation / Snapshot / Copy image** command.



Selecting this feature appears a dialog called Snapshot, where you can personalize the following settings:



- Image Resolution: You can specify the snapshot size (1).
- Saved format: You can specify the format of the image file is being created (2).
- Save: You can also save the result of Snapshot to an image file (3). In the Save as... dialog box, enter the location and name of the image file.
- OK: When you press this button, a snapshot is created, which is located on the floor plan window (4).
- Cancel: Close the dialog without placing a snapshot on the floor plan window (5).

Save a snapshot of 2048 resolution .jpg format from the configured view. If you don't want the snapshot to be placed on the drawing sheet, click on Cancel button to quit.

5.4. Creating architectural floor plan

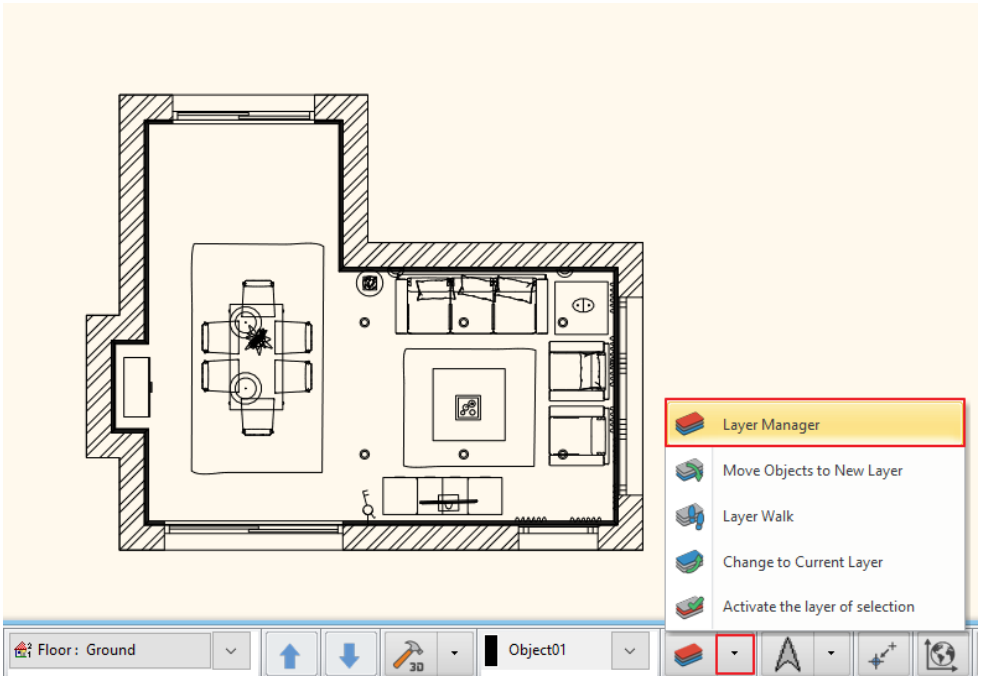
The architectural floor plan is an indispensable part of the documentation. This floor plan does not include for example, furniture, shades, electrical markings, etc. In the actual project, a furnished floor plan can be easily transformed into an architectural floor plan by using the layers.

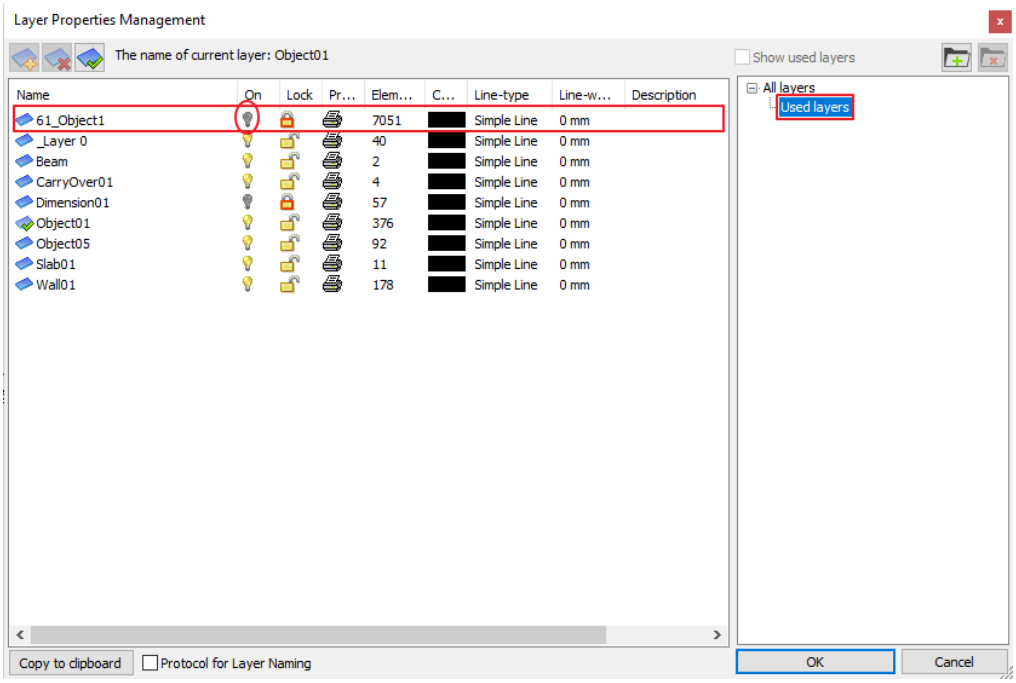
5.4.1. Layer properties management

The layers are served to group the used items in the project, see in 2.4.5. Chapter. Because of the different groups of items are placed on a separate layer, it is possible to modify them simply and collectively. Without deleting items (such as furniture), you can create an architectural floor plan by turning off the layers of those objects or groups which are now unnecessary.

Switch off layers

Turn off all layers that contains elements that we don't want to appear on the architectural floor plan (e.g. layers of objects where the furniture is).

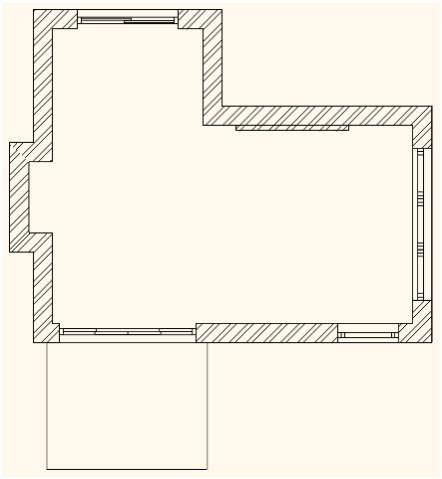




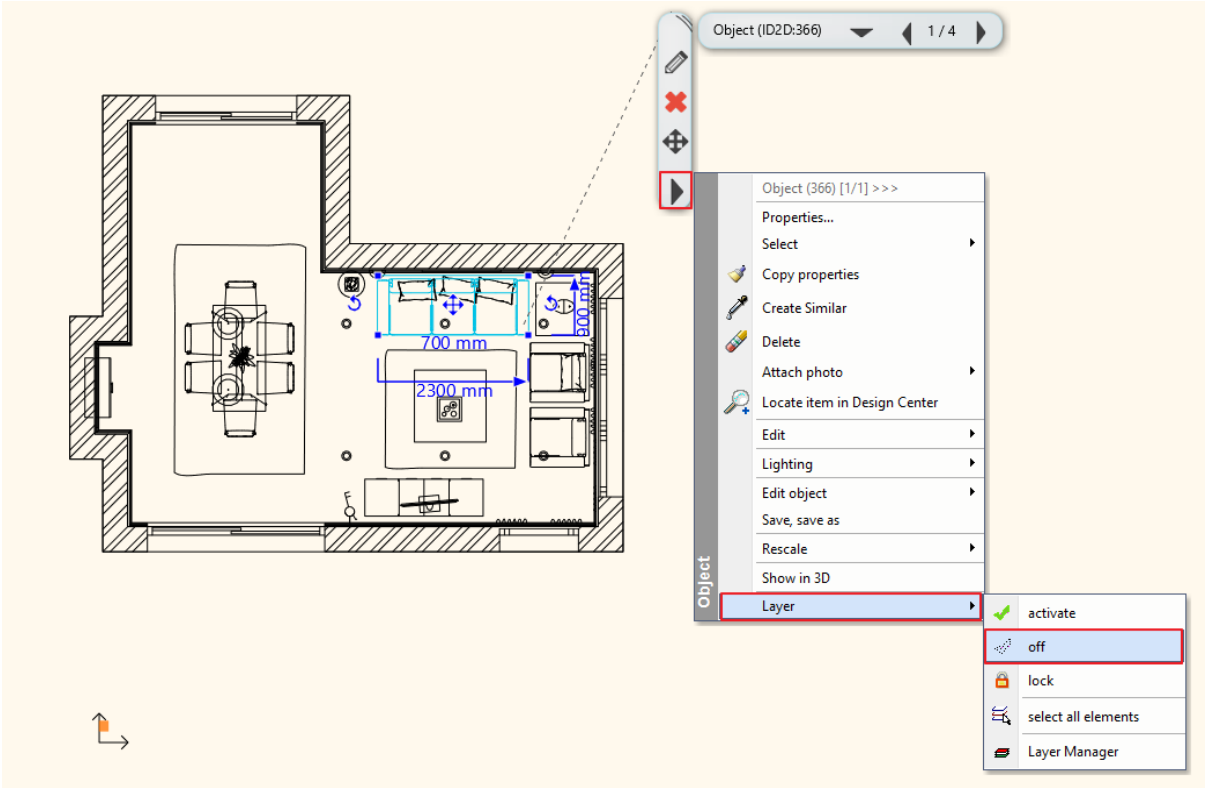
- The floor plan window should be activated.
- Open the Layer manager and set only the Used layers.
- Select the line of the layer to be switched off.
- Click on the light bulb icon to change it from yellow to grey. At the same time, the lock on the light bulb closes, so it is not visible and can't be modified on the floor plan.
- When you finished removing the visibility of the layers, press OK.

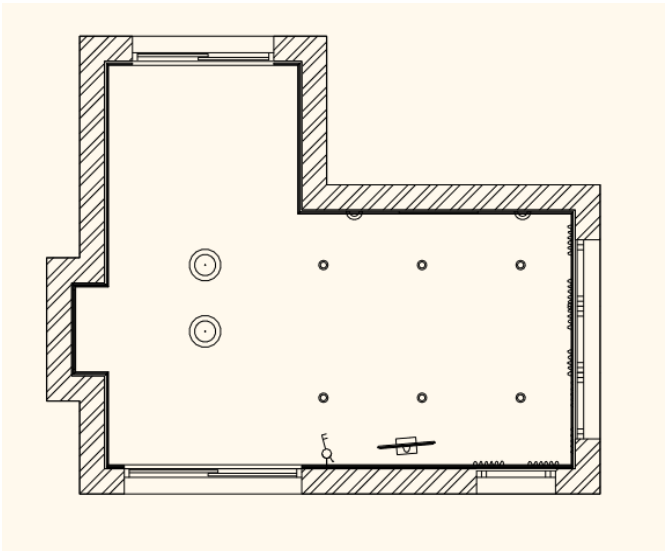
Please note:
The active layer can't be switch off or locked. If you want to change the status of the currently activated layer, first you must activate another layer, so now you can do this.

Your screen should look like this:



Another way to switch off layers is to right-click on the item on the floor plan and select Layer / Layer manager from the list. At this time, the entire content becomes invisible of that layer where the selected item is located.

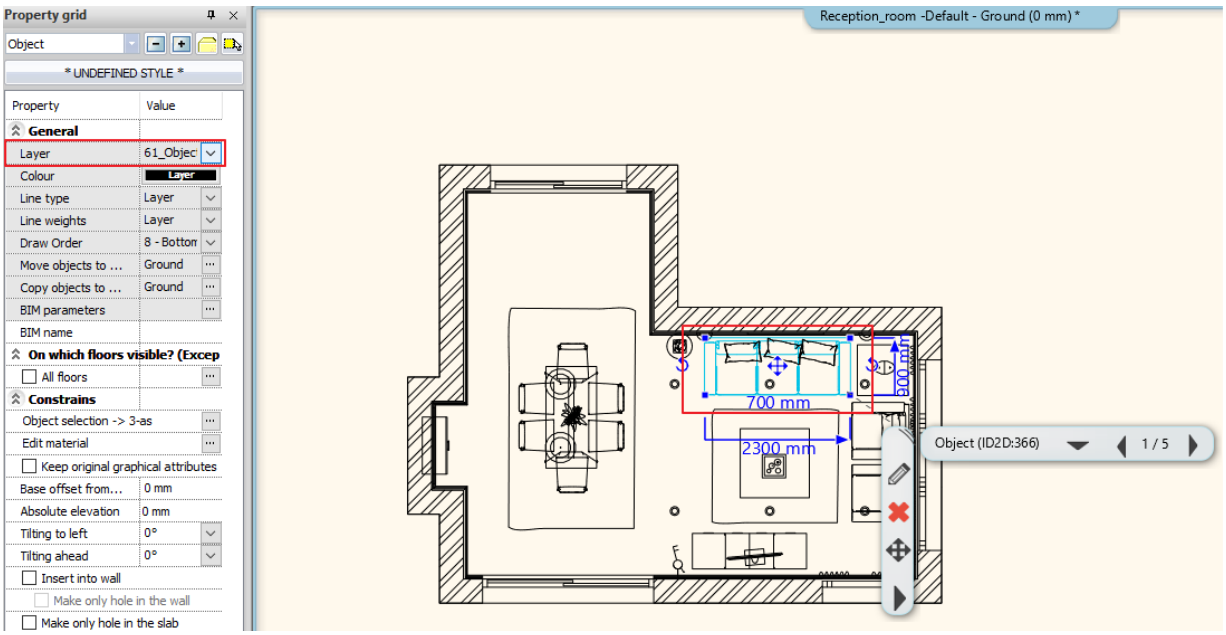




Please note:
If you can't find Switch Off, Activate, or Lock commands, the currently selected item is on the active layer. In this case, you must first activate another layer after that you can make changes.

On which layer has the element?

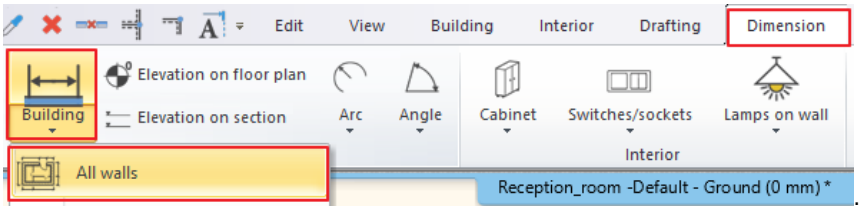
When you select an element on the floor plan, its properties appear in Property grid. The first feature which appears is that layer where the selected item is placed.
You can easily move the selected item to another layer by selecting it from the list.



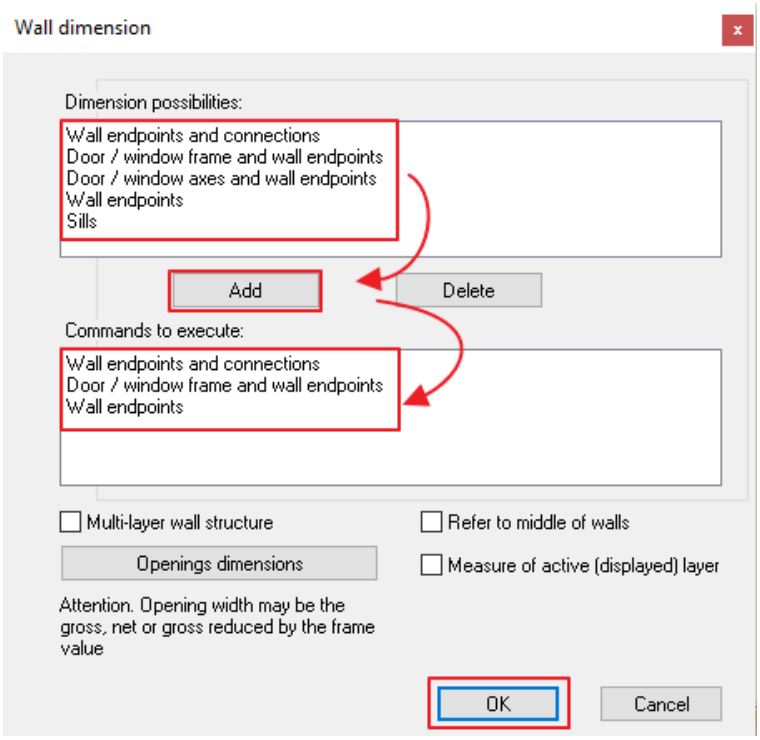
5.4.2. Dimension

Then add wall and door dimensions on the whole plan.

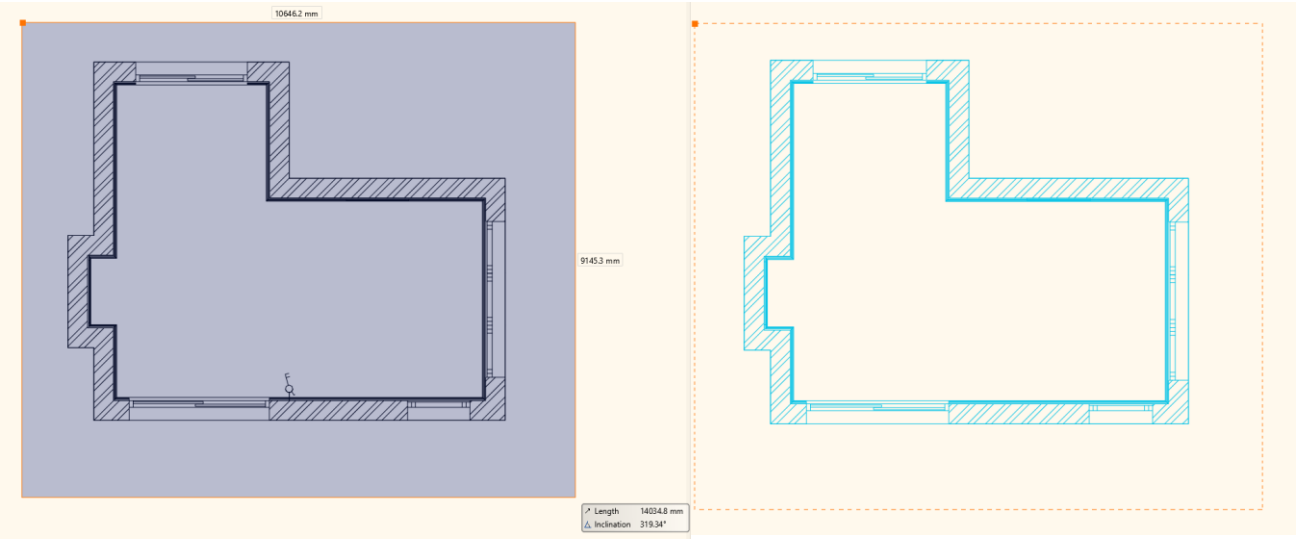
- Select the **Ribbon bar / Dimension / Building / All walls** command



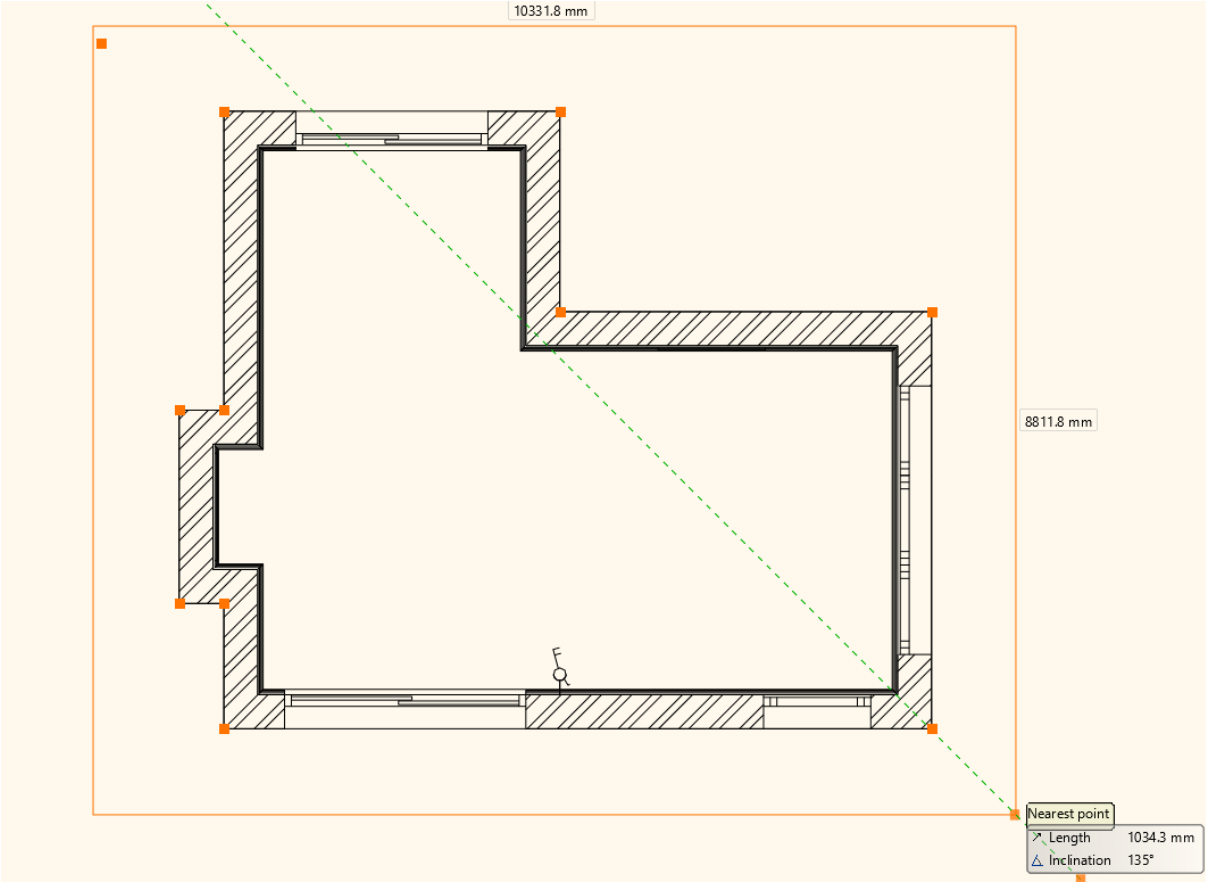
- Select the Dimension options.
- Add the desired dimensions to the list as shown on the picture.
- Then click on the OK to confirm.

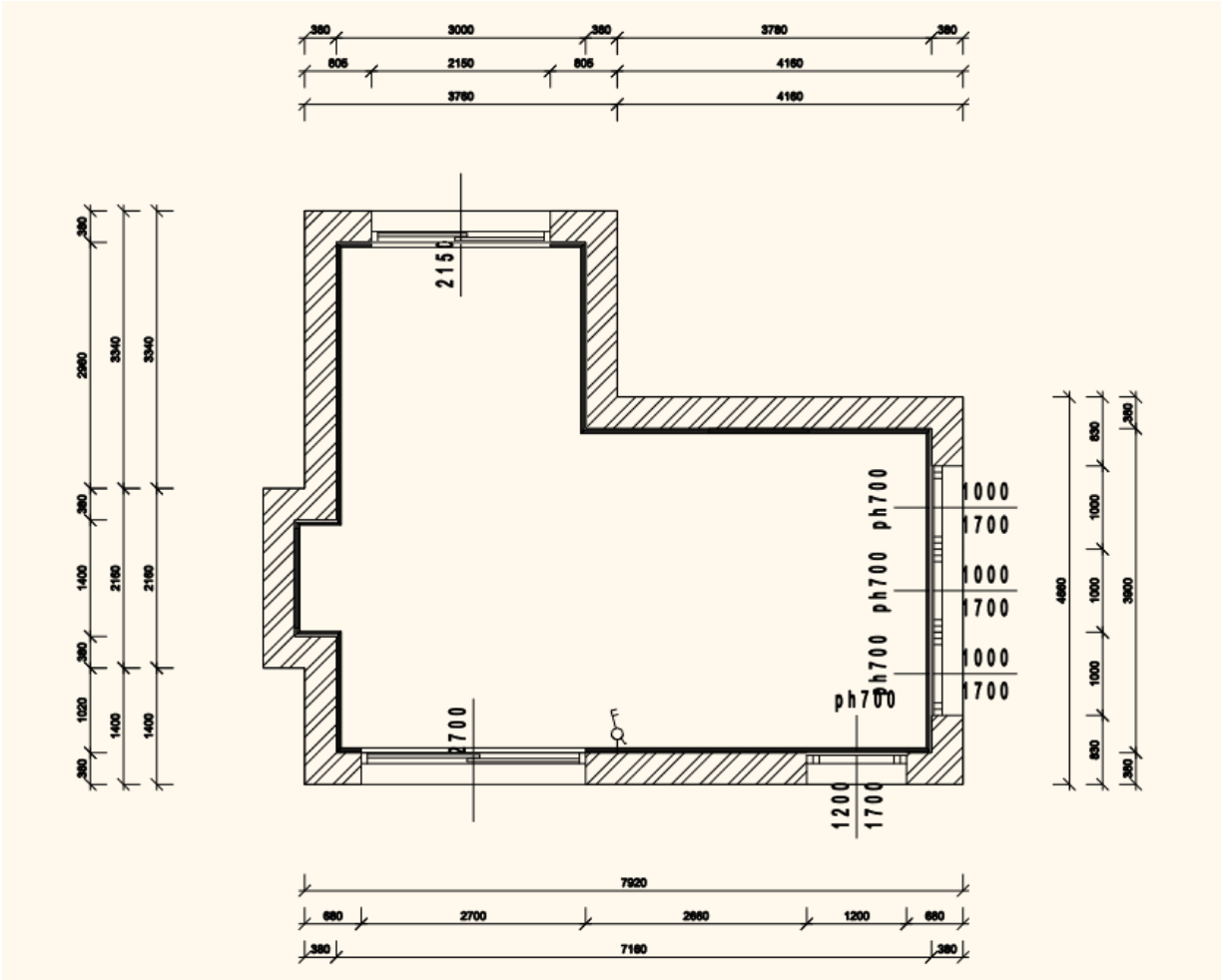


- After closing the window, you can define the area by drawing a rectangle from the right bottom corner and then the colour of the selected area changes to cyan.



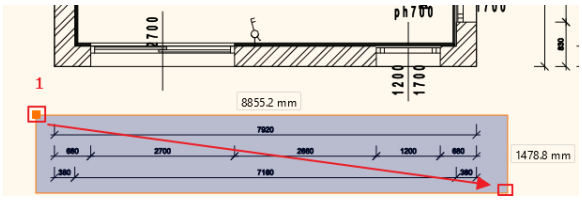
- Press ENTER then the contour of the room is selected automatically.
- Move the mouse to the desired position of the first dimensioning item in the chain and click.

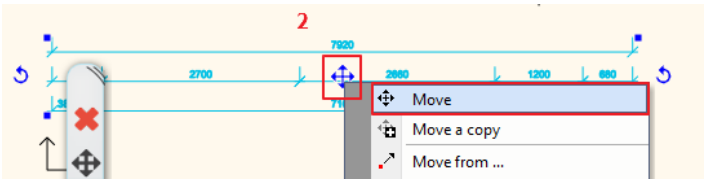




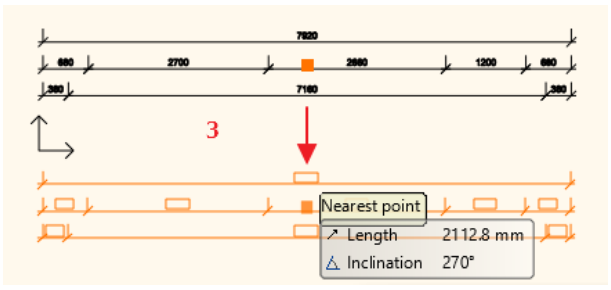
The dimensions will follow the changes of the drawing. You can add new ones to the current or delete existing ones. You can also move dimensions in groups later in case the location is incorrect. This method is as it follows:

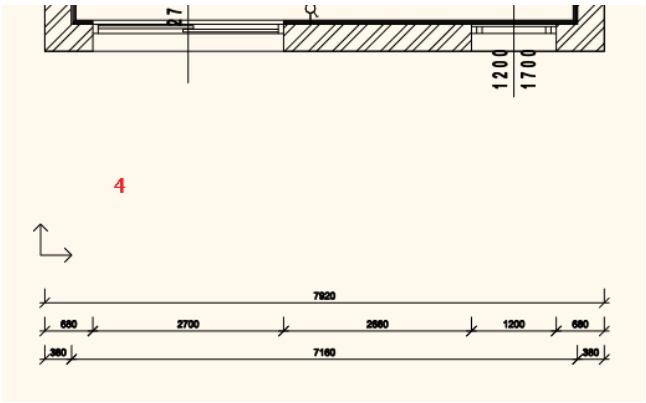
- Select the dimension lines to move (1).
- In the Move Marker shortcut menu, select Move command (2).





- Move the dimension lines to the desired position, ensuring that the values don't slip away from the dimensioned elements and then click on the ideal position (3).
  The dimension lines involved in the move will be placed to the selected location (4).



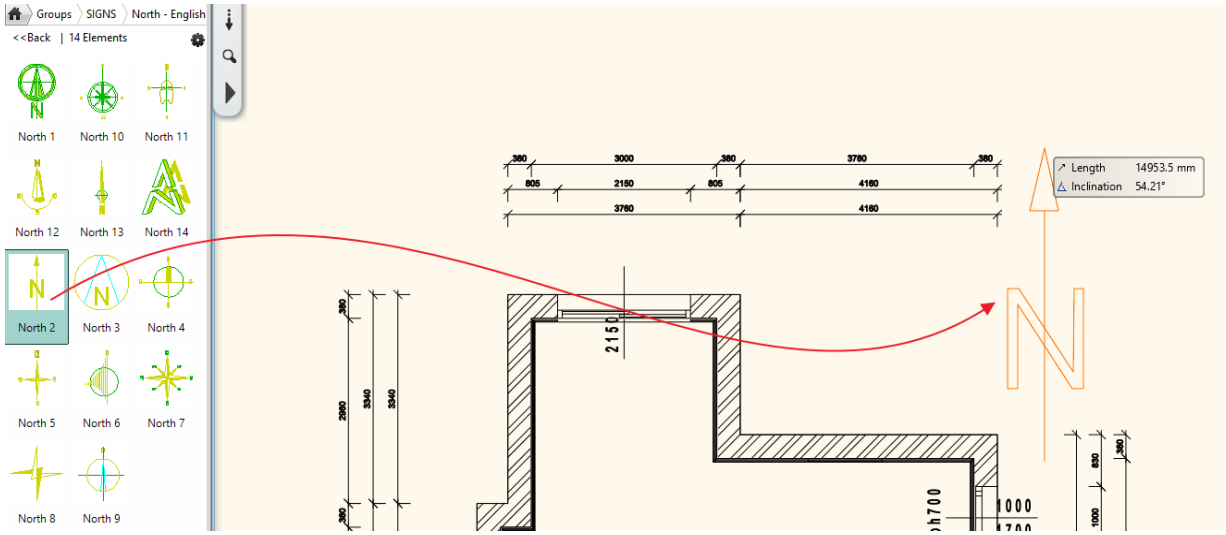


5.4.3. 2D symbols

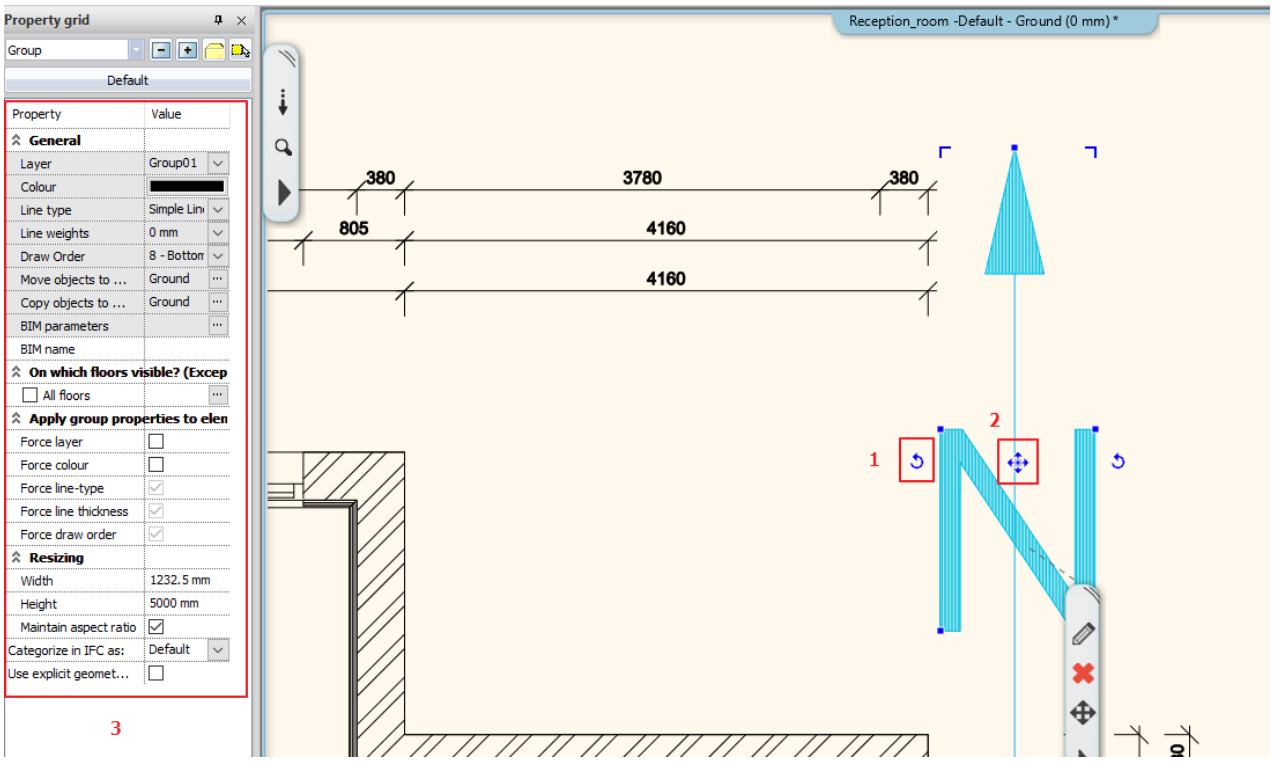
Creating architectural floor plans other symbols are needed on the floor plan, such as the marking the entrance, the North direction or the Elevation. Most markings can be found under the Design Center / Building / Group category. To position them on the floor plan is the following:

North direction

- From the markings in the Signs / North - English category, select one that suits you and simply drag and holding the mouse button down move onto the floor plan.

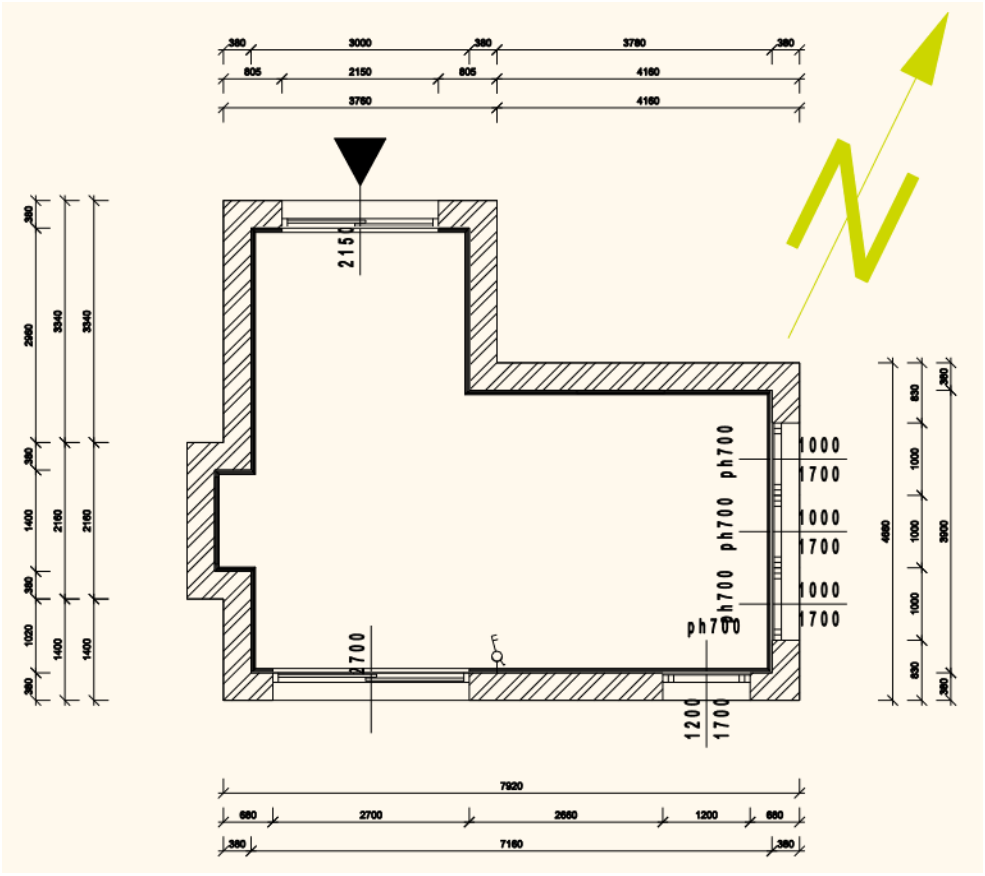


In case you want to change/modify the position of the previously placed markings (North direction), select it and click on it. Then the rotation (1), and move (2) commands become accessible. Furthermore the properties will be editable in the Property grid.



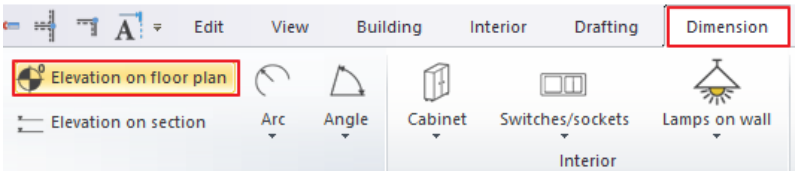
Entrance

- In the Signs / Arrows category, select an arrow and place it to the entry.
- The modifications above mentioned (size, position) can be performed in the same way as in the previous example.

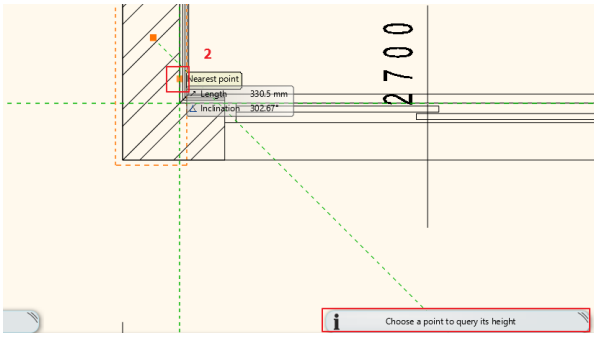


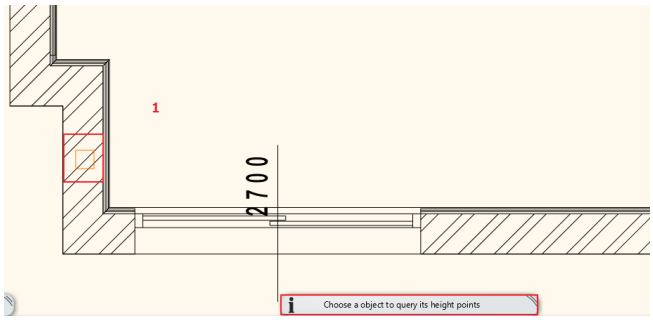
Elevation

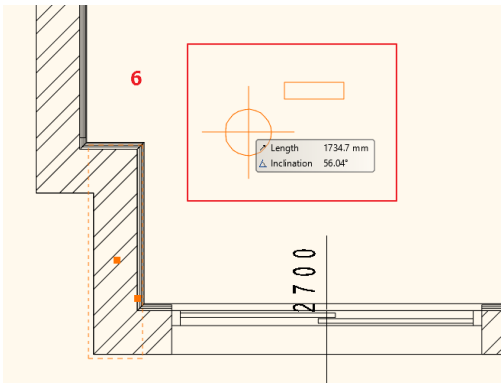
- Choose from the **Ribbon bar / Dimension** menu the **Elevation on floor plan** command.



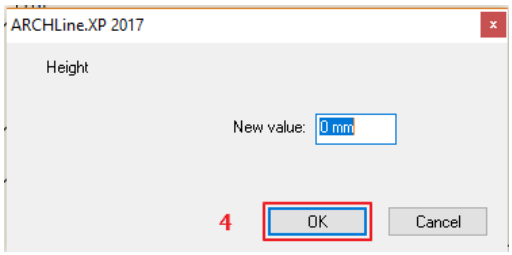
- To determine the height point you must define an object (e.g. a wall) (1) and then a point of it with one click (2).

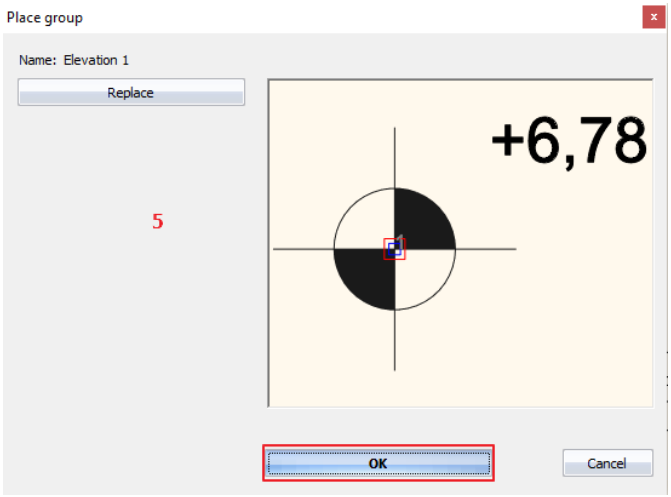






- In the top right corner of the drawing sheet, choose where the height point is located on the bottom or top flap (3).
- A dialog box appears with the starting height (4) which can be changed if it is needed. Click on OK to continue.
- In the next dialog window, you can change the Elevation (5) and OK.





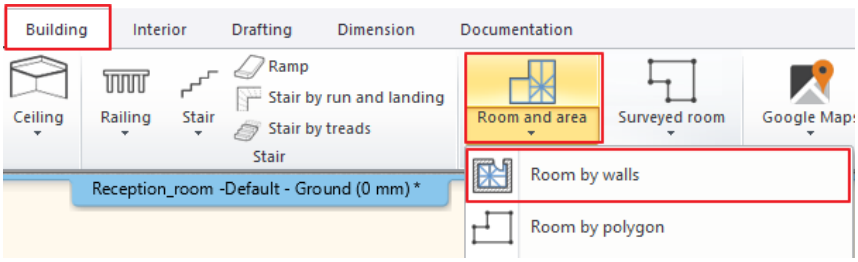
- One single-click and place the created height point on the floor plan (6).

The dimension and the 3 previously mentioned markings were placed on the floor plan.

5.4.4. Room stamp

You can read more important information about the floor plan by using the room stamp therefore it is indispensable to indicate them.

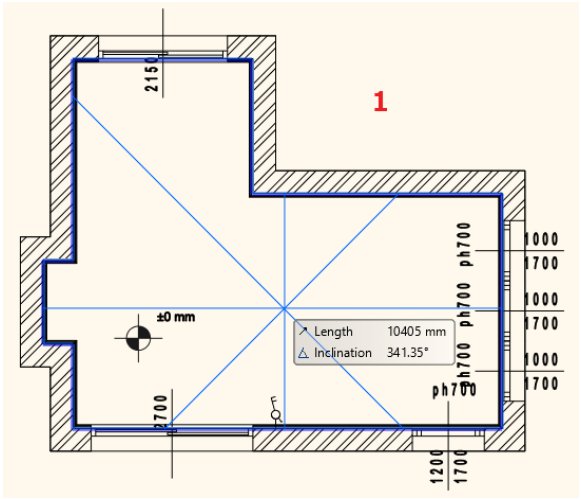
There are basically two ways how to define the area of the plot stamp on the floor plan.

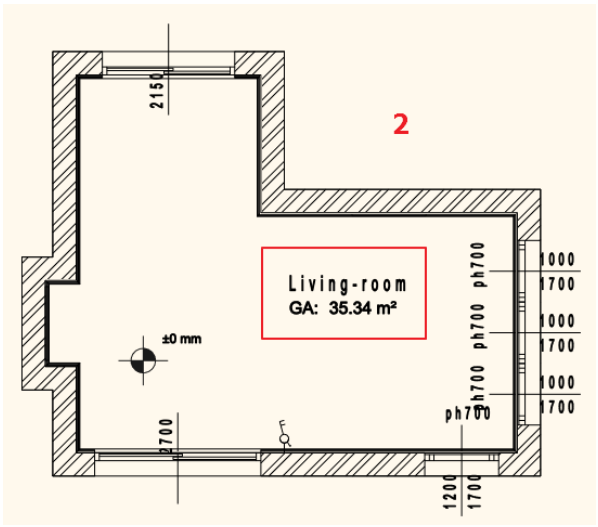


Room by walls

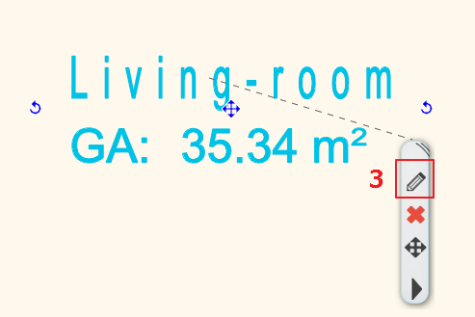
In case the room is surrounded by walls, we recommend to use the Room By Walls command. It has the advantage that clicking inside of the room creates a room stamp based on the closed contour by walls. There is no need to draw the contour of room. This means that the room stamp is connected to the walls, changes on the walls are followed by the calculations.

- Select the **Room by walls** tool.
- Click on a room that is surrounded by walls (1).
- The room stamp is placed in the room (2).





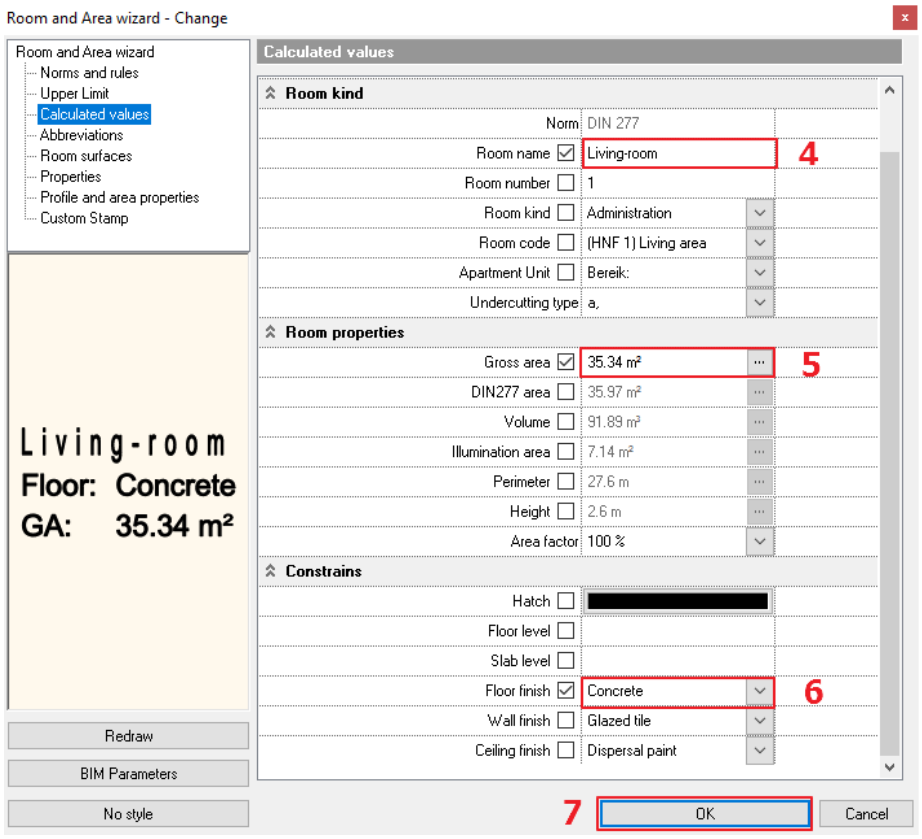
- We can change the appearing content on the room stamp within its properties.
- Click on the already placed text in order to select it and then choose the pencil icon (3).

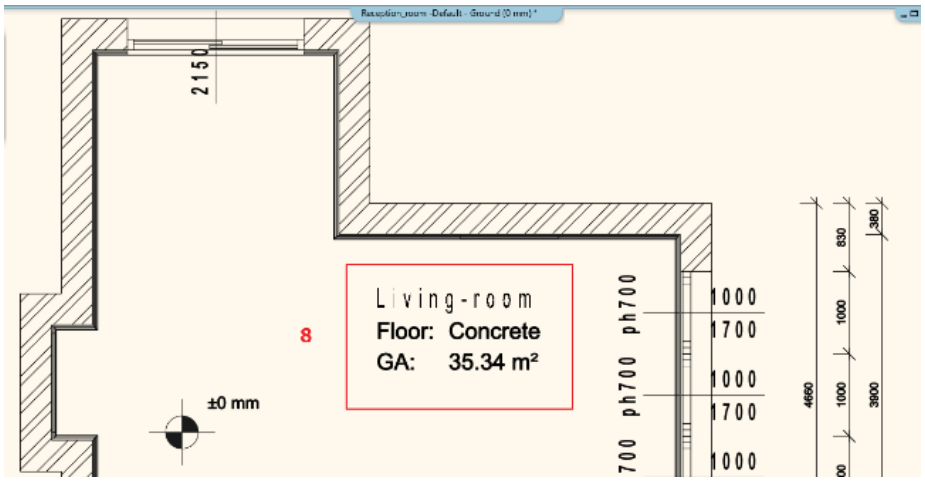


In our example, there are 3 basic data. We can modify them as follows:

- Room Name (4): It can be renamed to the name that you want to appear (e.g. Living - room).
- Gross area (5): indicates the area of the room. (Except for the pre-existing tick sign, this data does not appear as part of the room stamp.)

- Floor finish (6): Choose one from the list of materials or enter other materials (e.g. Parquet).
- When changes are completed, press the OK button (7).
- The changes also appear on the floor plan (8).

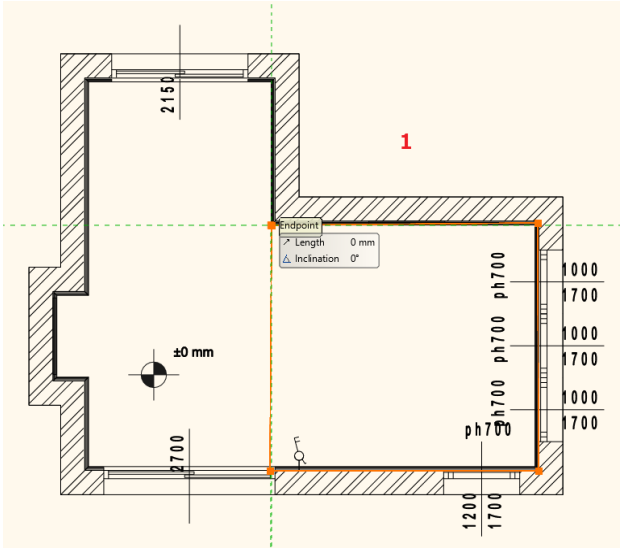


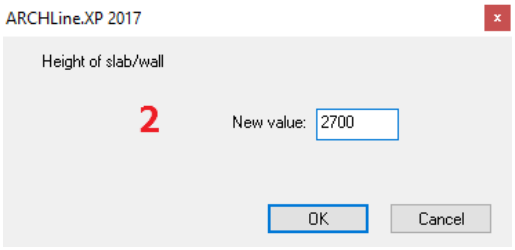


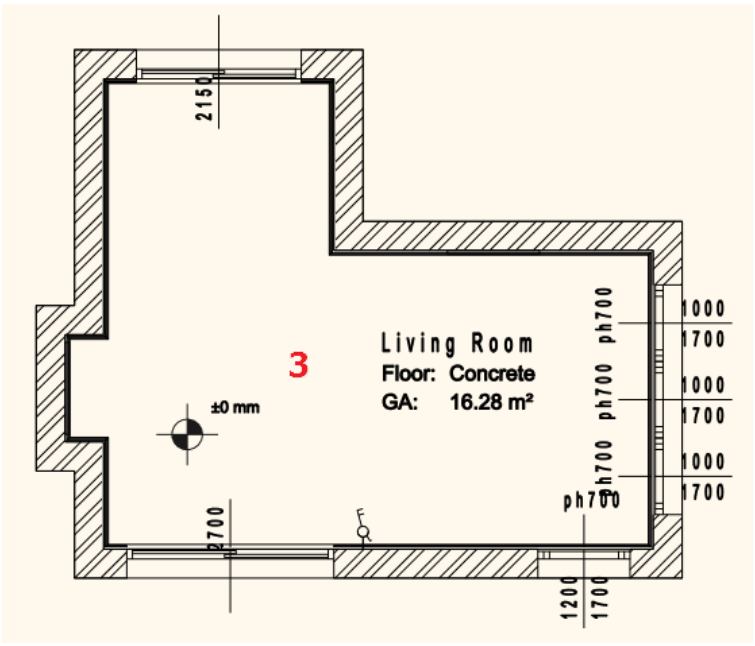
Room by polygon

This function is used when more than one functions appear in a room (e.g., a living-dining room) or we use different floor materials.

- Select the **Room by polygon** command.
- Draw the room around by following the inner side of the room where you want to place the room stamp (1).



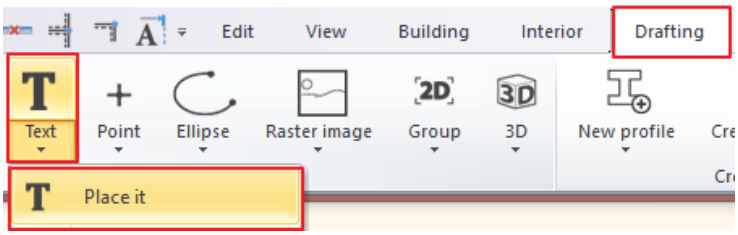




- Type the wall / ceiling height (2) in the dialog box appears.
- The room stamp is ready (3), which you can modify afterwards as described above.

5.4.5. Text place

Place text on the architectural floor plan by using the **Ribbon bar / Drafting / Text / Place it** command. In the pop up "Text actuals" dialog window, type the text to place (for example, "Living room floor plan M=1:50"), and then click OK.



The orange contour of the text appears, one of the corners is grabbed by the cursor. With this corner point, you can place the text on the drawing sheet anywhere you like. Now the text is placed, the Actual Text Window re-appears, and close the window by clicking on Cancel button. The default text height is 200 mm, so they are ideal for displaying designs at a 1:50 or 1:100 scale compared to drawing content.

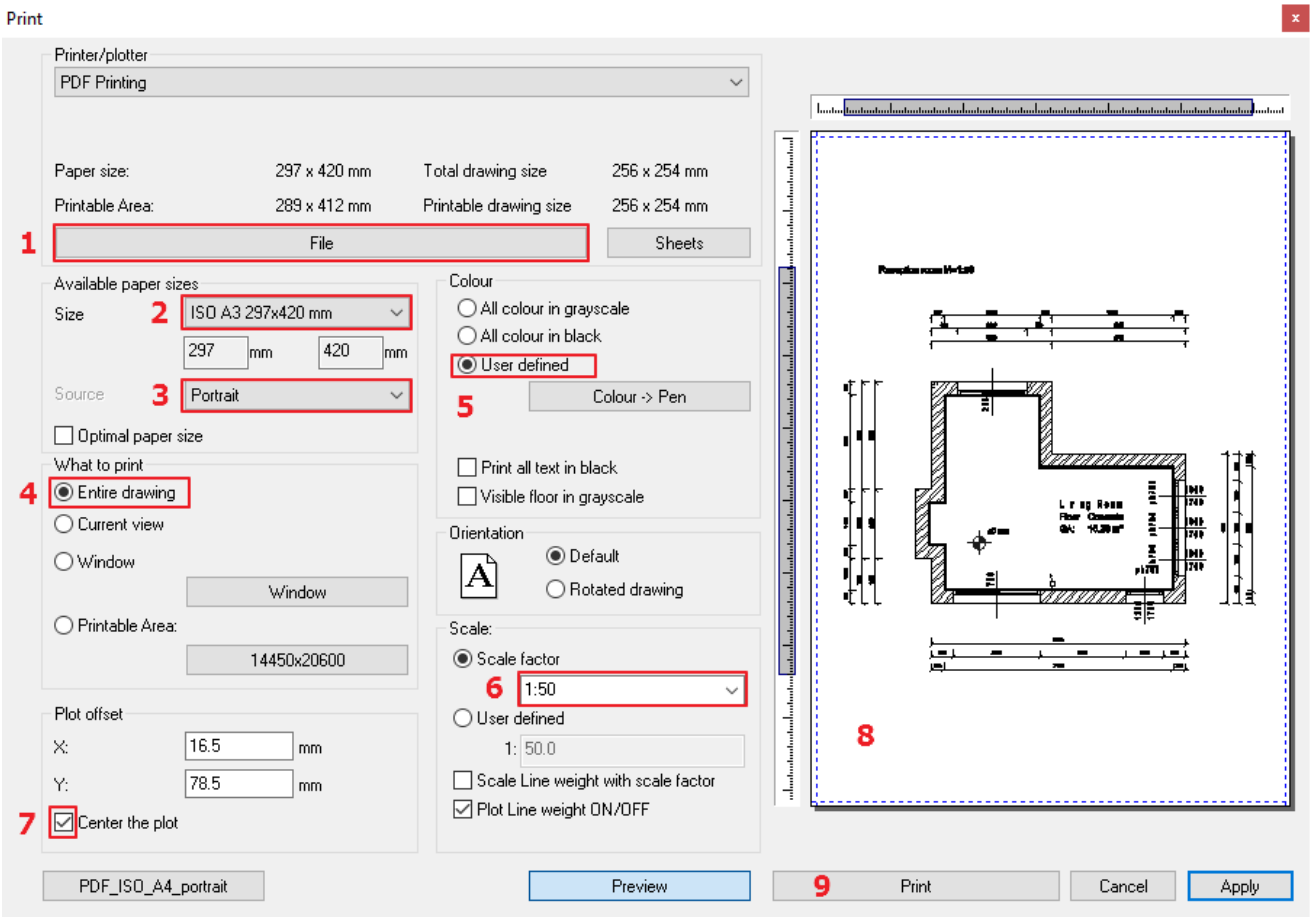
5.4.6. Print to PDF

Create a PDF file from the completed project.

Choose the **File menu - Print to PDF** command and set the following properties in the dialog window:

- **File:** Here you can specify the folder under which the PDF is being printed and what name it will be saved. (1)
- **Available paper sizes:**
  Size: A3 (The same paper size as our mood board) (2)
  Source: Portrait (3)
- **What to print:** Entire drawing (4)
- **Colour:** User defined (5)
- **Scale:** Scale factor 1:50 (6)
- **Plot offset:** Center the plot (7)

If the desired result appears on the preview window (8), click the Print button to create the PDF (9).



PDF is created in the predefined folder under the specified name.

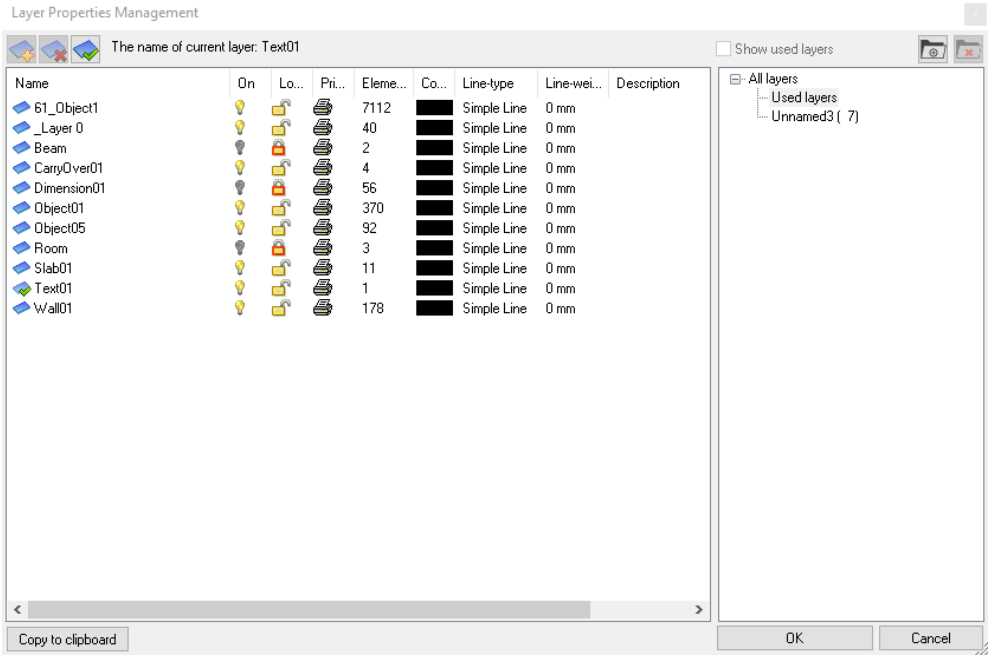
5.5. Creating coloured floor plan

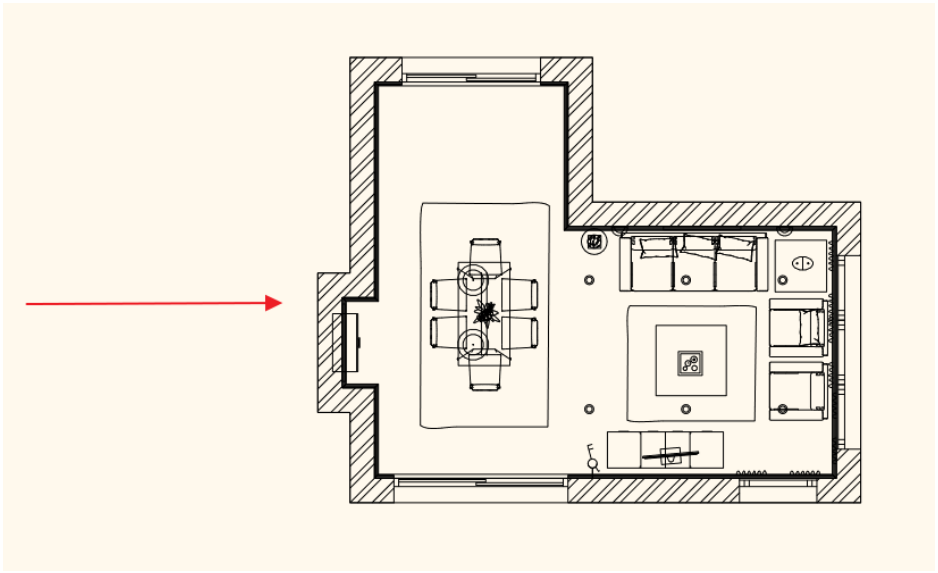
5.5.1. Preparation

To create a coloured floor plan first you must switch off or on certain layers.

Referring to section 5.4.1. let's start with the used layers in the Layer manager and double-click on the locked lock icons to open them (the light bulbs turn yellow).
When all layers are open, turn off (double click on the light bulb for any particular layers) the followings:
- Dimension layers;
- Group of layers;
- Room stamp layer, then OK.

The result:

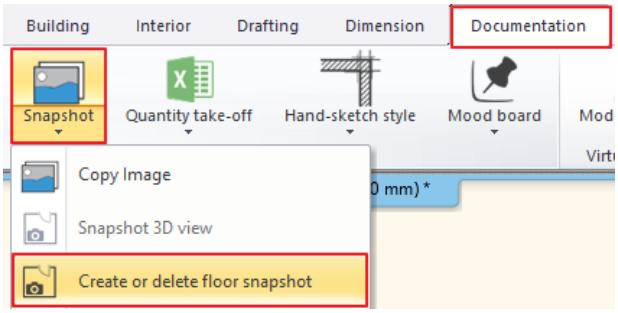




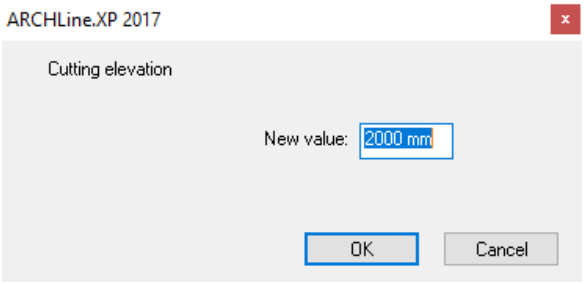
- Delete the inserted text. Instead of this, you can add later a new name to this new project.

5.5.2. Creating floor snapshot

You can create a coloured floor plan by using the **Create floor snapshot** command, located in the **Ribbon bar / Documentation** menu.



When you start the command, you can set the value of the cutting elevation in the pop up dialog window, this is the height where you cut off the model.



- After entering the desired height, press OK, the coloured floor plan view will appear on the original floor plan (1).
- The snapshot is a raster image that can be easily moved away from the floor plan and placed next to it (2; 3).

Attention!

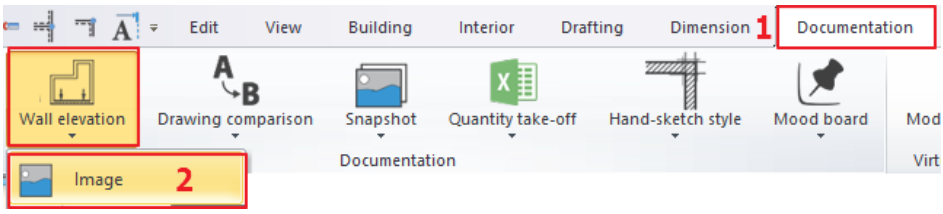
Choose the proper height from where the openings can be seen on the snapshot too. If you choose lower or higher point the openings will not appear on the snapshot, only the wall becomes visible.

The finished coloured floor plan, can be printed to PDF as it is described in Chapter 5.4.6.

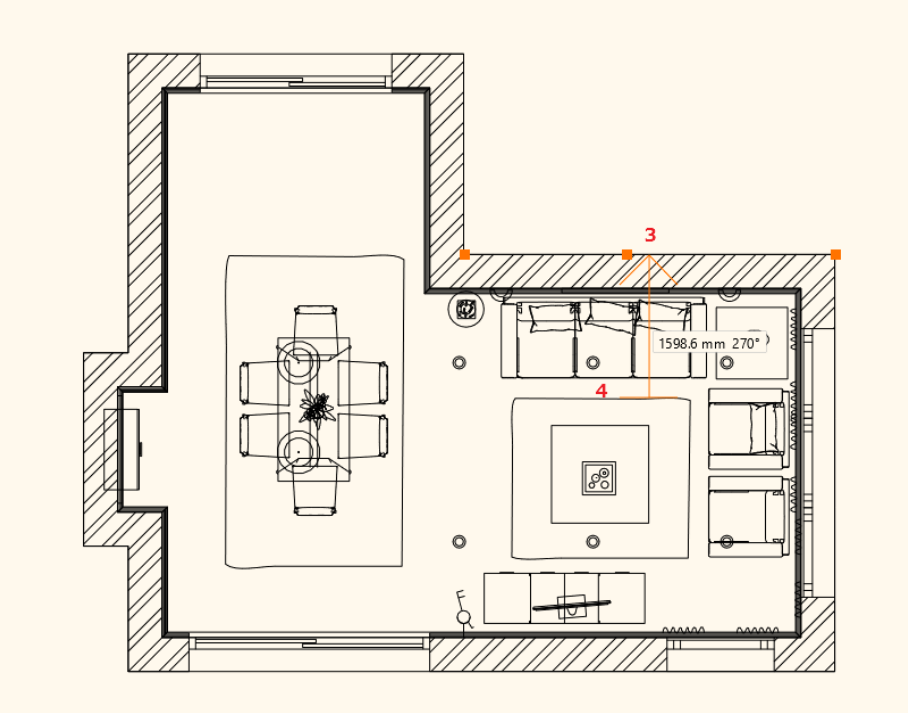
5.6. Creating wall elevation views

Prepare textured wall elevation views in order to dimension them.

- Make the floor plan window active.
- Select the **Ribbon bar / Documentation / Wall elevation / Image** command (1) (2).

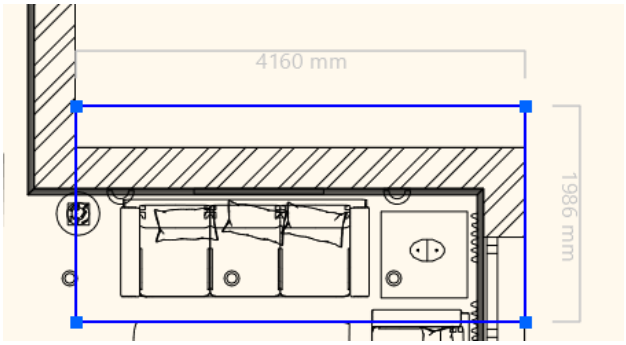


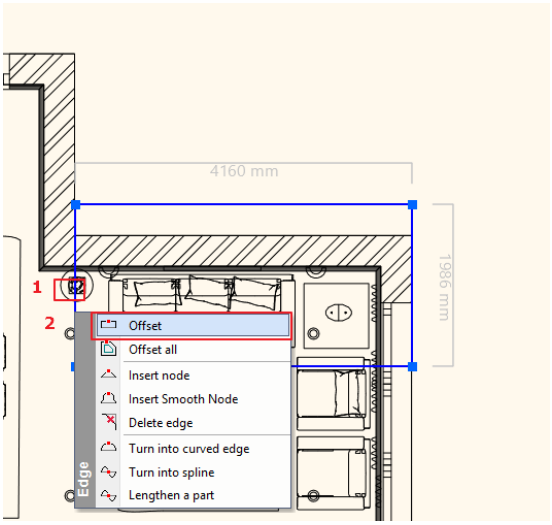
- Click inside of the wall (to make the wall elevation view) (3).
- Move the orange arrow to the desired distance (you can determine the distance by using the length of the arrow from where the wall view will be created) (4). This area will get a blue frame.

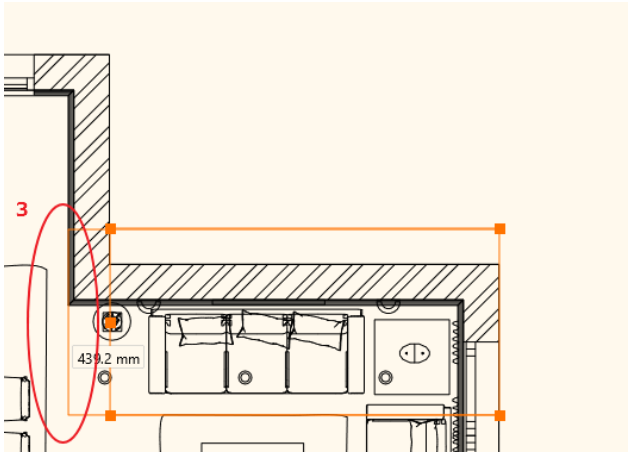


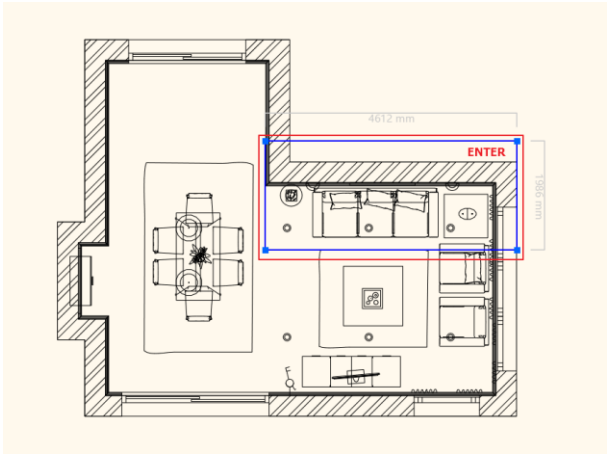
Before creating a wall elevation view it is also possible to select a part of the highlighted wall to be used for the snapshot:

- Click on that side of the blue frame you want to shift (1) and select Offset command (2) from the pop up menu.
- Move the selected pages one by one to the desired position (3), then press Enter.

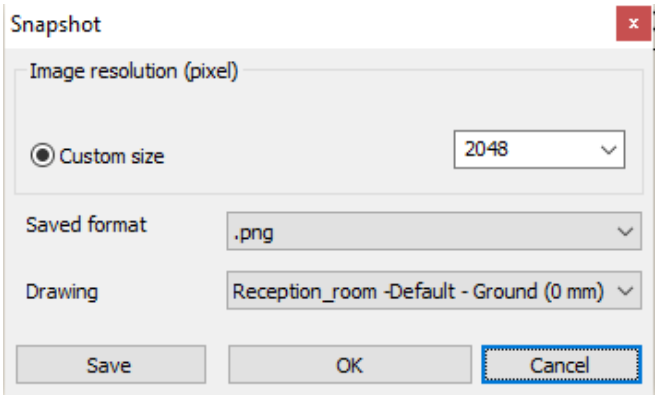








- The Snapshot dialog window appears. Click the OK.



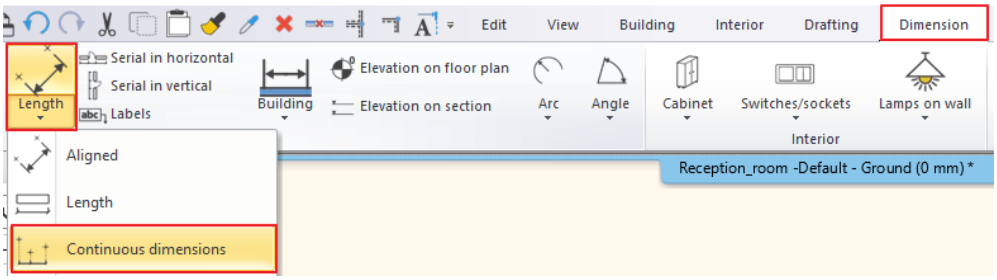
When the Snapshot window is closed, the wall elevation view is placed on the floor plan.
By clicking on the edge of the image you can move it to the desired location.

Repeat these steps on selected walls.

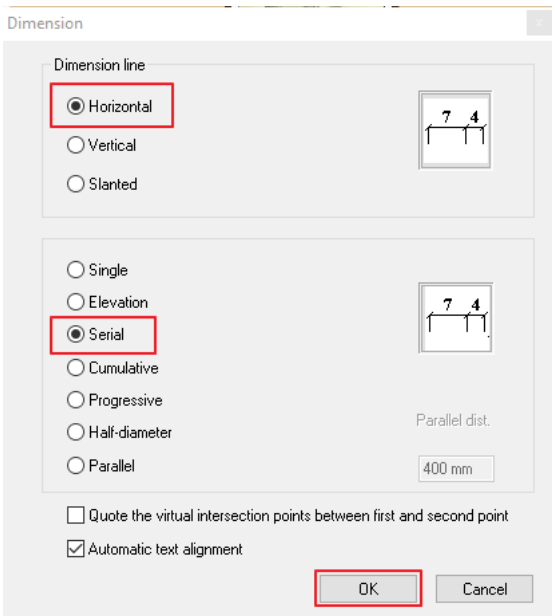
5.6.1. Length

In this example, only the architectural elements will be scaled on the wall elevation view.

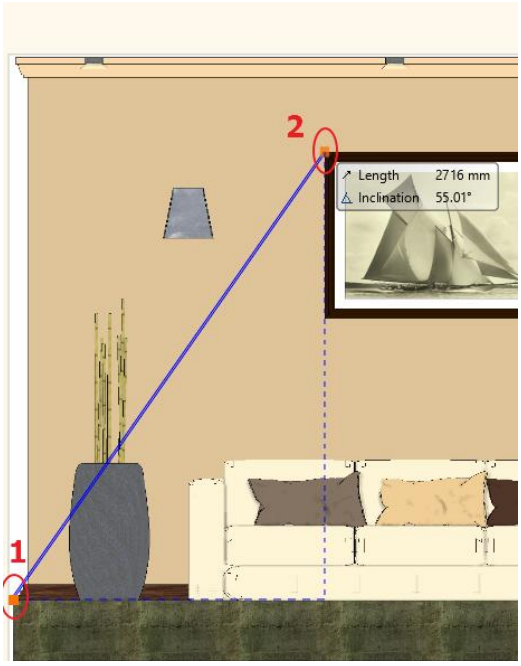
- Select the Ribbon bar / Dimension / Length / Continuous dimensions command.

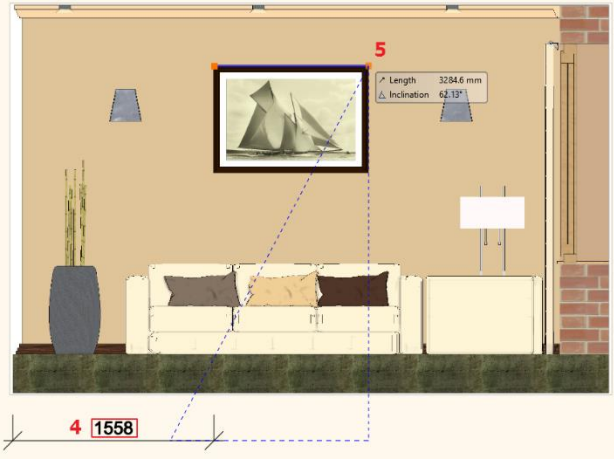


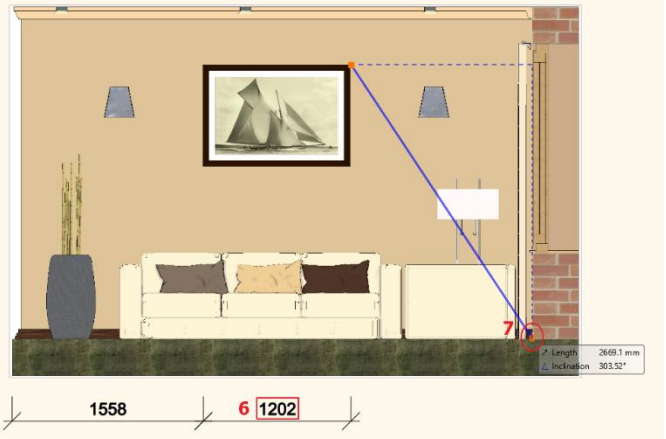
- In the pop up dialog window, you can adjust the dimensioning properties, for example: the orientation.



- Set the dimension line horizontally, and the dimension is serial and then OK.
- Click on the first point on the wall elevation view to start the dimensioning (1).
- Click on the second point to get its distance from the first point (2).
- The horizontal projection of the distance appears with a dotted line which can be placed at any distance from the wall elevation view (3, 4).
- Due to the “serial“ setting the dimensioning is continuous.
- This means that the second point of the previous distance (2) and the first point of the following distance we are overlapping each other, therefore we have to give second point only (5).
- The horizontal distance between the previous two points appears on a new dimension line alongside with the previous ones (6).
- Give the second point of the next measured distance (7).
- It also appears on the dimension line (8).
- When finished the dimension, press ENTER.
- (In this case, the values of the given dimension line will be created, further scaling is possible without re-selecting the command.)



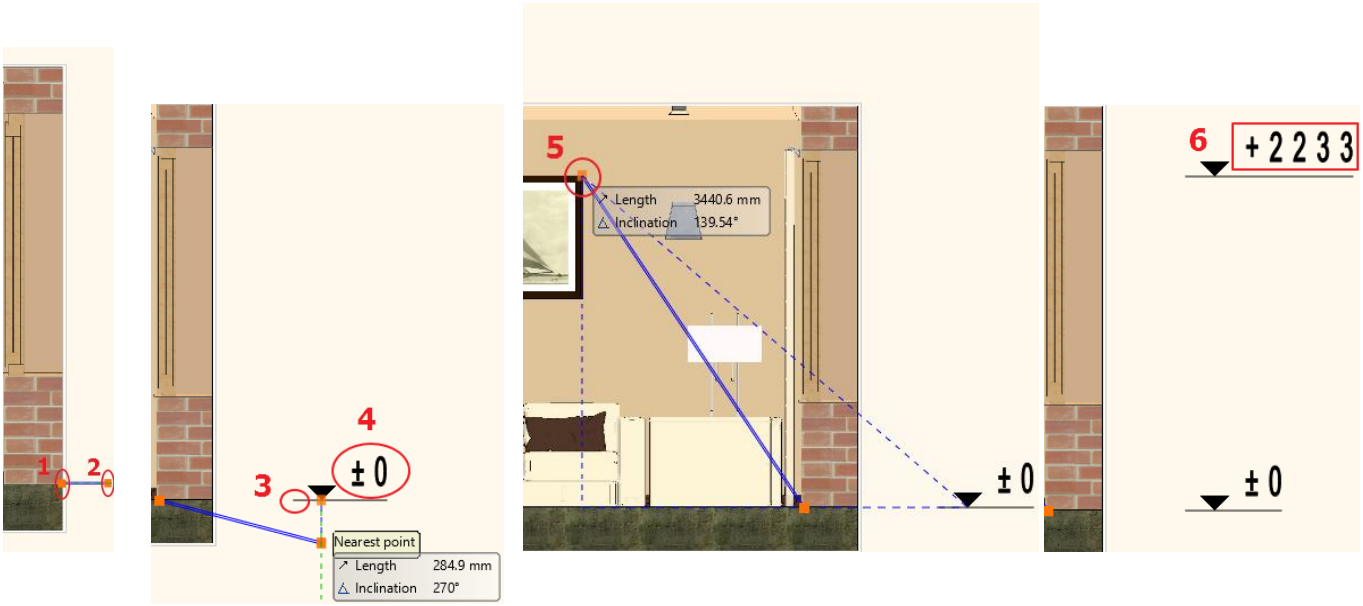


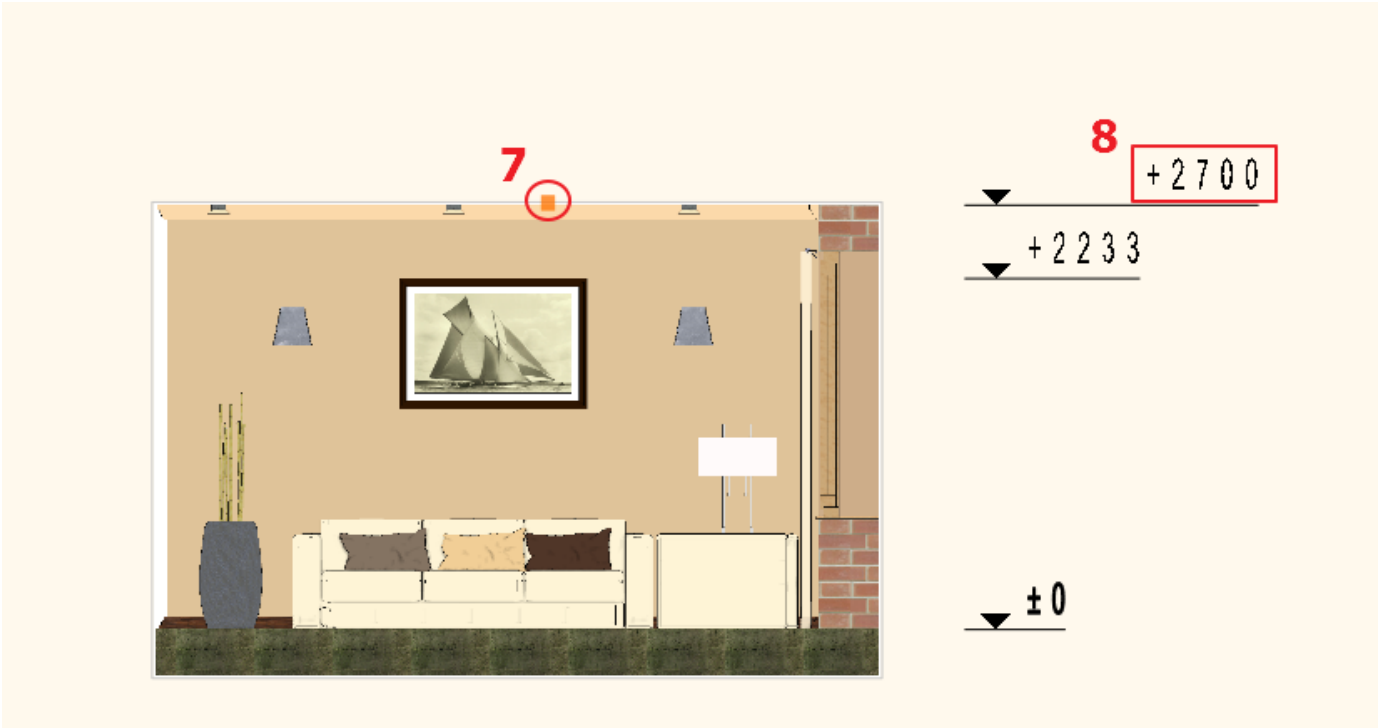


5.6.2. Elevation on section

The Elevation is located in the **Ribbon bar / Dimension / Elevation on section** command.
The dimensioning process is the following:

- Open the command from the path above mentioned then mark the starting height on the wall elevation view by clicking on the connection between the slab and wall (1).
- To get the value 0, click again at the same point or at the same height (2) then determine the position of the dimensioning next to the wall elevation view. Click on the preferred position (3), so the first height value of 0.00 will appear next to the wall elevation view at the desired location (4).
- Additional points should be determined with just one click and the height value for that distance will be displayed immediately next to the wall elevation view.
- As a next step, click on the picture (5) and the corresponding value (6) will be displayed.
- The last point there, where the wall and ceiling are the joining together (7, 8).



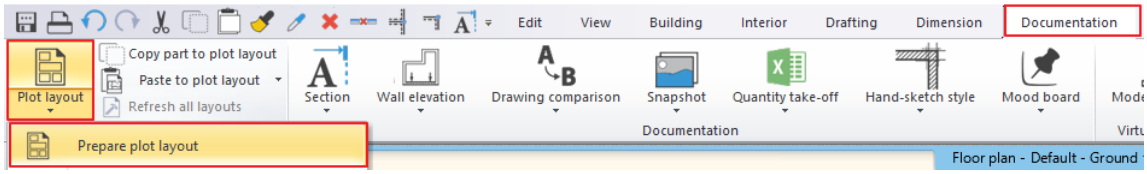


5.7. Creating plot layout

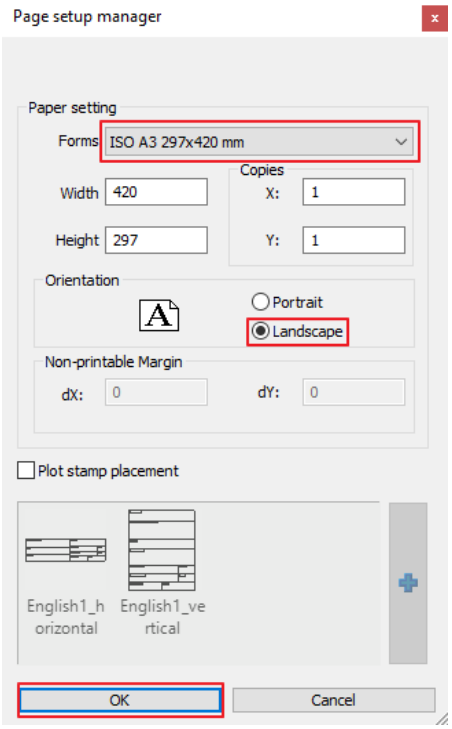
In order to record differently scaled plans to the corresponding project it is beneficial to create plot layouts.
It is also recommended to use them as they provide neat, precise look.

5.7.1. Prepare plot layout

The **Prepare plot layout** command is available under the **Ribbon bar / Documentation / Plot layout** menu item.



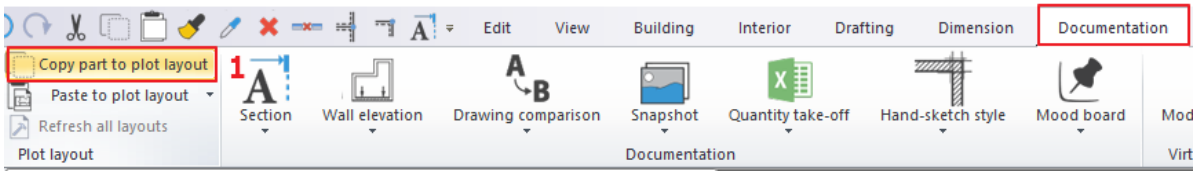
First you need to set the paper size and orientation in the pop up dialog window, then press OK to open the empty page.



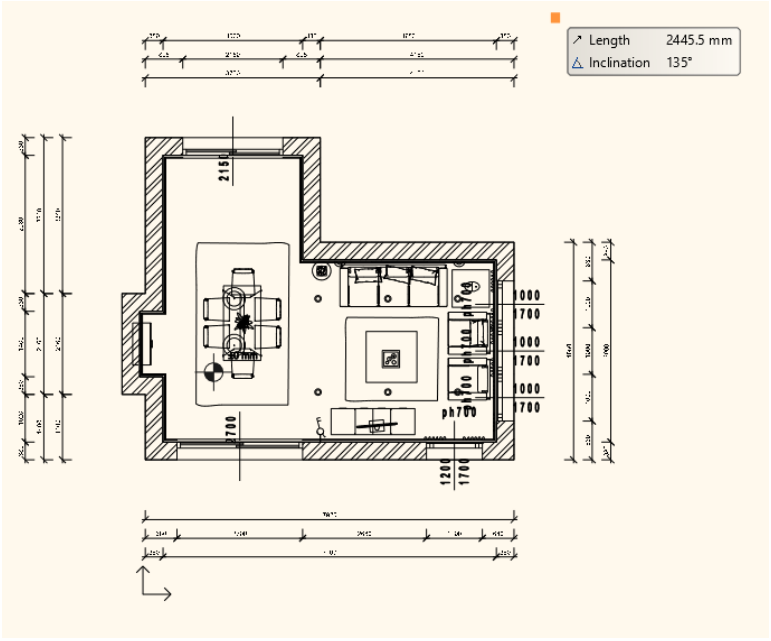
5.7.2. Copy to plot layout

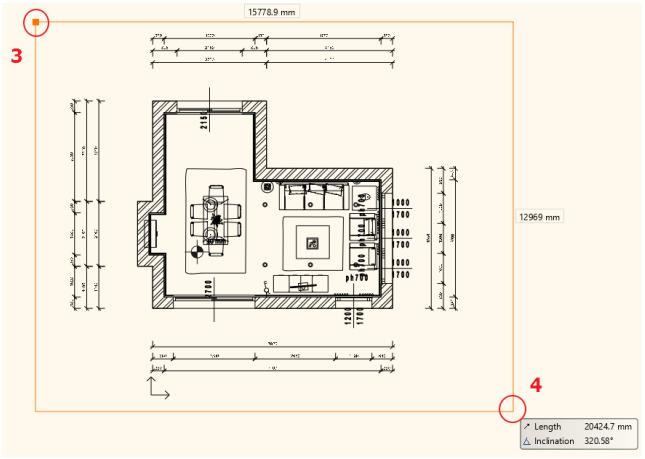
Next, from the records of the existing floor plan with a given scale factor, we will paste its details to the empty page.
Please follow these steps:

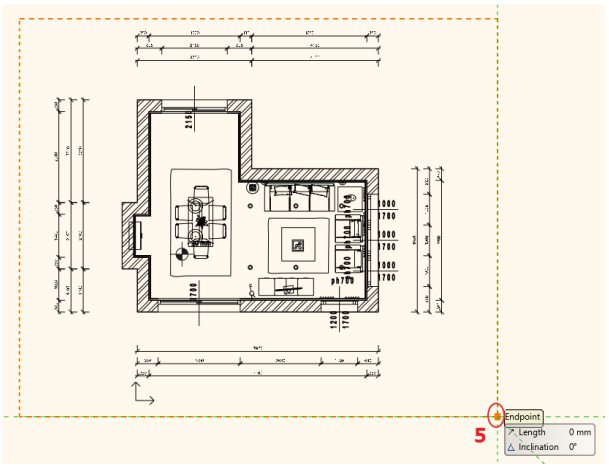
- Activate the window from you want to copy the content (in this example, this is the floor plan window).
- Choose **Ribbon bar / Documentation / Copy part to plot layout** (1).



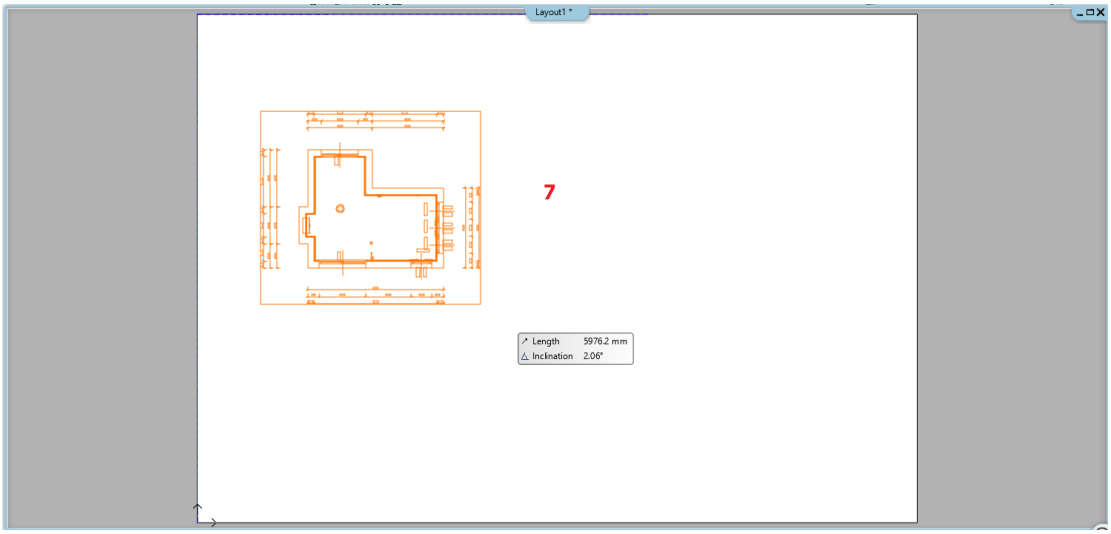
- Select the part you want to copy (e.g. using a horizontal rectangle) (2) (3, 4).
- Give a starting point which you want to grab for placing the selected portion (5).

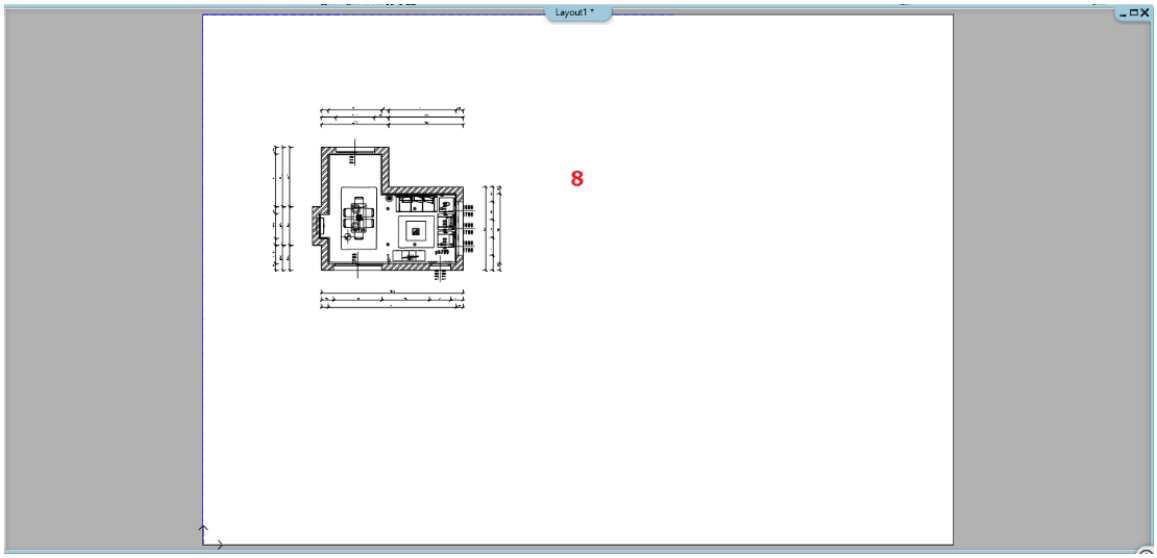




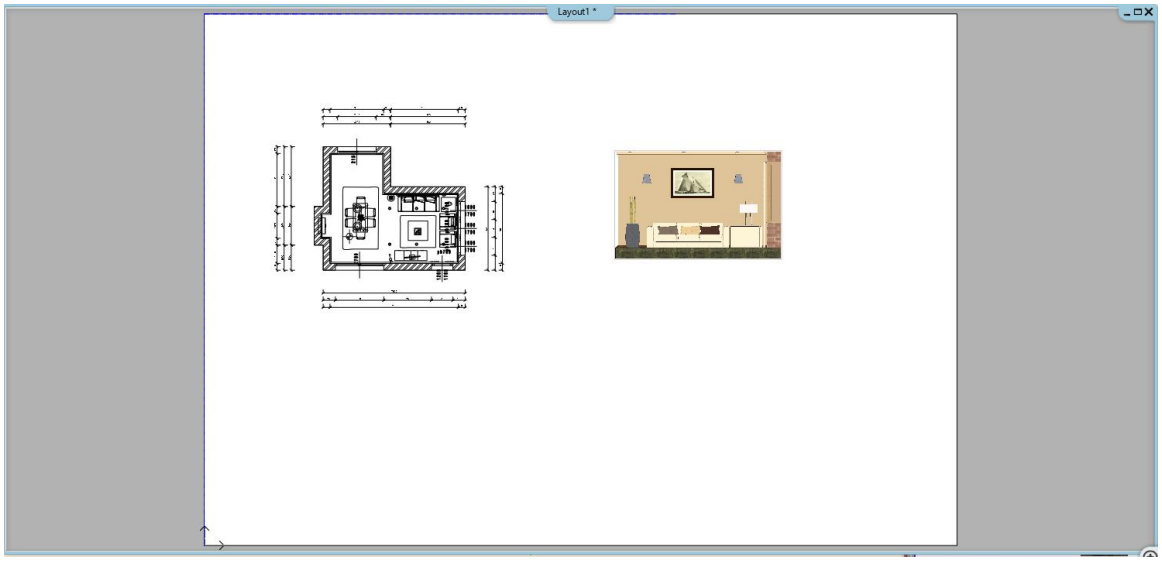


- Activate the plot layout (print layout).
- Select **Paste to plot layout** command from the **Ribbon bar / Documentation** menu and specify the scale to which you want to place the drawing on the page (6).
- Place the drawing (7, 8).

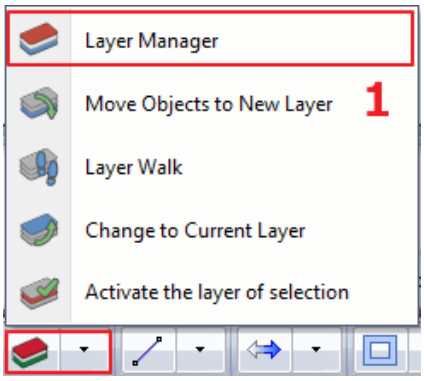




As described above, you can copy the dimensioned wall elevation view on the page by 1:50 scale factor. This way it is possible to place drawings in different dimensions on a plot layout.



5.7.3. Modifications afterwards



Sometimes some parts of the plan require modifications.

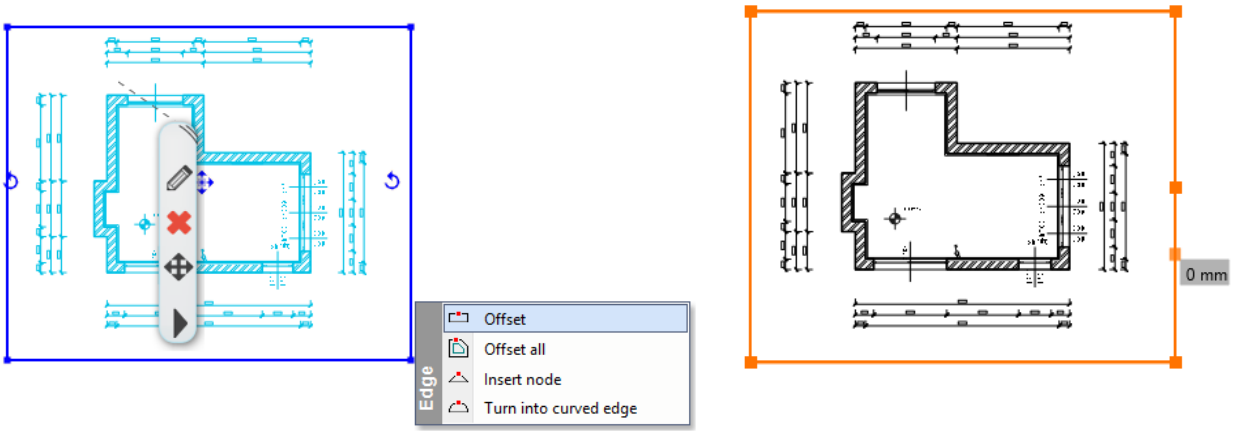
If you want to switch on or off layers, you should follow these steps:

- Activate the Plot layout window, select the floor plan on the plot layout and click on the pencil icon in the Local menu.
- Click on the Layer manager (1) from the pop up window.
- Switch off Object layers.

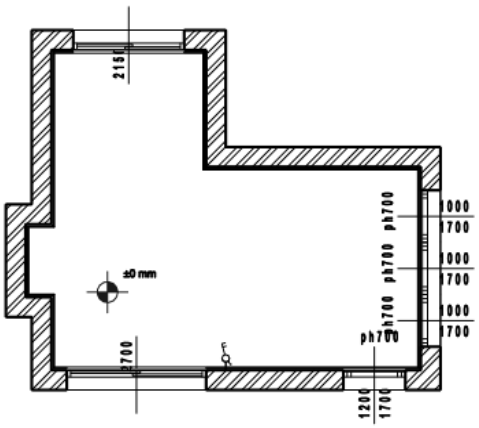
If you want to modify the inserted area on the page (for example, if you want to delete the wall dimension on the floor plan of the plot layout), there is an option:

- Activate the Plot layout window.
- Select the drawing you want to modify on the plot layout.
- The corresponding blue contour line appears of the inserted detail. Click on one side of it and from the appearing the Local menu select Offset command.

Pages by pages modify the details of the requested parts by using the same process like above. Make sure that the dimensions are outside of the blue contour lines.



- Then press ENTER to validate the changes. You will get the following result:



Modify the wall elevation view and the snapshot

It is also possible to present changes on the 3D model, on the wall elevation view on the page, or on the 3D snapshot. The process of the modification is similar to the previously described:

- Activate the 3D window.
- Make the desired modification on the model (e.g. change the wall material).
- Activate the floor plan window.
- Select the **Snapshot / Refresh** command from the Local menu.
- The content of the wall elevation view changes accordingly.
- Activate the Plot Layout.
- In the Local menu of the wall elevation view, select **Refresh this** command.
- This drawing will be also updated based on the wall elevation view in the floor plan window.

5.7.4. Creating, save, modify and use the plot stamp

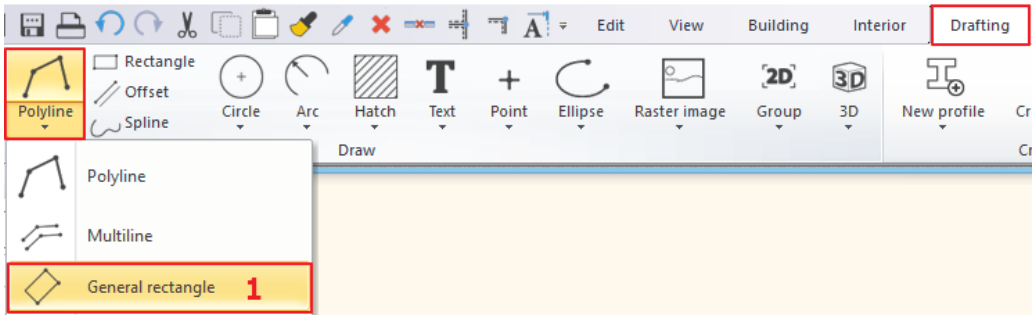
Documentation can be formally unified with the use of the plot stamp, which provides a suitable framework for the presented plans. It is possible to create a plot stamp that can be saved later on the plot layout. It is desirable to draw a plot stamp in different sizes (A3, A4), as well as in portrait and landscape positions, which you can use afterwards.

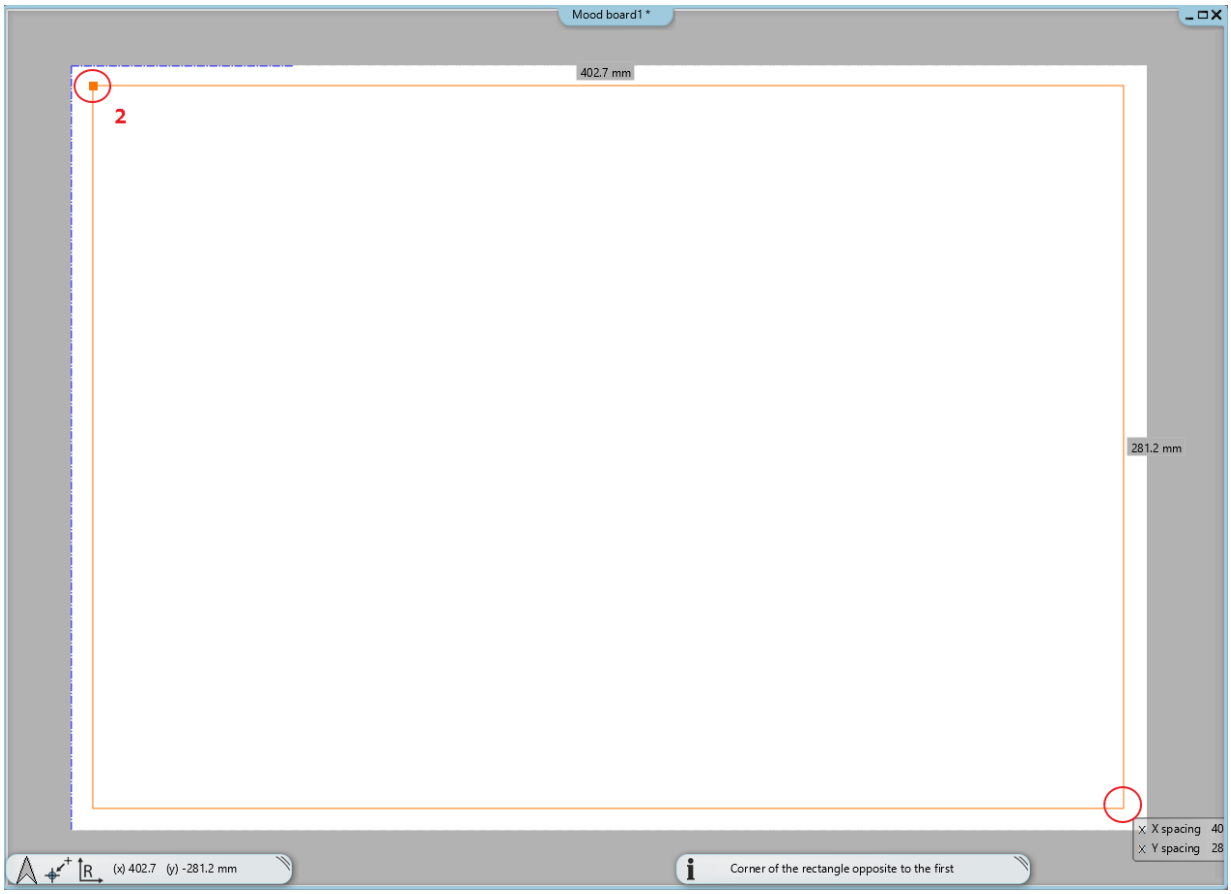
Creating plot stamp

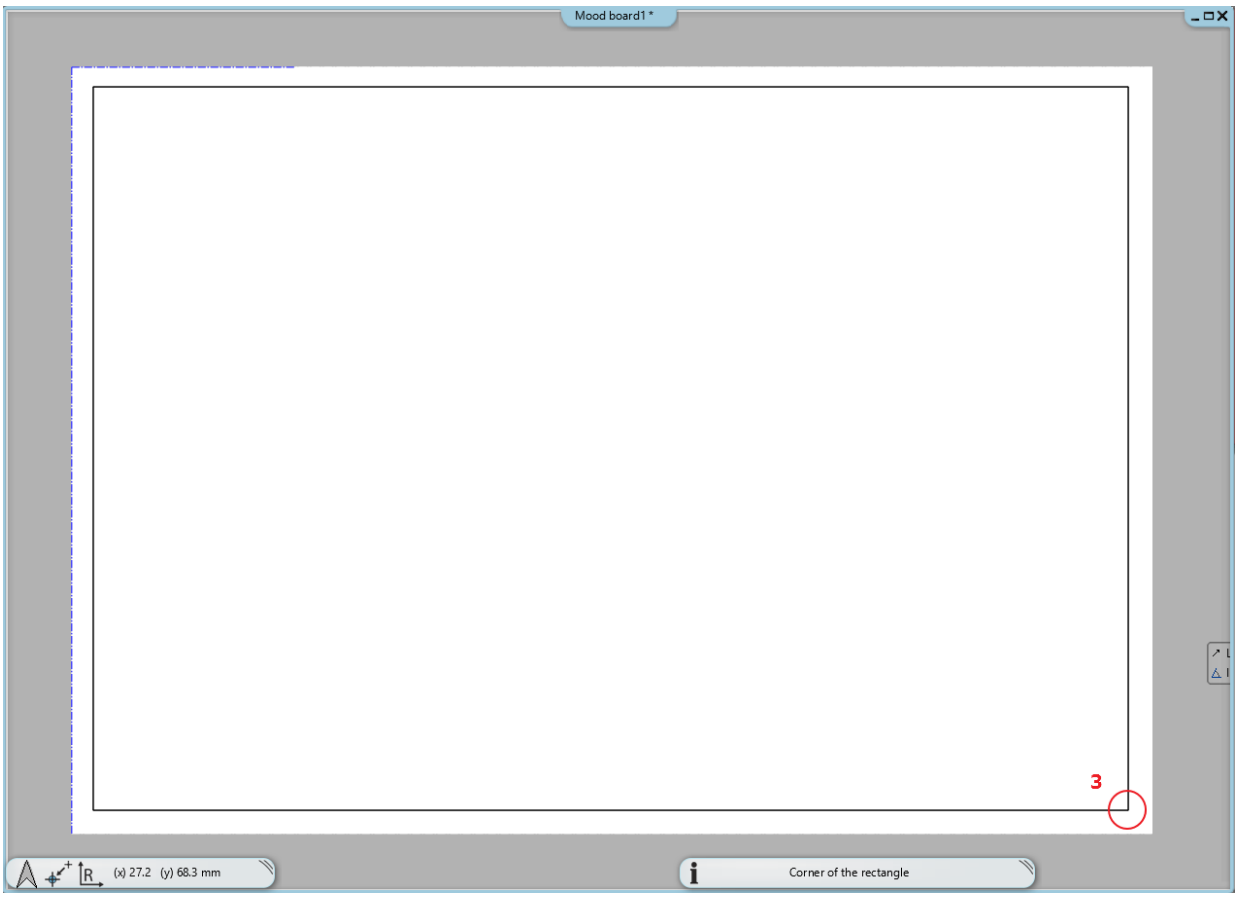
The plot stamp is created by drawing tools as following:

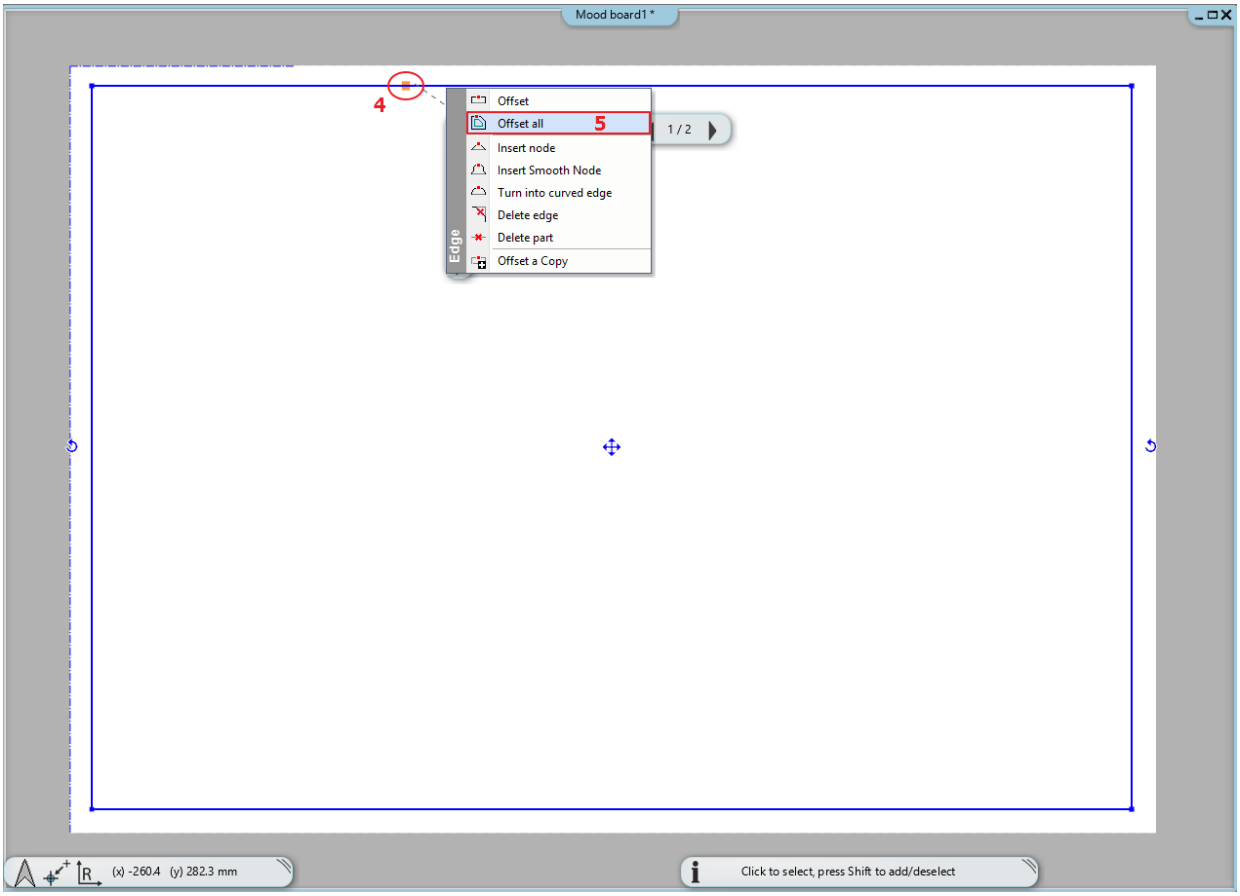
- Create a new plot layout following as it described in Chapter 5.7.1.
- Make the plot stamp frame.

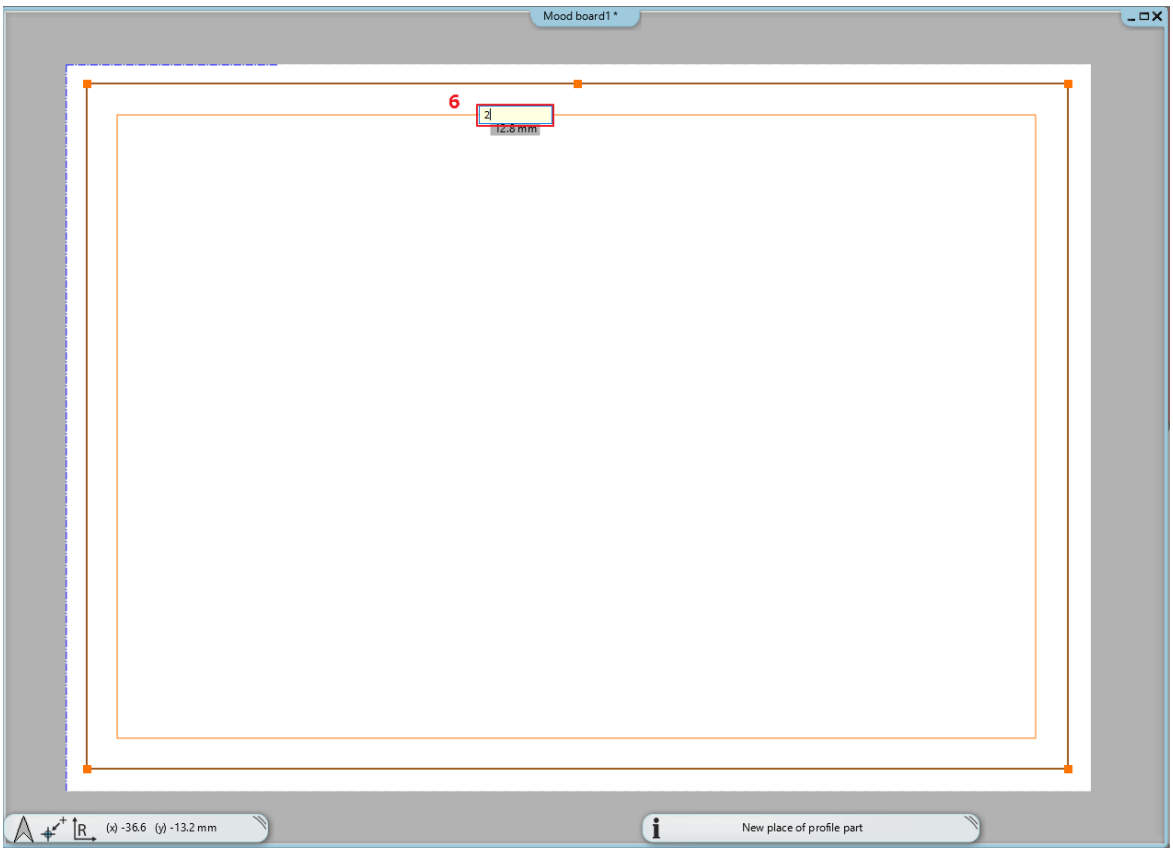
The simplest way is to draw a border line along the print range (blue dotted line) (2,3) by using the **Ribbon bar / Drafting / Polyline / General rectangle** command (1).
After placement, select Offset All command in the Local menu (5) and move by 2 mm (4) towards the center of the plot layout (6).



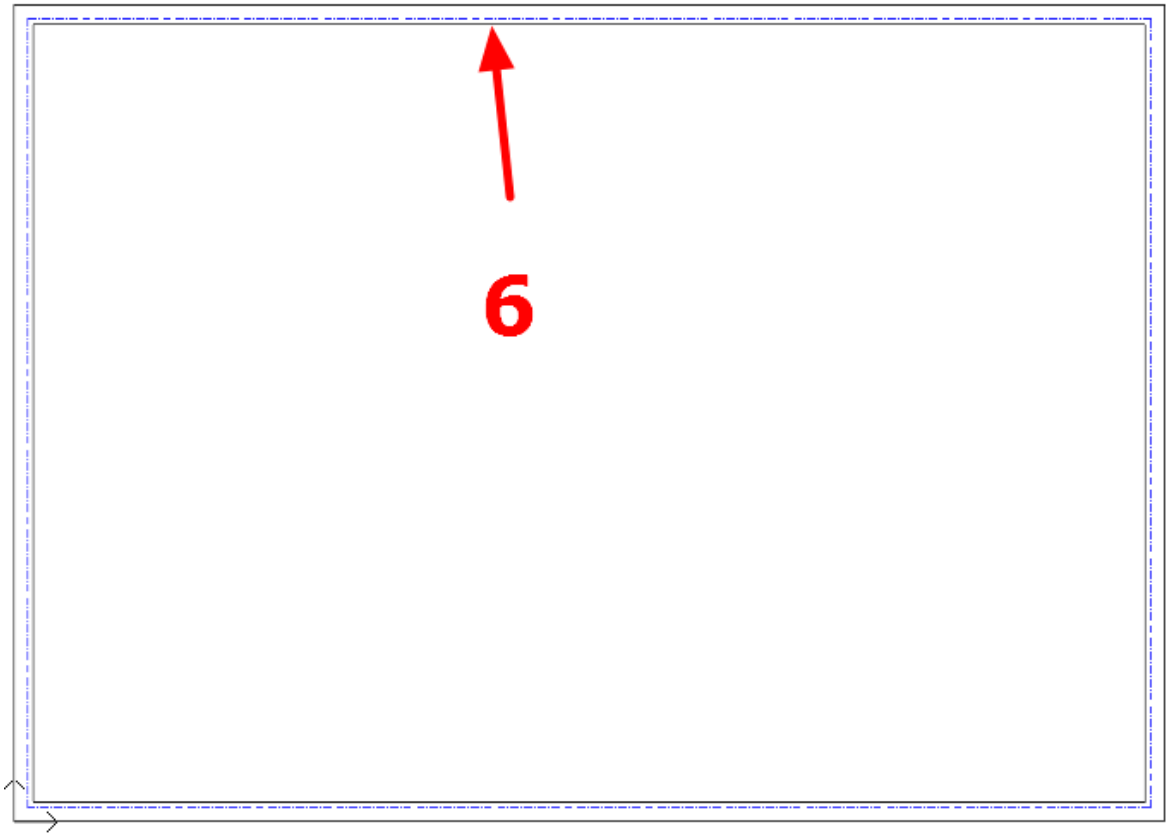



Mood board1 *
3
(x) 27.2 (y) 68.3 mm
Corner of the rectangle

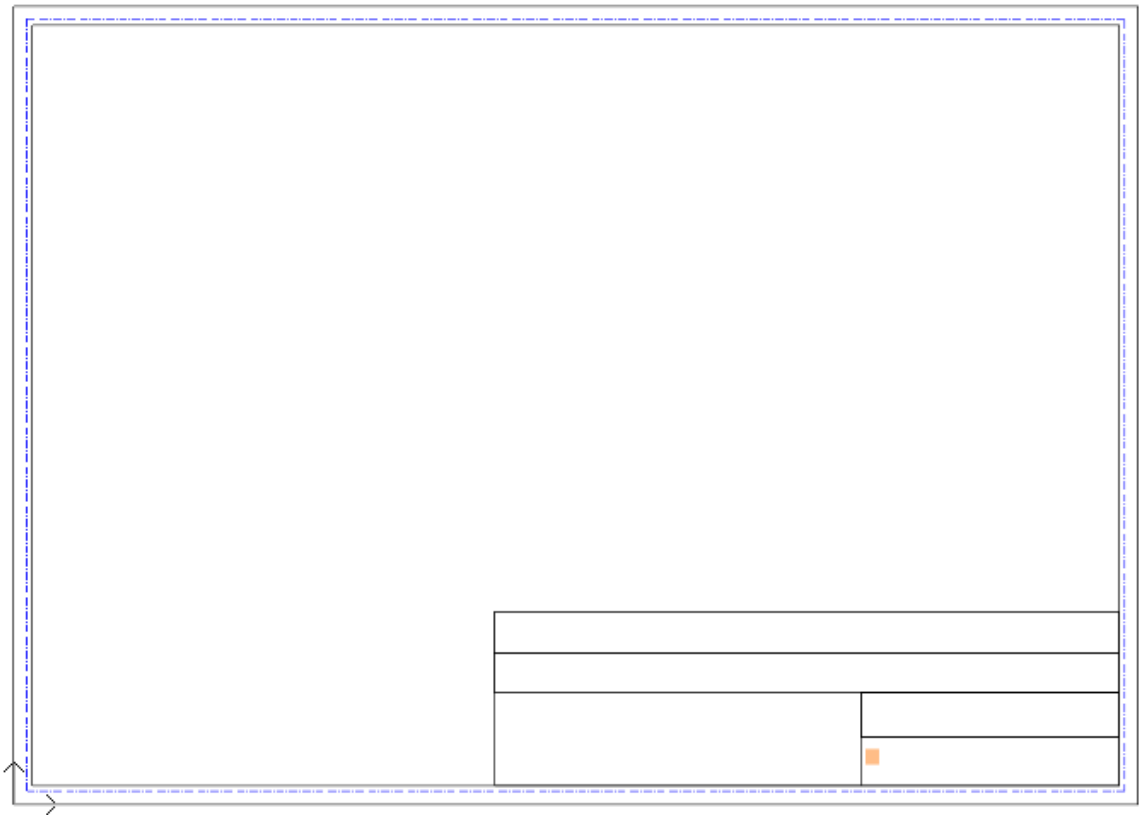

Mood board1 *
4
Offset
Offset all
5
Insert node
Insert Smooth Node
Turn into curved edge
Delete edge
Delete part
Offset a Copy
Edge
1 / 2
(x) -260.4 (y) 282.3 mm
Click to select, press Shift to add/deselect



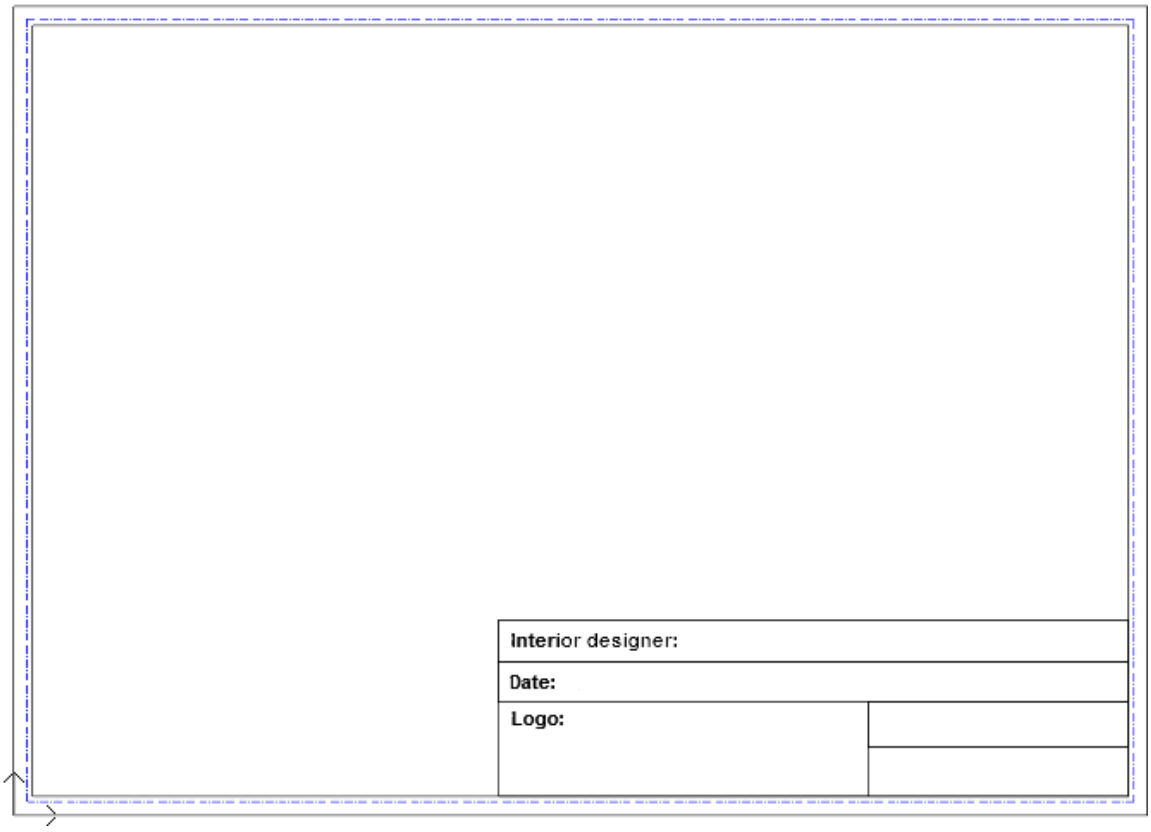
The offset is needed in case the contour of the plot stamp and the border line of the printing area are overlapping each other, therefore it won't be visible in printing.



- Using additional rectangles in the plot layout you can create the final layout of the stamp as it is shown below:



- Insert a label (e.g., customer, designer, name of plan, scale, date, logo, etc.) by using the **Ribbon bar / Drafting / Text / Place it** command in the plot stamp.
- Depending on the most recently used settings, change the text size to 5-10 mm to fit in the columns.

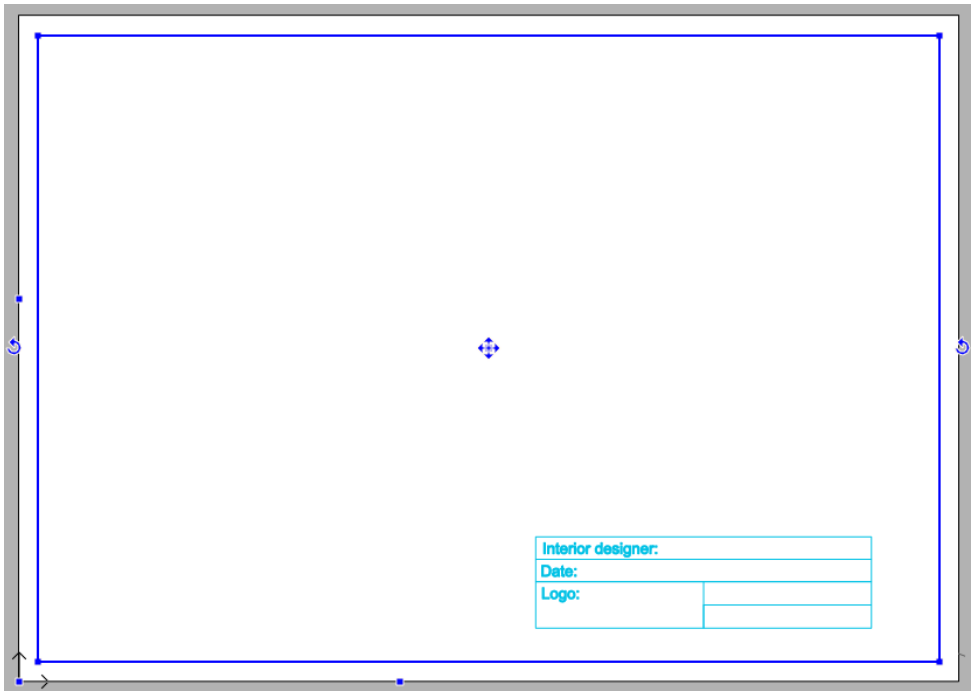


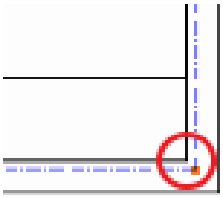
- If you want to place a logo / image in the plot stamp, you can do the same way like in the mood board, follow the steps as it is described in Chapter 5.2.3.

Save the plot stamp

When you have finished setting up permanent content, it is recommended to save the plot stamp. It will be available later and make easier the documentation.

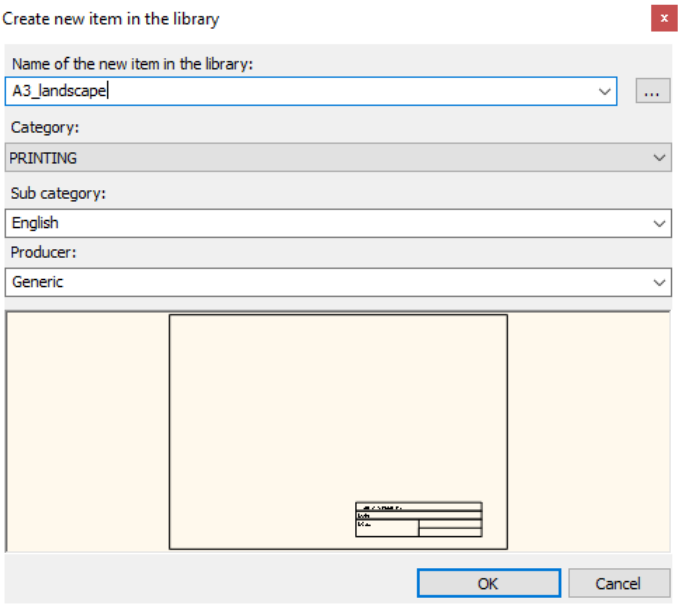
- Select all elements of the plot stamp, but make sure that the plot layout is not in the included. The simplest way of this, to select the entire page and its contents with a rectangle. Then press SHIFT down and click on the side of the page, now its colour will change to black, while the contents of the stamp remain blue.





- Select **Ribbon bar / Drafting / Group / Create group in library** command.
- Specify the reference points of the plot stamp, which you will be used for placing it later. As a reference point it is useful to select the corners of the printing area. This way when you place it later, the plot stamp will always be within the print range.

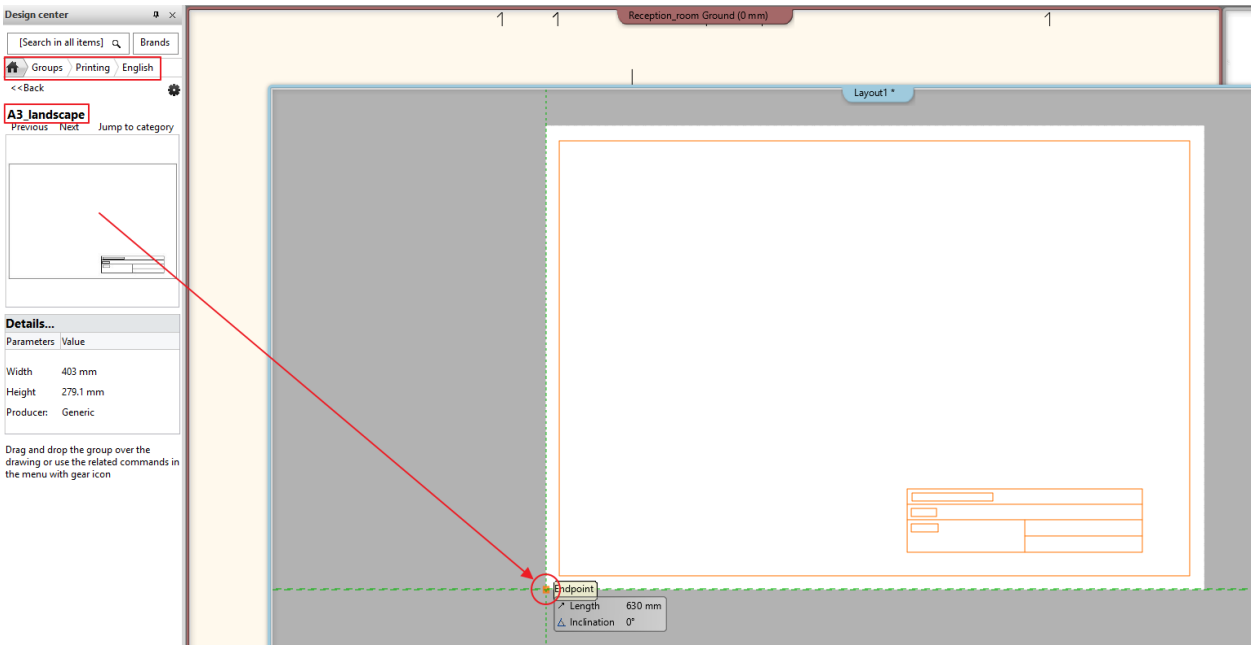
- Press ENTER and the "Create new item on the library" window appears.
- Type the name of the library element (e.g. A3_landscape).
- Define the category and subcategory of the item (e.g. PRINTING / English), and then click OK.



Use the plot stamp

You can always use the saved plot stamp as a group and place it on the plot layout at any time:

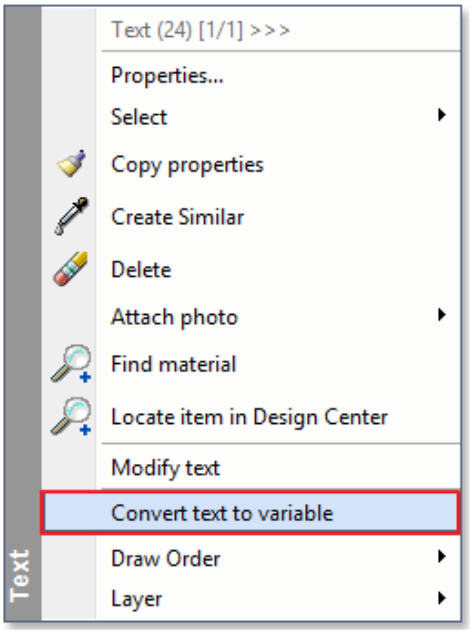
- Open another empty plot layout.
- The plot stamp is located in the **Design Center / Building / Group** category, where it had been saved before (Printing /English). Find it in the library.



- Simply use “drag and drop” method and place it on the empty plot layout in the bottom left corner.
- To fill the plot stamp, right-click on the edge of the plot stamp, then select „Edit text in group” command or left click with your mouse button to change directly the data in the plot stamp.

- Convert text to variable: **Ribbon bar / Drafting / Polyline / General rectangle**.
- If our rectangle is created **Ribbon bar / Drafting / Text / Place it**.
- Adjust the height of the text to the correct size, then right click and „Convert text to variable” option.

Project

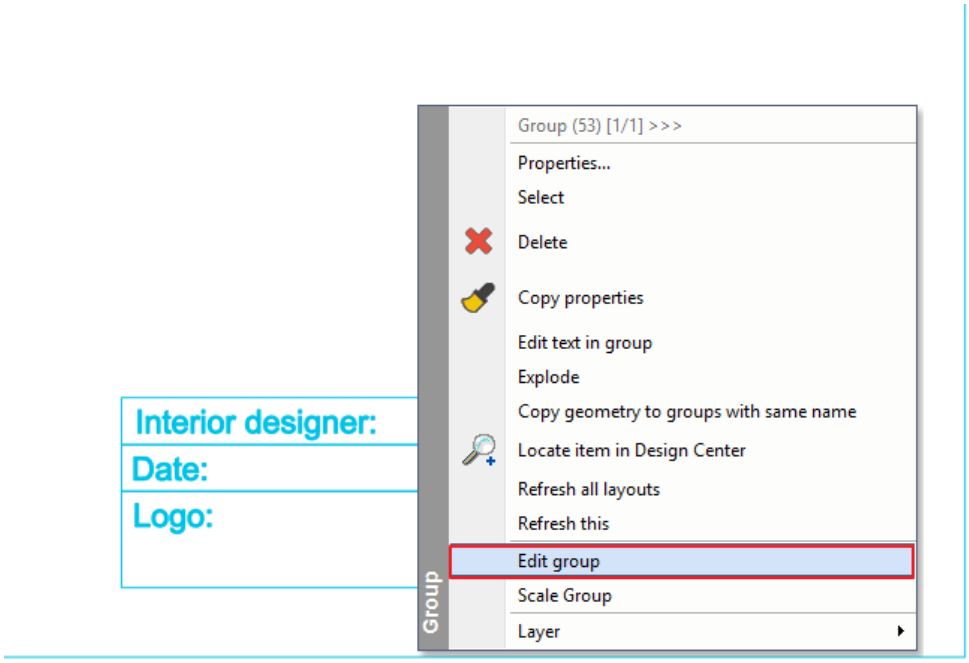


- You can copy details to the plot layout by using the method described in Chapter 5.7.2.

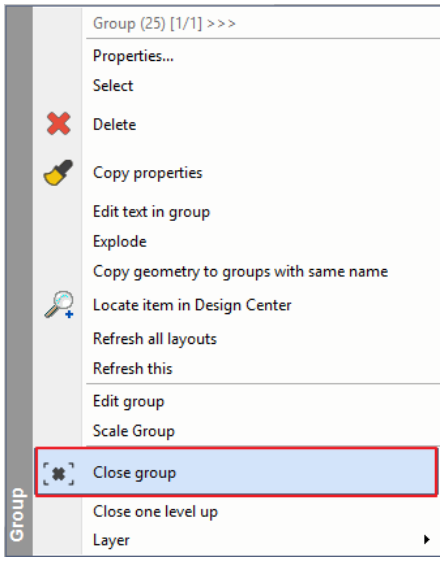
Modify the plot stamp

If it is necessary the saved plot stamp can be also modified after placing it:

- Select the plot stamp and choose Edit group from the Local menu, the contents of the plot layout turn grey.



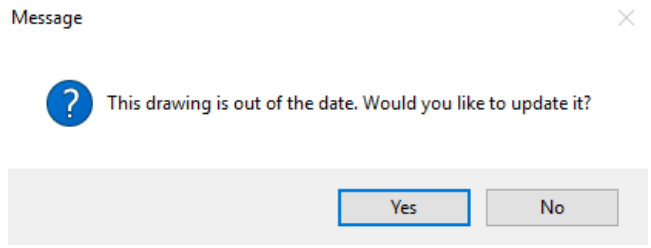
- Then you can modify the elements of group (text, lines).
- After making the changes, make sure to close the group by using the Close group command in the Local menu.



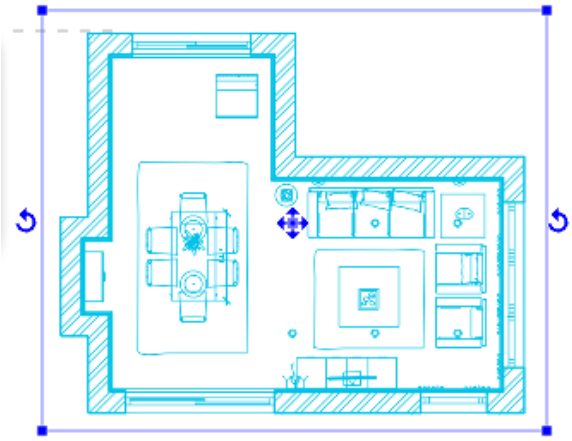
Other modification options

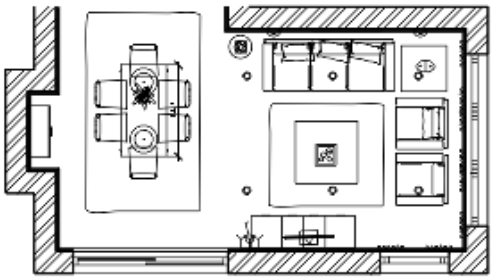
- If you like to place another plot layout next to the existing one, activate the Print Layout. After that create a new plot layout (Ribbon bar / Documentation / Plot layout / Prepare plot layout command). This way two or more plot layouts will be on one page.

- If we continue the work on the floor plan, and make adjustments on it, after we saved this project a new message appears on the plot layout by clicking on the floor plan. This reminds us that our drawing is out of date and needs to be updated.



- The next modification option is the cutting plan function. Clicking on the plan, a blue frame appears which can be used to change the plan. You can now edit by using the Offset command. With this option these will not be permanently cut off from the plan, it will be only hidden, which can be restored at any time.



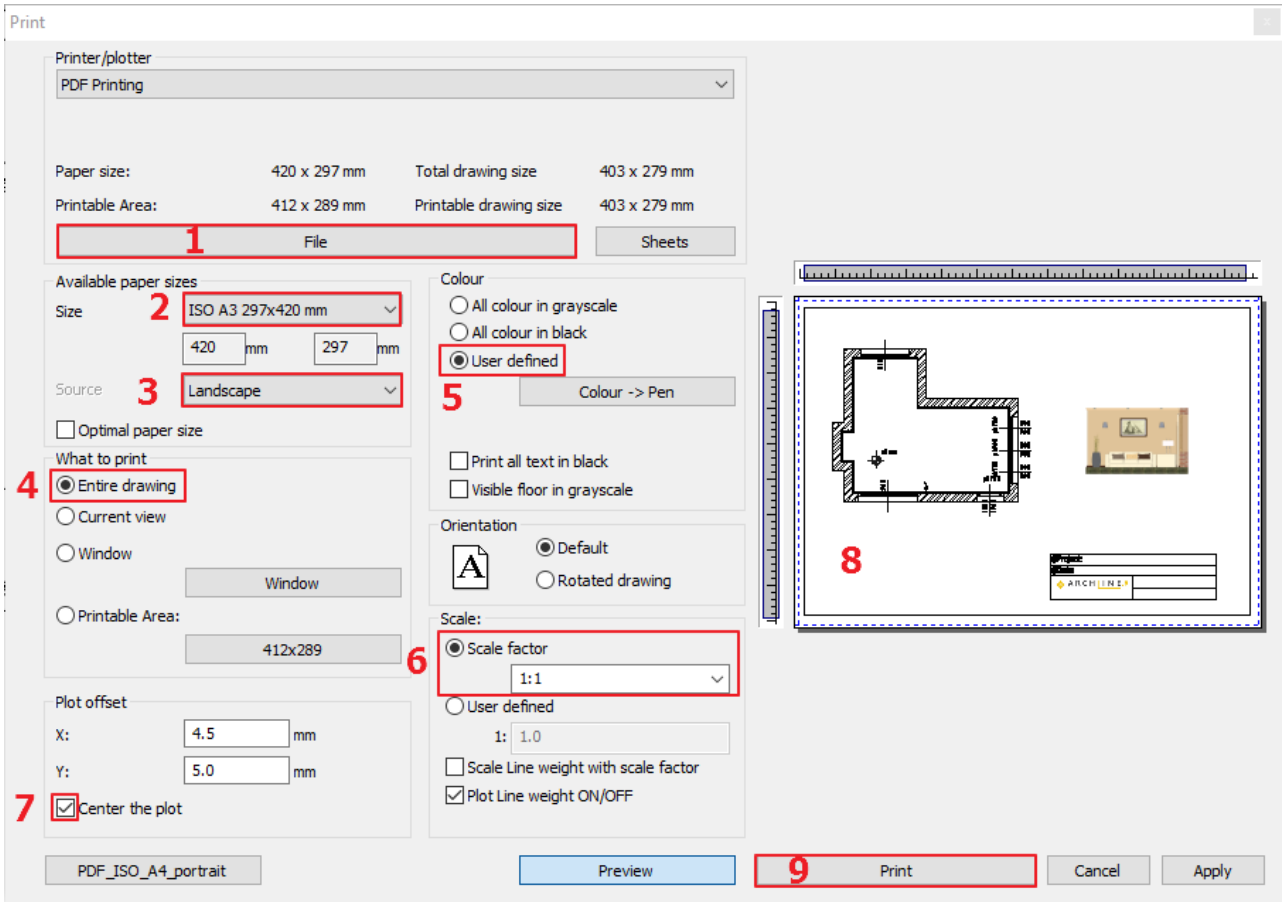


5.7.5. Print to PDF

Printing the plot layout into PDF format happens the same way as it was shown in case of the mood board. These are the followings:
Choose the **File menu - Print to PDF** command and set the following properties in the dialog window:

- **File:** Here you can specify the folder under the PDF will be saved and the give name of the file. (1)
- **Available paper sizes:**
- Size: A3 (The same paper size as the plot layout) (2)
  Source: Landscape (3)
- **What to print:** You can choose to print your entire plot layout, or just one of the pages. In this case, you can change the „Window" option. (4)
- **Colour:** User defined (5)
- **Scale:** Scale factor 1:1 (6)
- **Plot offset:** Center the plot (7)

- If the desired result appears on the preview window (8), click the Print button to create the PDF (9).



PDF is created in the predefined folder under the specified name.

Workshop 6: Lights

6. Workshop: Lights

During this lesson you can learn about the following topics:

- Placing lamps from the library
- Placing and modifying recessed spot lamps
- Creating a new lamp, adding light sources, saving it to the library
- Modifying the directions of sport lamps
- LED strips
- Luminous text

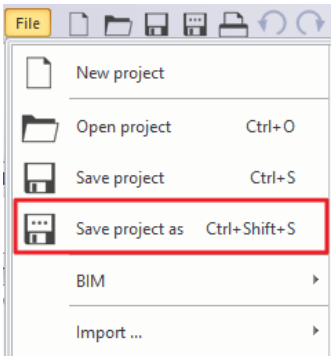
- Please open the following playlist in your browser:
  https://www.archlinexp.com/education/webinars/interior-design-4-lights-and-rendering

Start

- Start ARCHLine.XP.
- Click on the **Open project** button.
- Open the following project: *Documents\ARCHlineXP DRAW\2018\Workshop - Preliminary\Lights\eDesign_Shop_1_start* file.

Saving the project

- Before starting, we recommend to save the project with a different name, not to overwrite the original project. Select the **File / Save project as** command, then give the name of the new project and the place where you want to save it.



Before starting, it is essential to discuss the following definitions:

Light source: A special point, line or area from where light beams start and spread in the space.

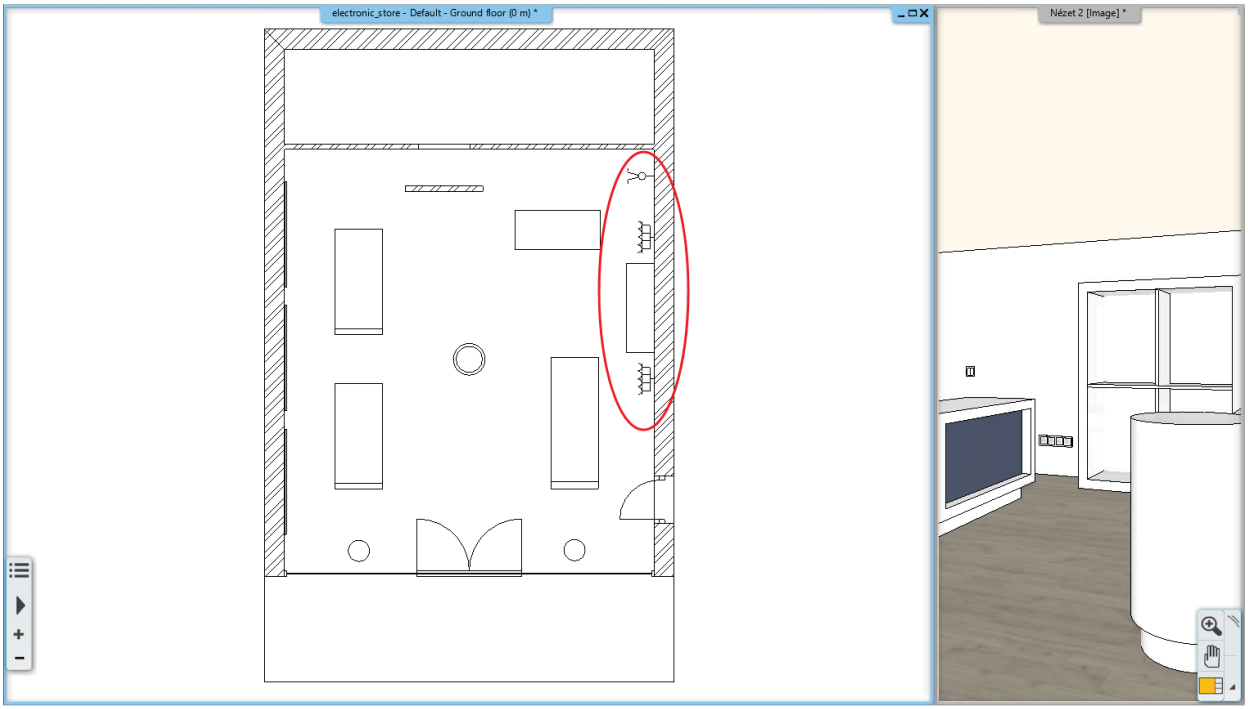
Lamp: This is an object with one or more light sources.

6.1. Placing lamps from the library

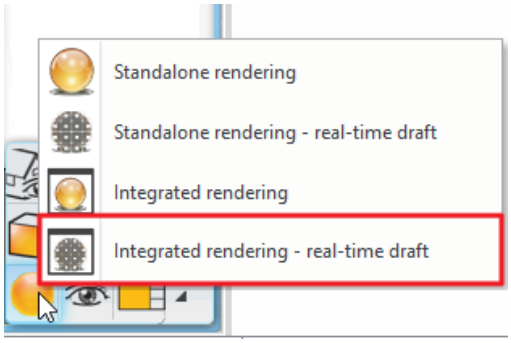
Let's place two wall lamps in the project from the ARCHLine.XP Design Center.

6.1.1. Placing lamp on the layout

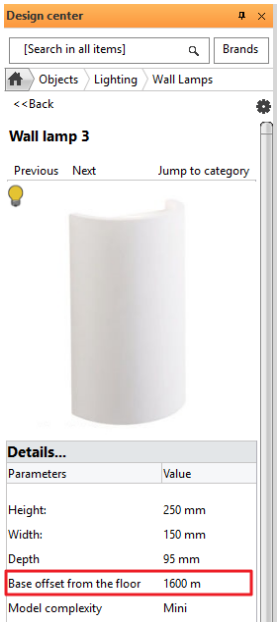
- Activate the 2D window. In the 3D window select a perspective view, from which the place of the lamps on the right wall is visible.



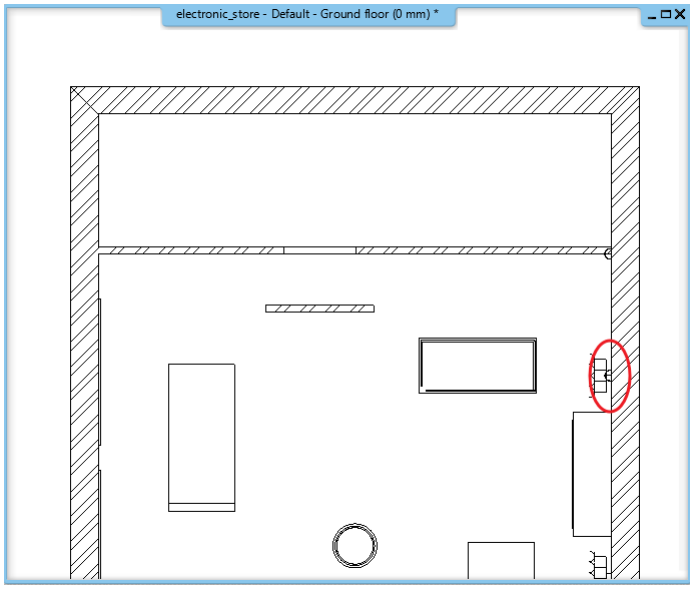
- Before placing the lamps, start an Integrated rendering – real-time draft, so you can follow the change of lights in the project during work.

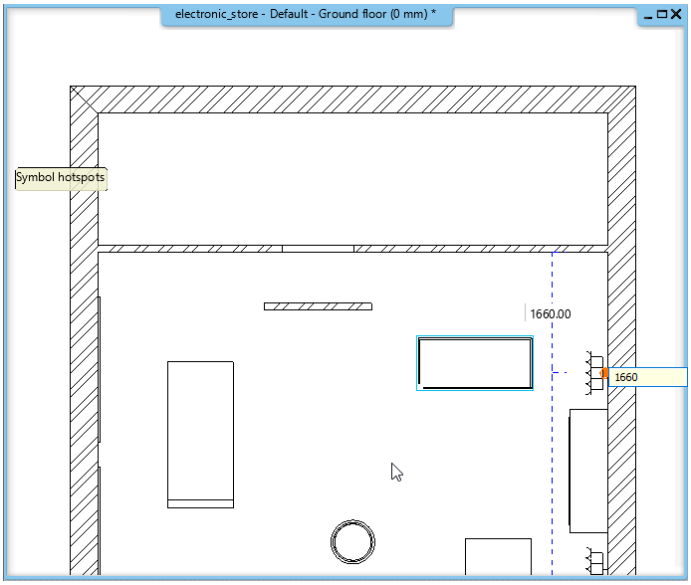


- Zoom in to the upper corner of the right wall.
- Select from the **Design Center / Catalog / Objects / Lighting / Wall lamps** library the object named “Wall lamp 3”.
- Before placing the lamp, modify its base offset from the floor to 1600 mm, then hit Enter.



- With the „Drag and drop” method drag the lamp into the project and place it to 1660 mm from the upper corner. Just type in the value and hit Enter.



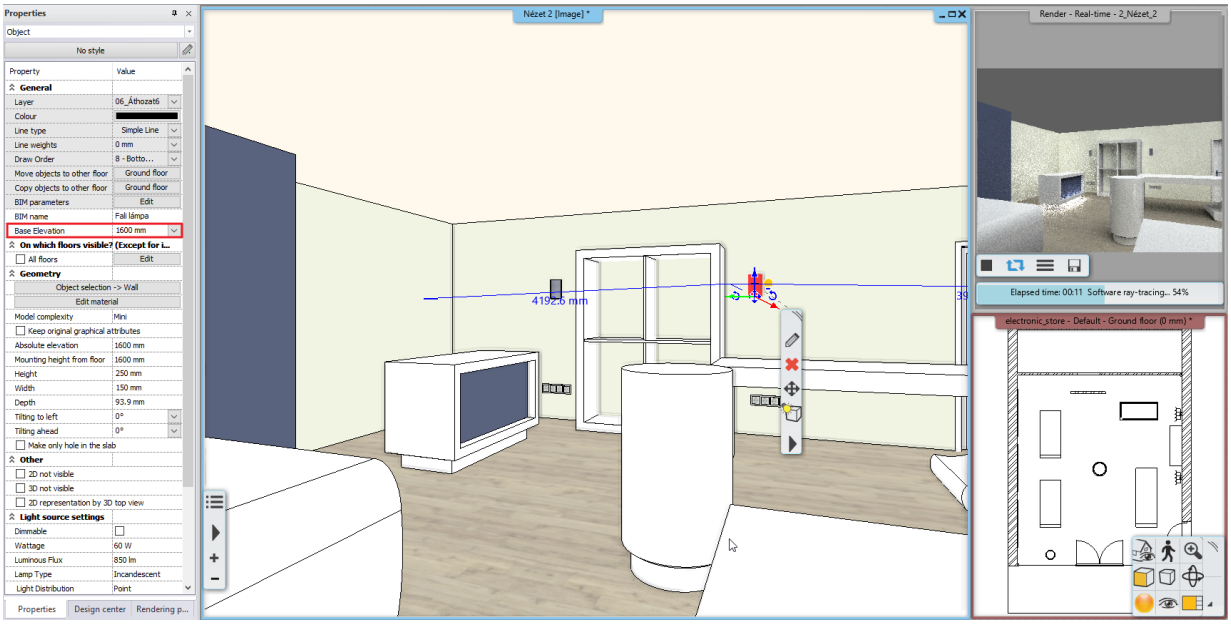


- Hit ESC to close the command.

With this method you can place any lamp from the Design Center to the layout.

6.1.2. Placing a lamp in 3D

- Activate the 3D window.
- Click on the wall lamp on the left side and with the previous method drag it into the project and place it.
- After placing it, select it and rewrite its Base Elevation to 1600 mm on the Properties panel on the left side.

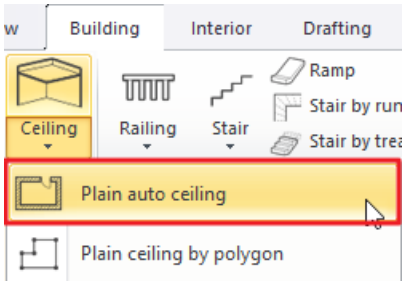


This is how you can modify posteriorly an already placed lamp.

6.2. Recessed spot lamps

Let's place spot lamps to the ceiling. First we have to create the ceiling of the store.

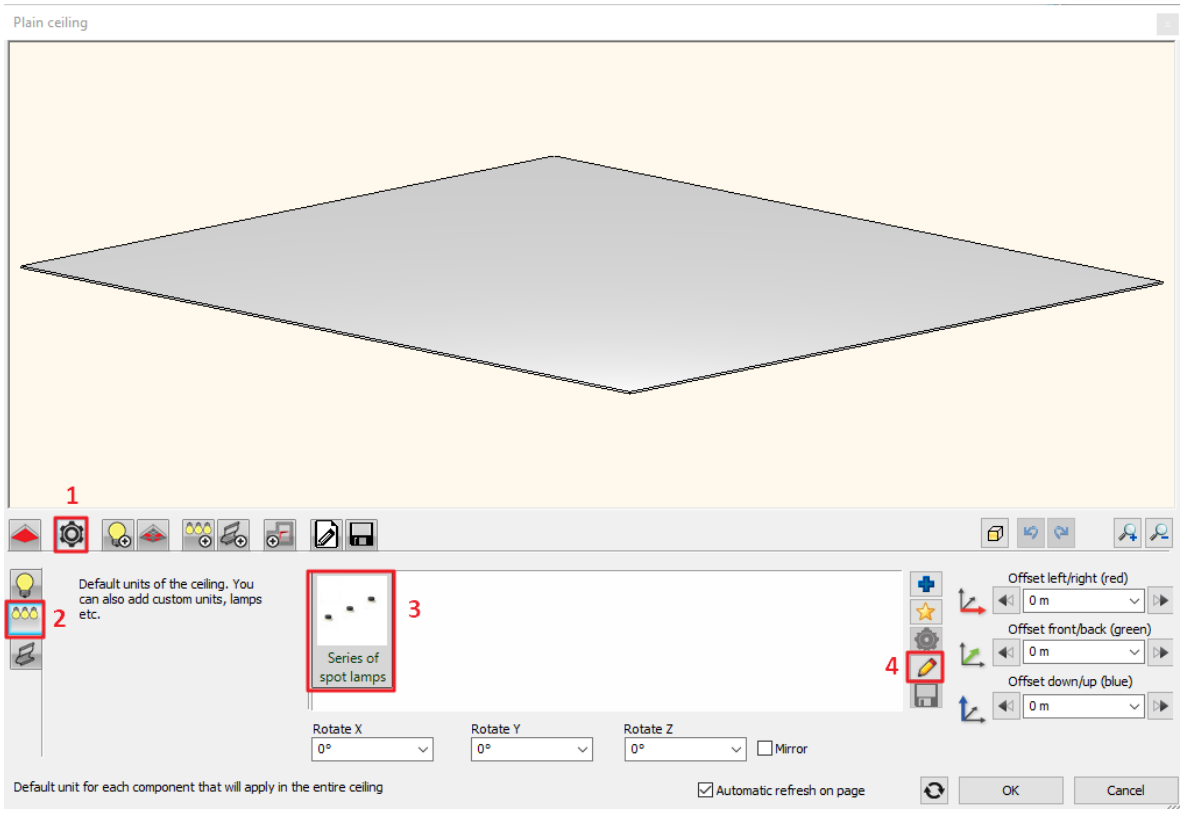
- Activate the 2D window.
- Click on the **Ribbon Bar / Building / Ceiling / Plain auto ceiling** command. When clicking into the room the ceiling is automatically created.



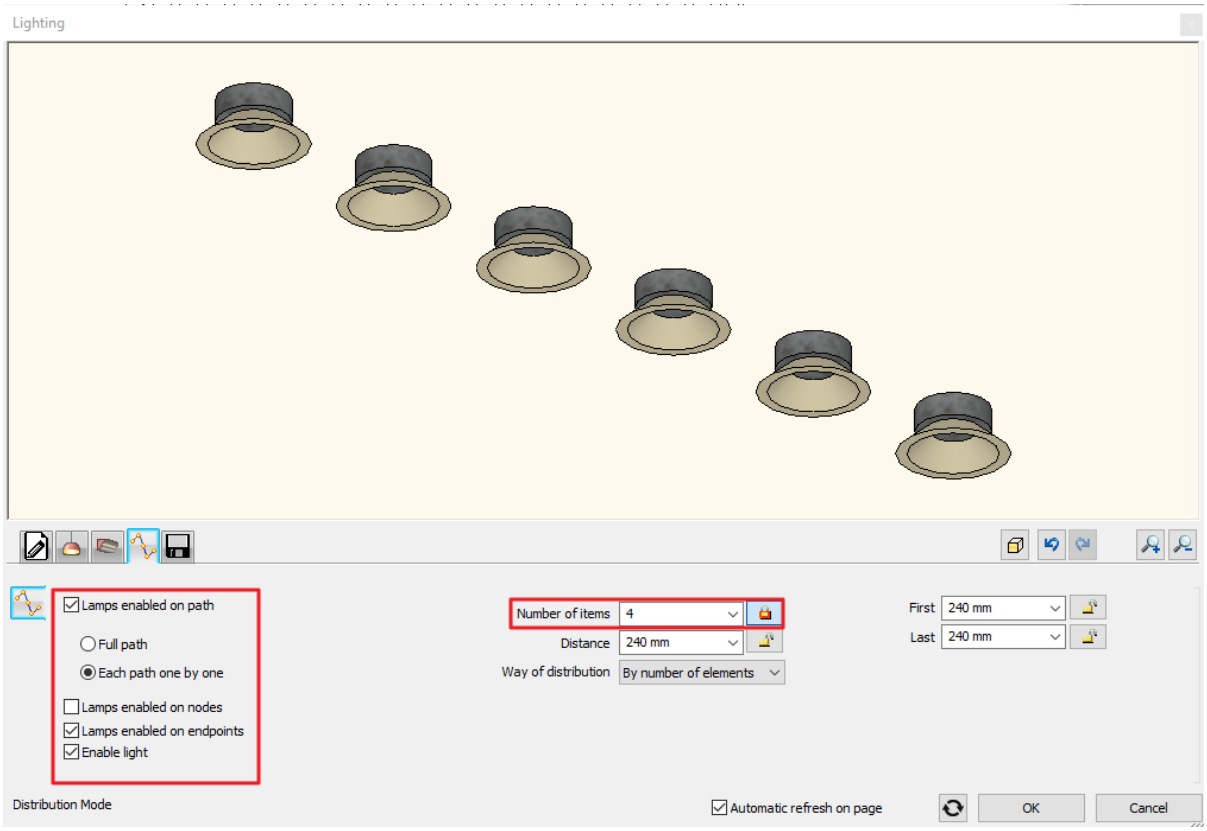
- Modify the base offset of the ceiling. Select the ceiling and rewrite its Base Elevation to 2680 mm on the Properties panel on the left side.
- Open the properties of the ceiling by selecting it and clicking on the pencil icon on the appearing Local menu.

We will place 4 rows of spot lamps into the ceiling, with 6 spots in each row. First we set the global properties of the lamp groups.

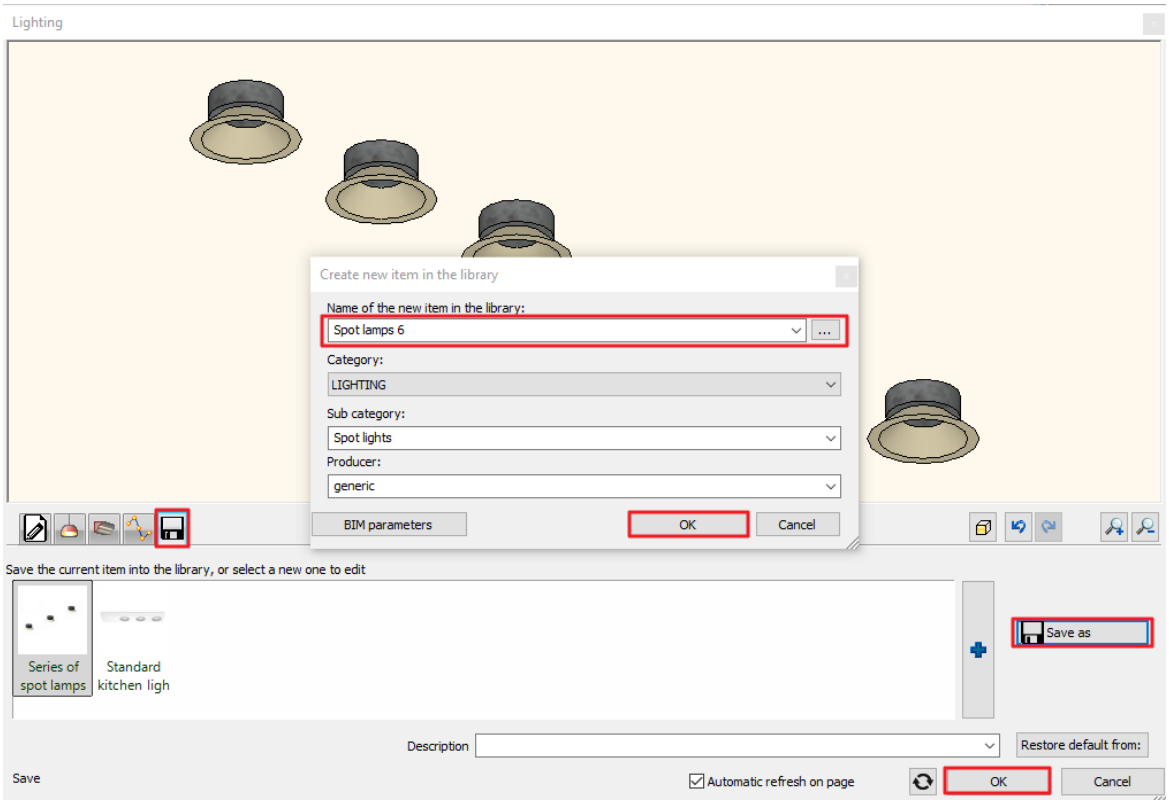
- Select the tab with the cogwheel icon (1). From the Lighting tab (2) select the lamp named “Series of spot lamps 600 mm” (3).
- By clicking on the pencil icon you can further modify the selected element (4).



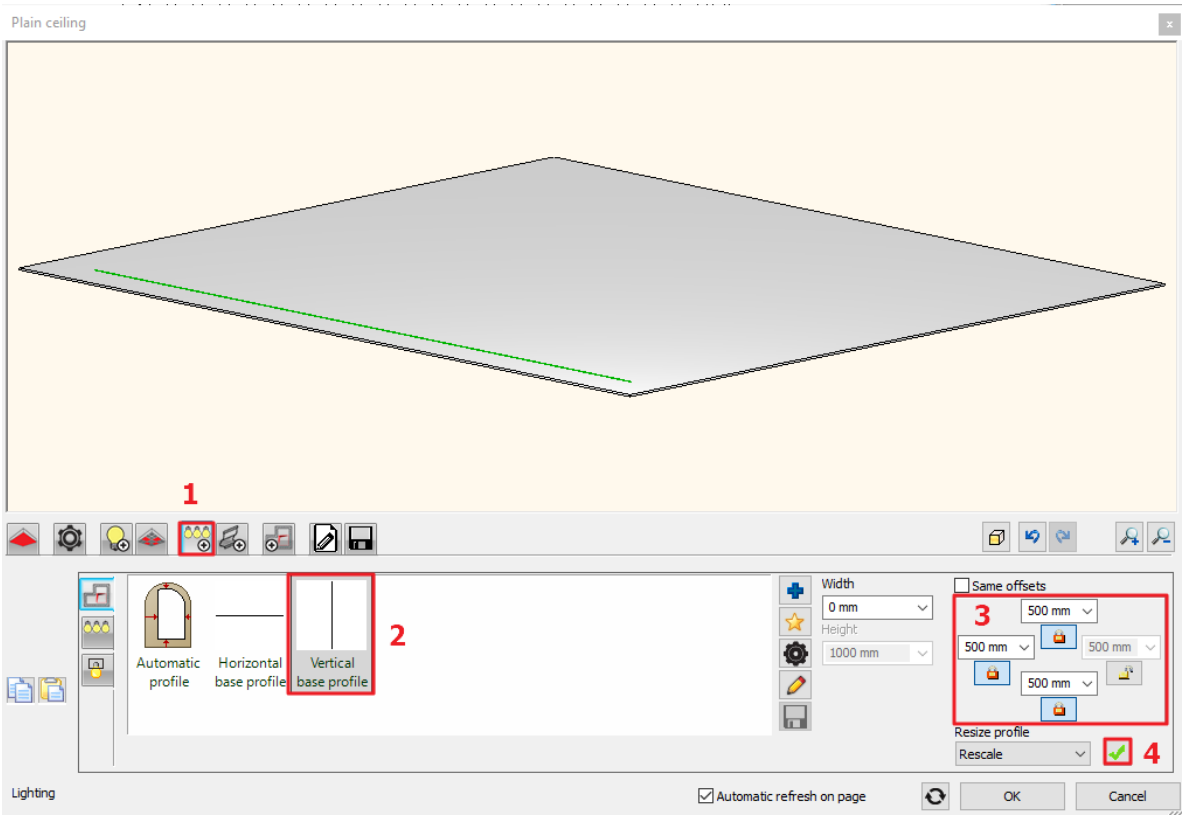
- On the Distribution Mode tab left the **Lamps enabled on path option** on, and below that activate the **Each path one by one** option.
- Switch off the **Lamps enabled on nodes** option.
- Left the **Lamps enabled on endpoints** option on and rewrite the **Number of elements** to 4. Left the other options on the default settings.



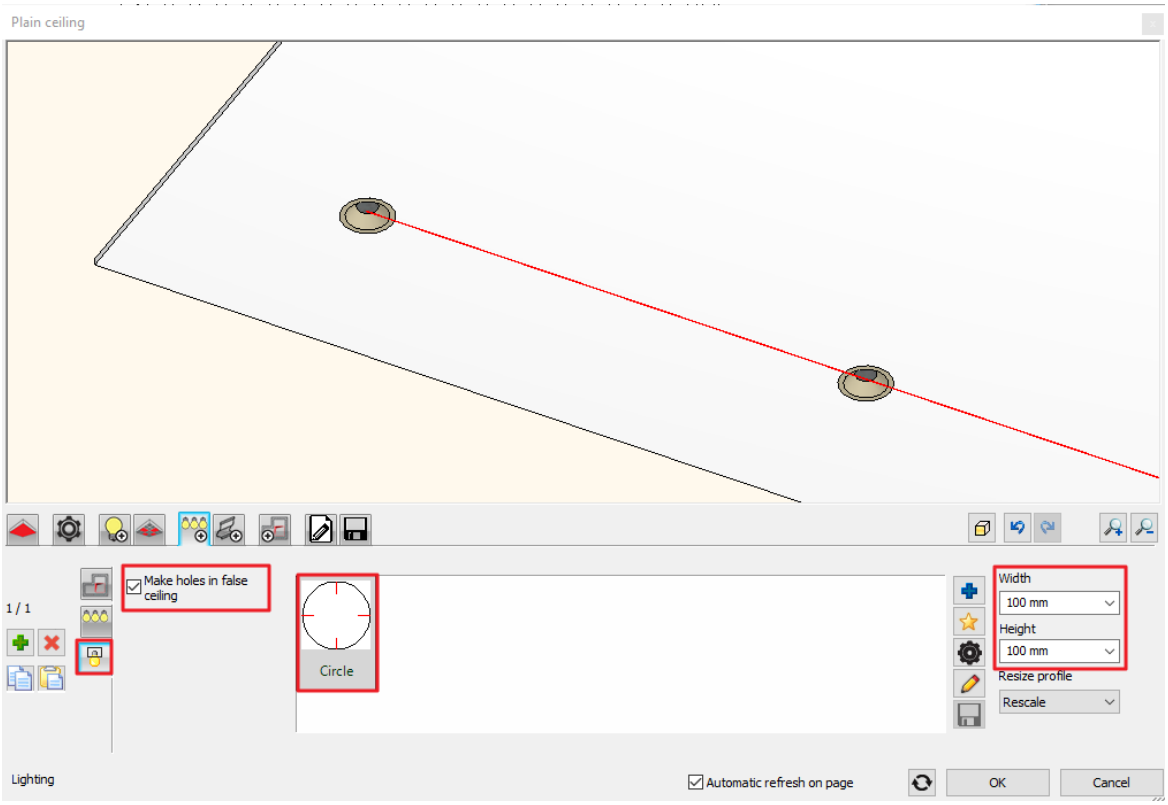
- Save the lamp group on the Save tab as “Spot lamps 6” then return to the ceiling by clicking on the OK button.



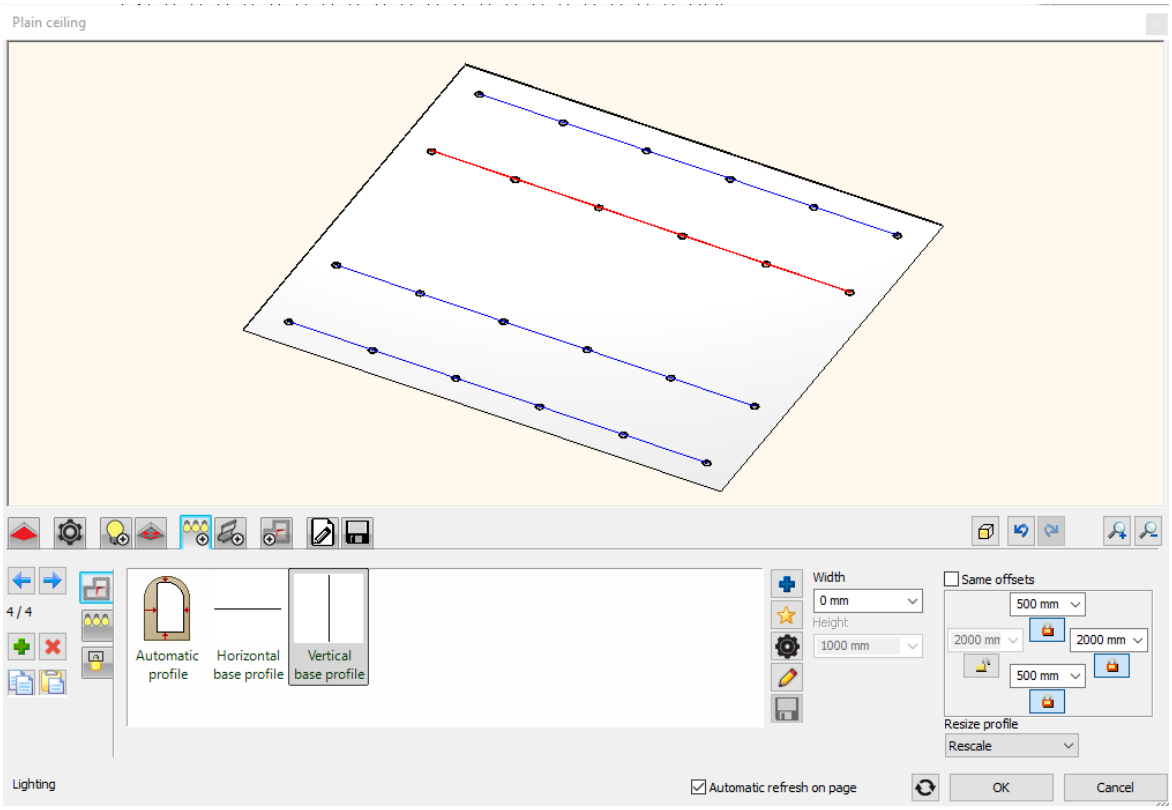
- Let’s sink the spot lamps **40 mm** into the ceiling. Rewrite the value of **Offset down / up** to **40 mm**.
- Let’s go to the Lighting tab (1).
- The path of the lamp group will be a straight line. Select the profile named “Vertical base profile” (2).
- The first and the last lamp should be 500 mm from the edge of the ceiling, and the path should also be 500 mm from the left edge of the ceiling. Rewrite the values (3), then with the green tick place the first lamp group (4).



- On the Cut tab activate the **Make holes in false ceiling** option.
- Modify the parameters of the cut. Select the Circle profile, rewrite the Width and Height values to 100 mm.



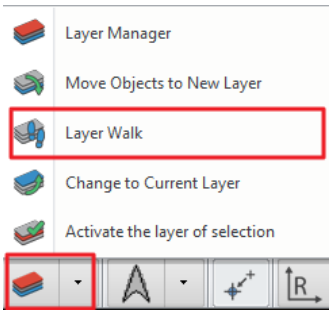
- Let's go back to the Moulding path tab.
- Click on the green plus to add the second row 2000 mm from the left edge of the ceiling using the previously set values. After that place the third and the fourth row to the right side, mirroring the first and second rows.
- With the OK button close the dialog.

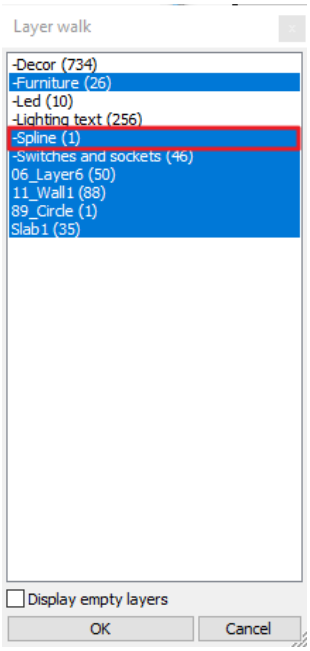


6.2.1. Placing spots to a given profile

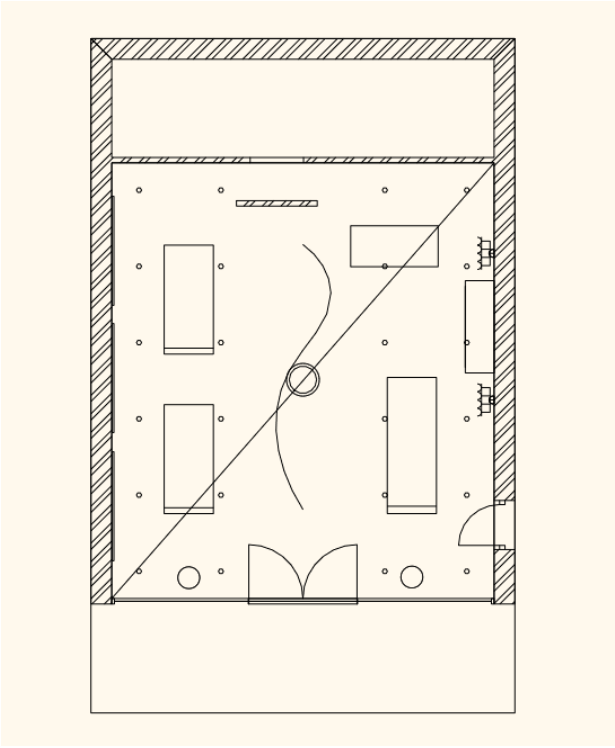
The next step is to place 10 spot lamps to a previously drawn arc in the middle of the ceiling.

- Activate the 2D window.
- Select the previously drawn profile by clicking on the Layer walk icon and while holding the CTRL key, activate the Spline layer.

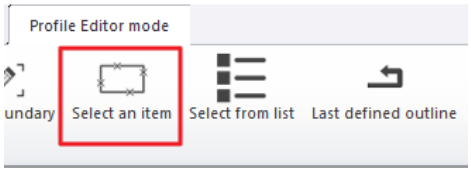




- With the OK button close the Layer walk and the arc appears.



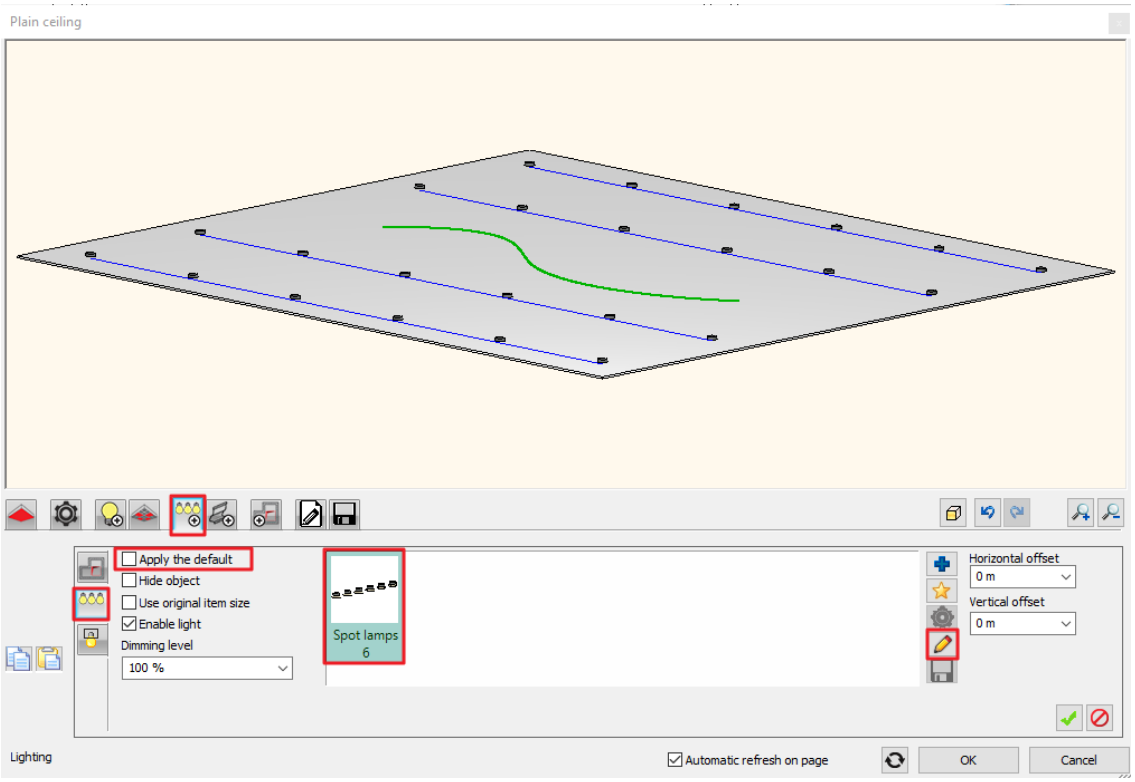
- Open the properties of the ceiling again.
- Go to the Lighting tab and add a new profile by clicking on the green plus icon. This will not be a simple straight line so click on the Define profile button. .
- Chose the **Select an item** option from the Ribbon Bar.



- Click on one point of the previously drawn arc.

  Do not use the “Spot lamps 6” lamp group here.

- Go to the Lighting / Pattern tab and untick the default settings.
- Select the “Spot lamps 6” lamp group and click on the pencil icon.



- On the Pattern tab set the **Number of elements** to 8 and tick the **Full path** option.
- Left the other settings unchanged. Close the dialog with the OK button. Click on Yes in the appearing dialog.
- Sink the spot lamps 40 mm into the ceiling here as well. Rewrite the value of the Offset down / up to **40 mm**.
- Click on the green tick to create the lamps and close the dialog with the OK button.

You will see the changes in the render window.

6.3. Creating a new lamp

When (for example) we download an object from 3D Warehouse, it has no light source automatically attached, so it will not have light and will not be a lamp on our renders. To have this effect, we need to add light sources to this object, then save it to the library including the light sources.

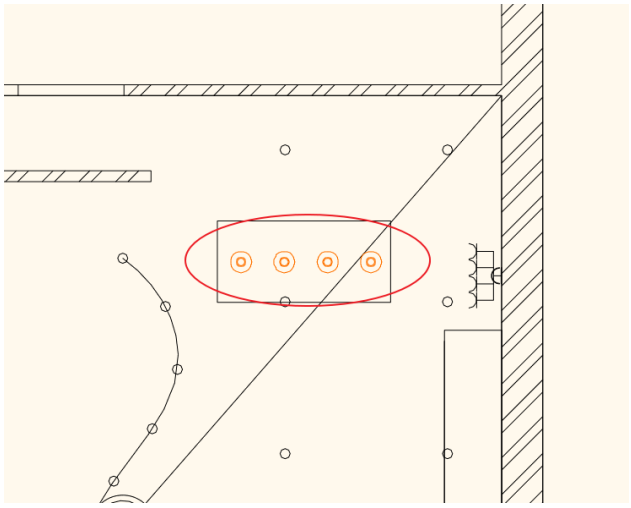
The saved object now can be used as a lamp and its light can be switched on and off in the project. (However it is IMPORTANT to know that object whose name includes words which are related to lamps (e.g.: lamp, chandelier, light etc…) are downloaded in such a way that a light source is automatically added to them. However this almost always needed to be modified afterwards since the program always places the light source to the lower middle point of the object).

(The lamps downloaded from the 3D Warehouse, to which the program automatically ordered a light source are not in the 3D Warehouse / Other folder but in the Lighting / 3D Warehouse folder).

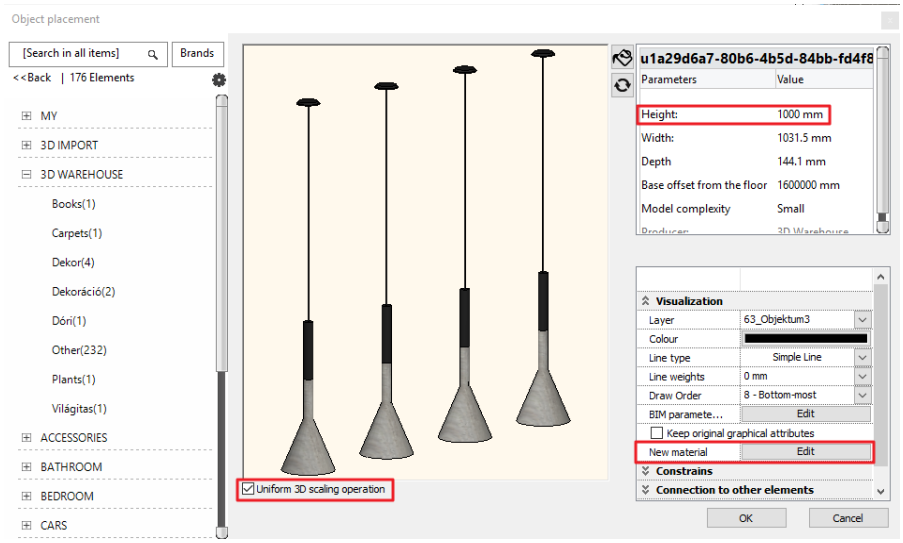
Let's see the process of creating a new lamp.

- Click on the **Design Center / Catalog / 3D Warehouse** icon and download the object named the following: „Concrete ceiling lamp".

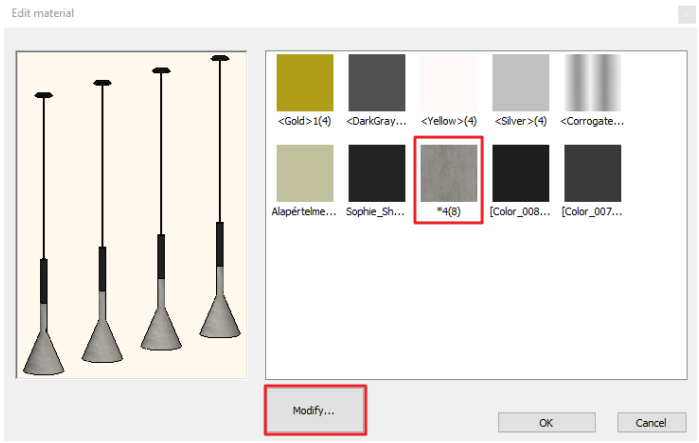
- After download, place the new object near to the right corner of the store.



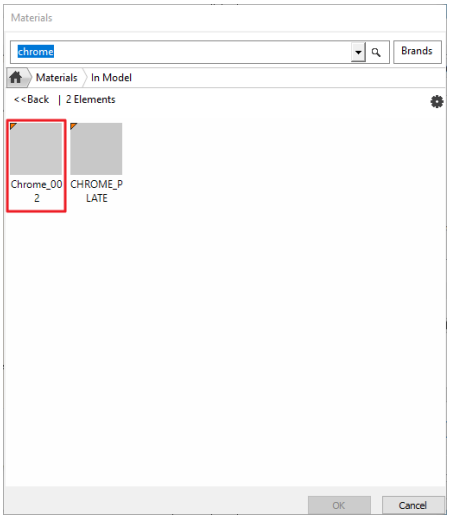
- After placing it, you can modify the object.
- Select it, then open its properties by clicking on the pencil icon.
- Before modifying any of the values, tick the **Uniform 3D scaling operation** option below the preview of the lamp.
- Rewrite the height to 1000 mm.
- Modify the material of the lamps, Click on the Edit button in the New material row.



- Click on one of the lamps on the preview window, and modify its material by clicking on the Modify button.



- Select the “Chrome_002” material from the Material library.
- Close the dialogs with the OK button.



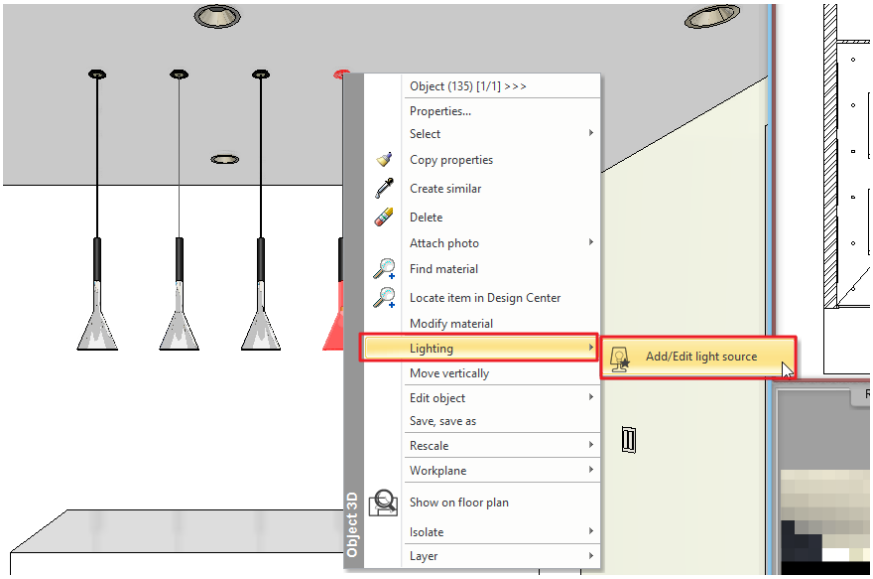
The material of the lamp has been modified but the lamp is not at the right place yet.

- Select the lamp again and rewrite its Base Elevation to 1680 mm on the Properties panel appearing on the left, then replace it above the desk.

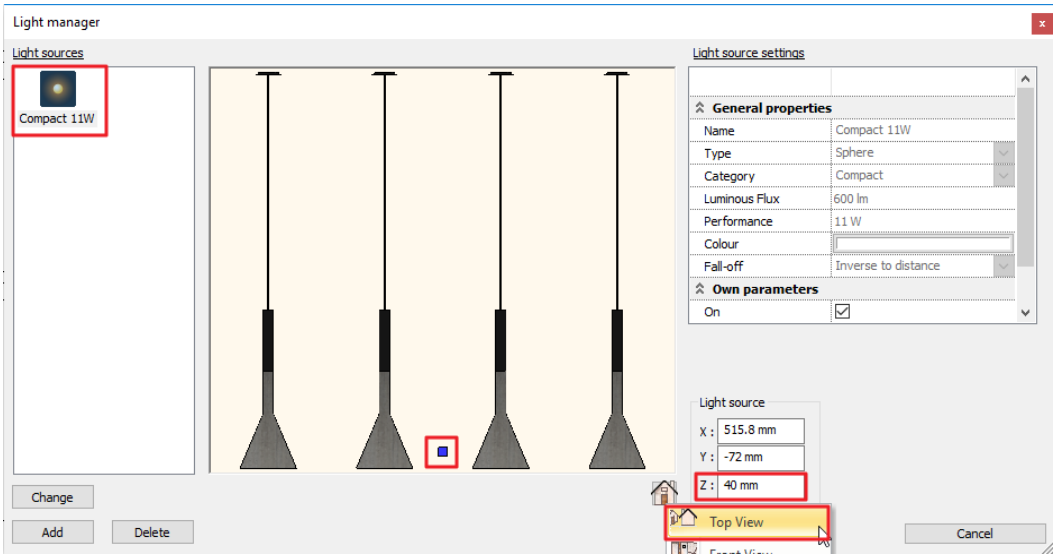
Switch off all the lamps in the store. First you should select them all, then select the light sources at the top of the appearing properties panel on the left. Untick the **On** option. Follow the changes in the render window.

6.3.1. Adding a light source

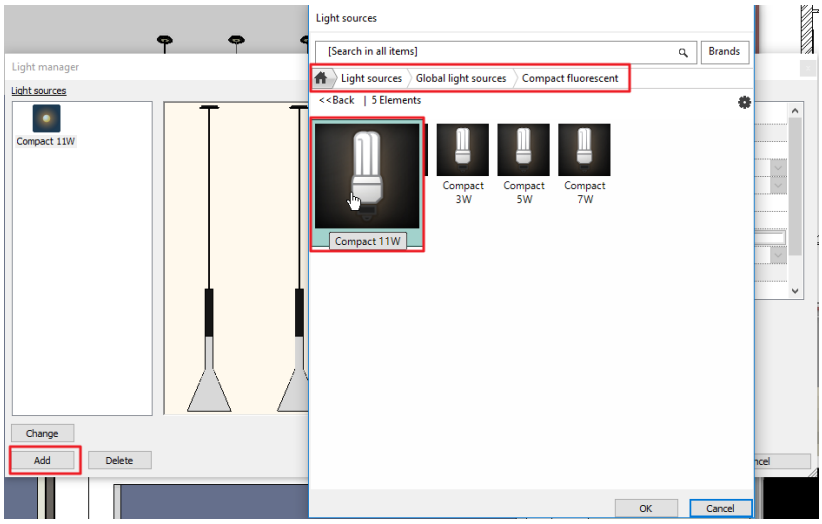
- Activate the 3D window.
- Select the lamp and from its Local menu select the **Lighting / Add / Edit light source** command.



- The Light manager appears. At the moment there is only one light source added to the lamp, but it is not at the right place.
- Rewrite the Z value to 40 mm and select the Top view.



- In this view the light source could be adjusted exactly to the middle of the lamp.
- Add 3 more light sources to the lamp by clicking on the Add button. From the library select the **Global light sources / Compact fluorescent / Compact 11W** light source.

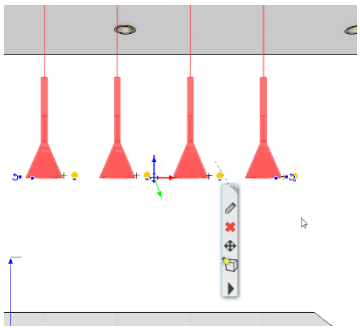


- Rewrite the Z value to 40 mm at every light source and relocate them using the Top view. Close the dialog with the OK button when you are finished.

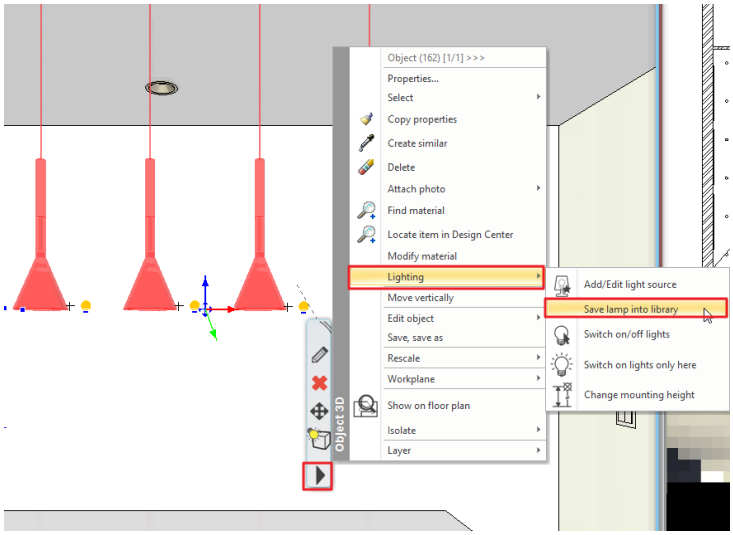
  Check the modifications in the render window as well.

6.3.2. Saving the lamp to the Design center

- Select the lamp. 4 yellow light bulbs appear next to the lamps. These indicates the light sources.

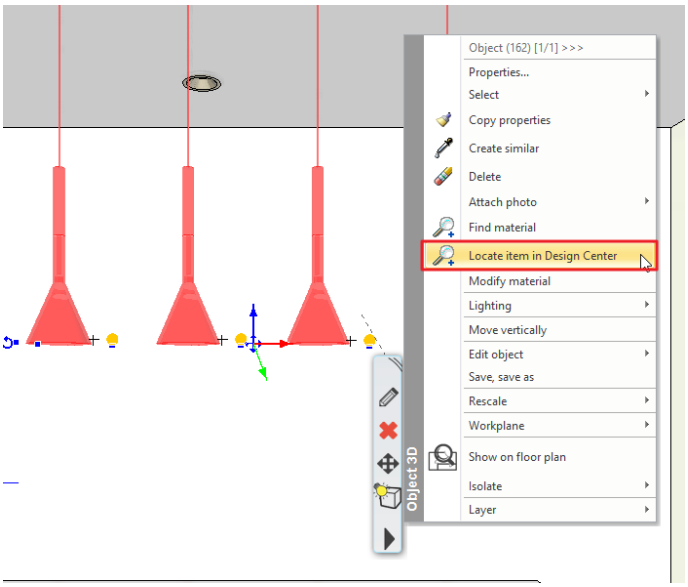


- To save the lamp to the library select the **Lighting / Save lamp to the library** command from the Local menu.

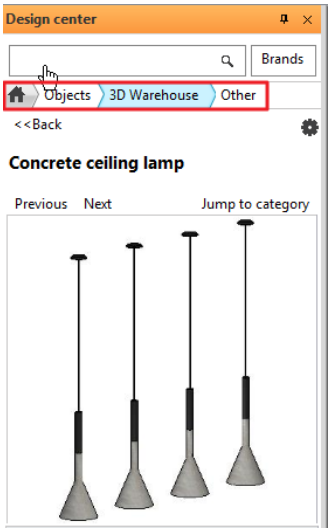


- The program asks whether you want to overwrite the original object. Click on Yes.

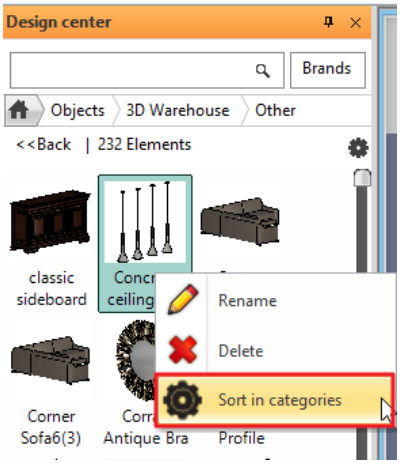
- The next question is about the original 2D view. Here, click on No.
- Search for the saved lamp in the Design Center. The quickest way to do it is to select the object and from its Local menu, select the **Locate item in Design Center** option.



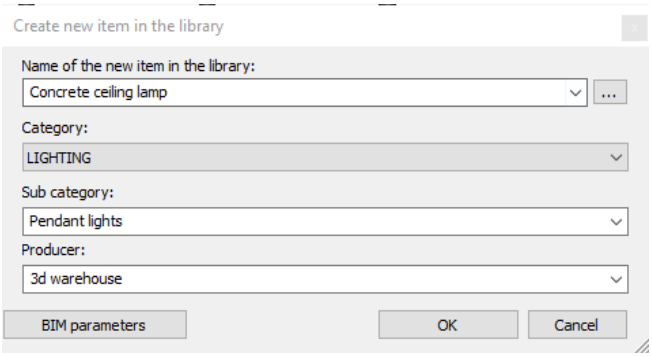
- The object appears on the left with its properties. On the top, next to the house icon its path can be seen. Let's relocate it.



- Click on the Back button on the top left corner, then click on the lamp with right mouse button. Select the Sort in categories command from the appearing menu.



- You can rename the lamp. Select LIGHTING as the main category and Pendant Lights as the sub category. The producer could remain the 3D Warehouse but you can type in individual categories as well.

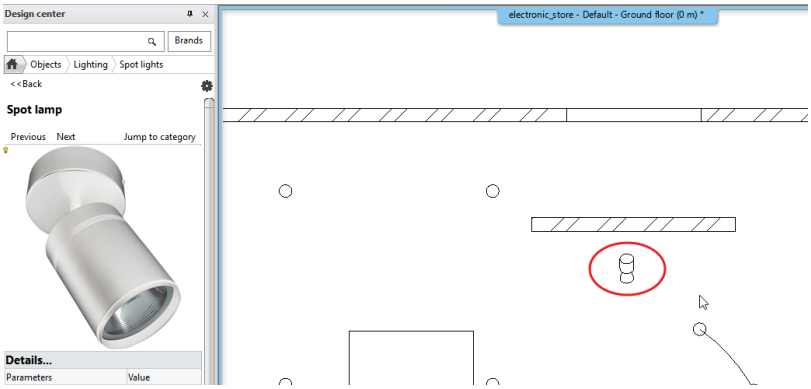


This lamp will be available from this folder from now on, in future projects as well.

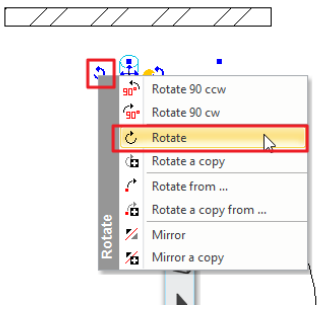
6.4. Changing the direction of spot lights

In the ARCHLine.XP program you can change the direction of light of an already placed spot lamp.

- Activate the 2D layout and place the object named “Spot light” from the Objects / Lighting / Spot lights folder before the wall that is standing alone.

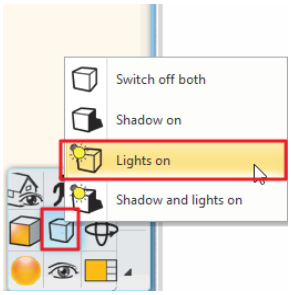


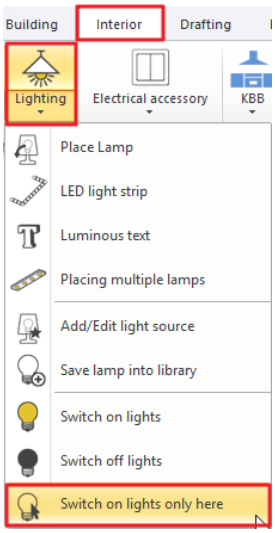
- Select the place object and on the Properties panel appearing on the left rewrite the value of Base elevation to 2650 mm.
- At the moment the spot lamp is facing the middle of the store. Select and rotate it to face the wall.



The change is visible in the render window.

- Activate the 3D window and click on the Shadows icon on the Navibar. Activate the **Lights on** option.



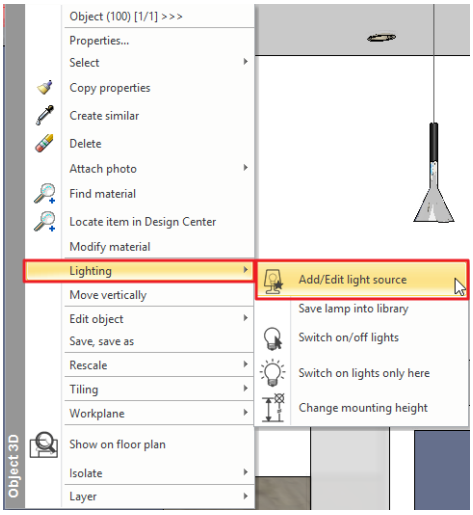


- Now all the lamps are active. In order to switch on the spot lamp only do the following.
- Go to **Ribbon bar / Interior / Lighting** and select the **Switch on lights only here** command.

- Select the spot lamp. This is the result:

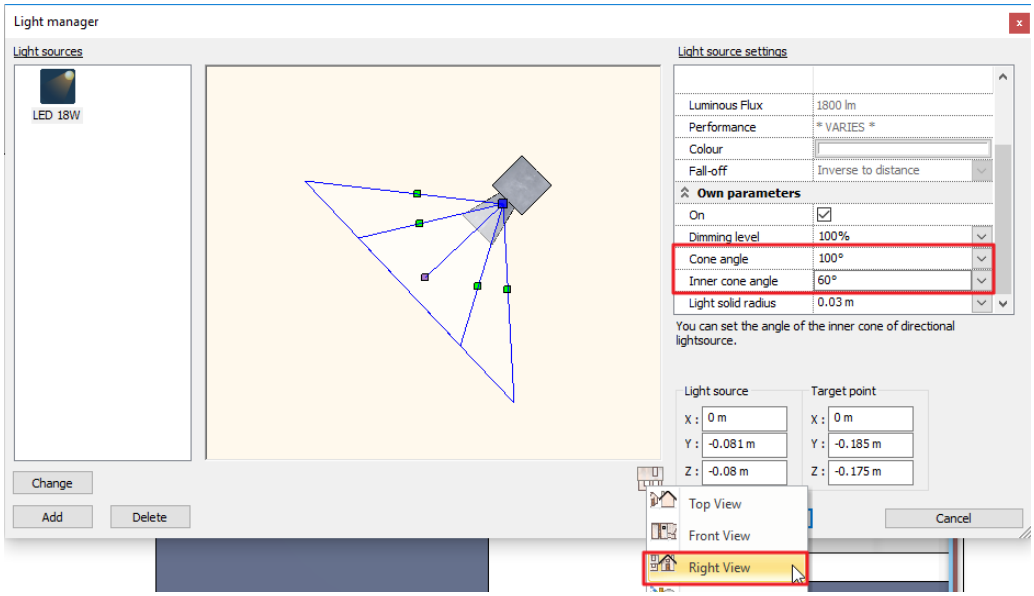
Let's change the direction of light.

- Select the spot lamp and from the Local menu select **Lighting / Add / Edit light source** command.

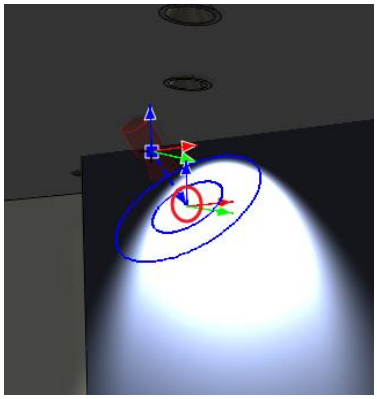


The Light manager appears. The light source and its direction are visible.

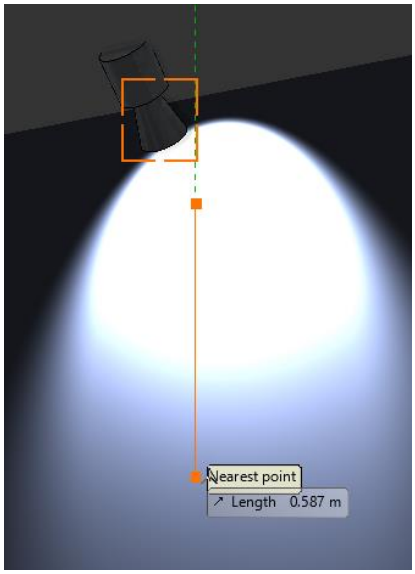
- Select the Right View so both the inner and outer light cones are visible. Rewrite the Cone angle to 100% and the Inner cone angle to 60% at the Own parameters.

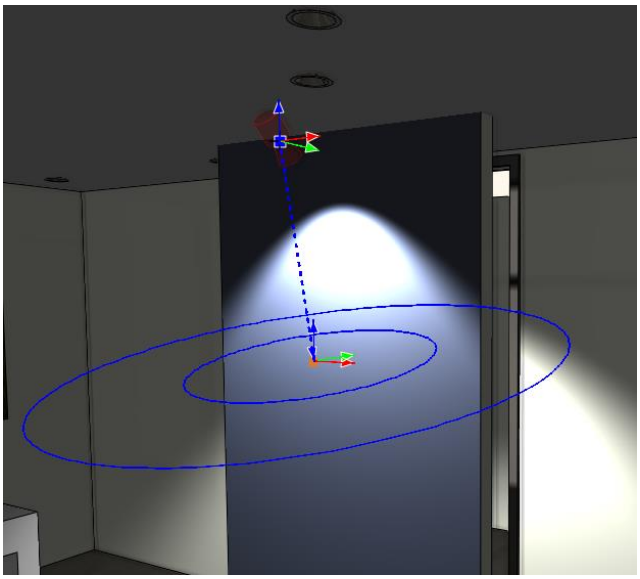


- With the OK button close the dialog.
- Select the spot lamp and click on the yellow light bulb icon. Now modify the direction of light with the appearing arrows.



- Select the middle point of the lower arrow , then with the help of the appearing orange point relocate the light source. This way the light is visible in a bigger arc.





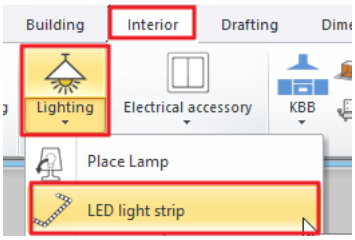
Finally select the **Switch off both** option from the Shadows icon on the Navibar.

6.5. LED strips

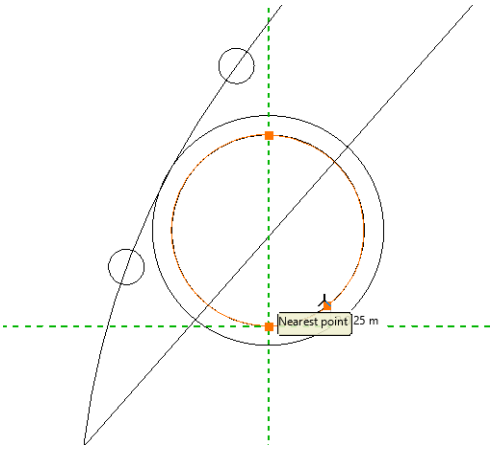
Let’s place LED strips in the project.

Before placing the LED strips it is recommended to open the properties of the ceiling and on the General settings tab select a Top view as its 2D representation.

- Activate the 2D layout. In the 3D window select a perspective view from which the cylinder shaped desk is visible.
- Zoom in it in the 2D window, then start the **LED light strip** command from **Ribbon bar / Interior / Lighting**.

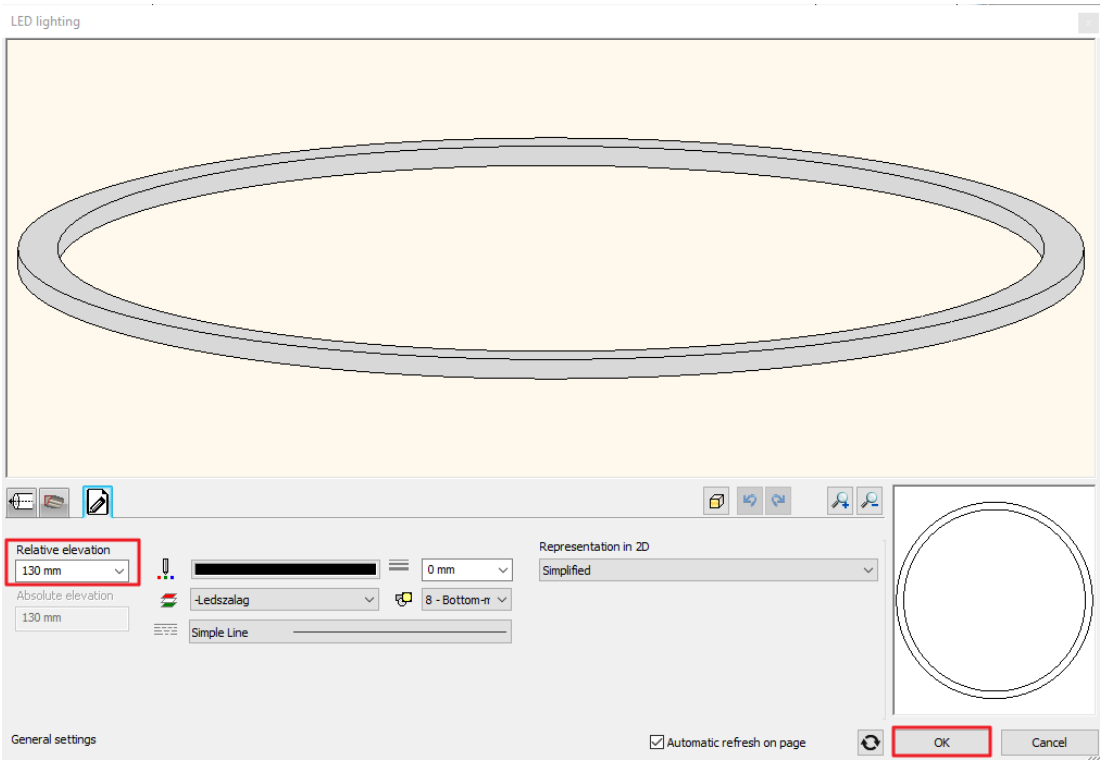


- Define the first point of the LED strip along the inner outline of the desk, then from the Path editing menu select the Arc option. Click on the opposite side of the first point, and place the arc with one click. Select the Arc option again and place it as well, then hit Enter.

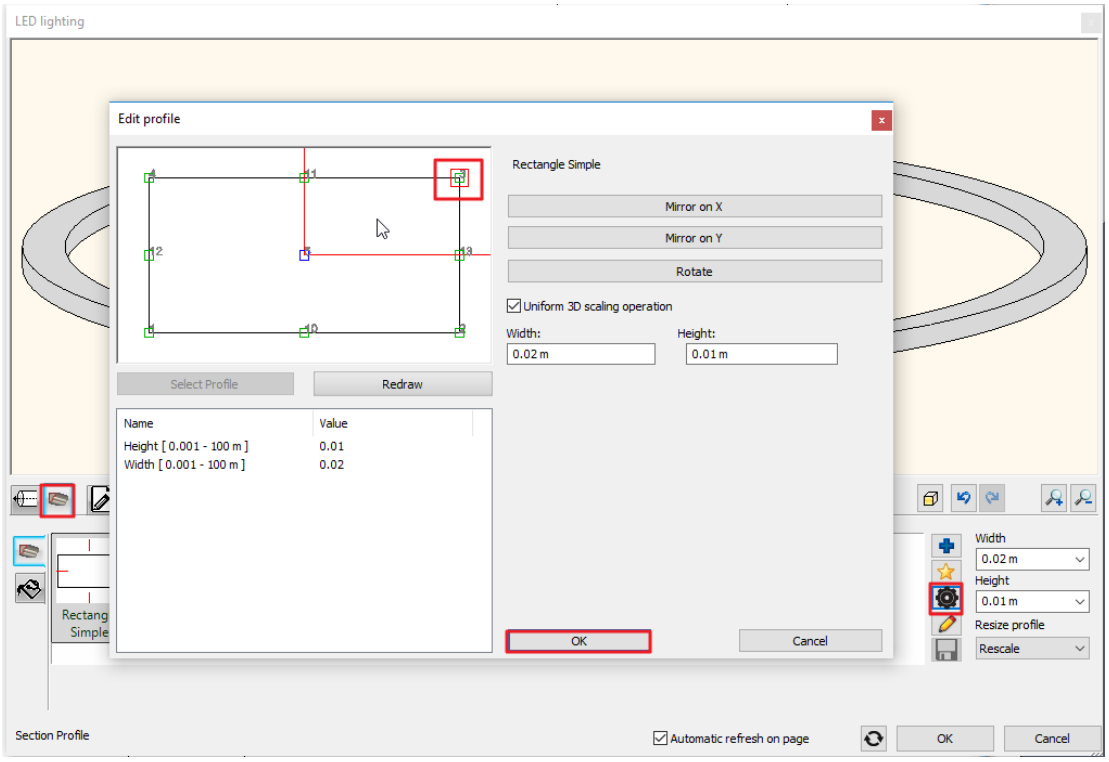


Using this method you can place the LED strip in circle.

- After placing the LED strip, the LED lighting dialog appears.
- Go to the General settings tab.
- Set the value of Relative elevation to 130 mm, so the LED strip will be just below the desk, then with the OK button close the dialog.



- Select the LED strip and open its properties. Here go to the Section profile tab.
- We have a rectangle profile here. Let's relocate the reference point. Click on the cogwheel icon (Profile properties) and relocate the reference point the upper right corner with a click.
- Close both windows with the OK button.

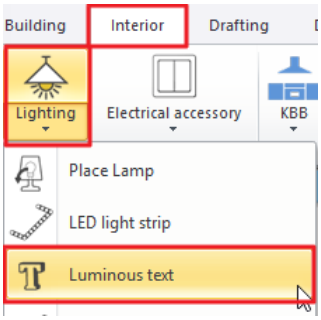


Close the integrated rendering window and start a stand-alone rendering. When the process is over, the result is clearly visible:

6.6. Luminous text

Let’s place luminous text in the project.

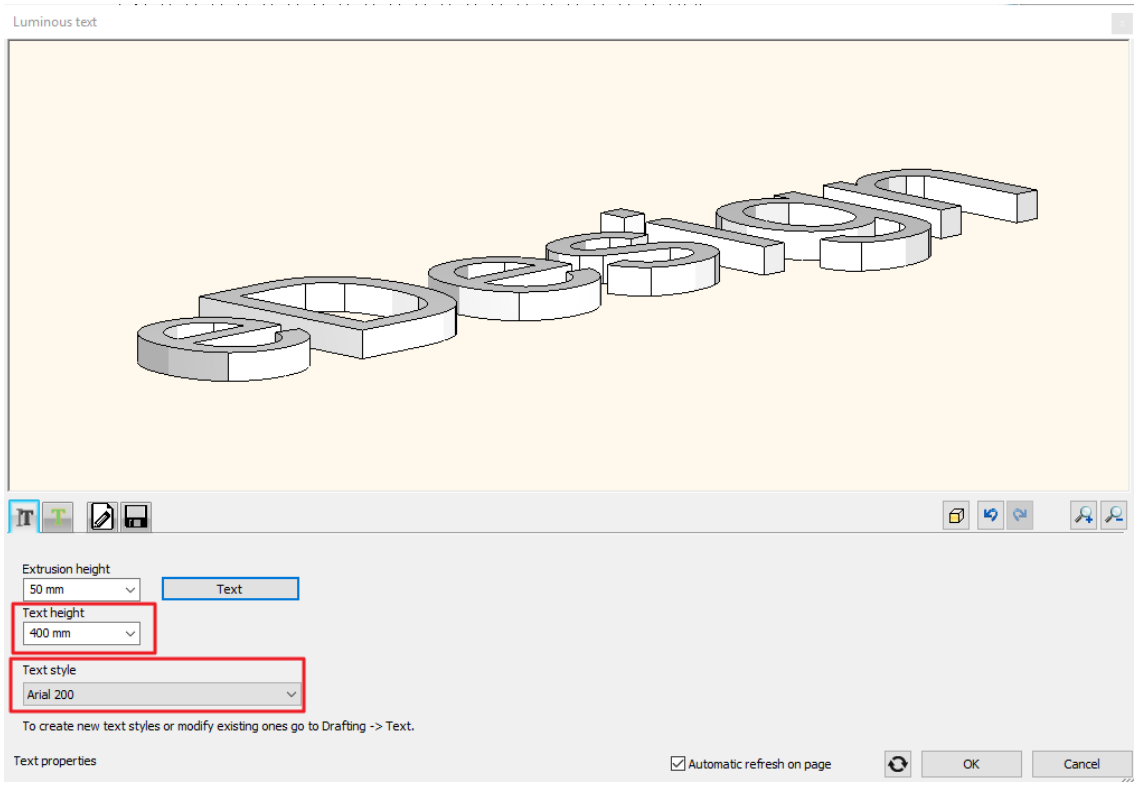
- Select **Ribbon bar / Interior / Lighting / Luminous text** command.



- In the appearing window type in the text to be placed: “eDesign”. Hit OK to close the dialog.
- After closing the window select a perspective view from where the store is visible from the outside and the you can see the area above the door. Select the surface with two points where you want to place the text, then with a third point determine the direction of it.

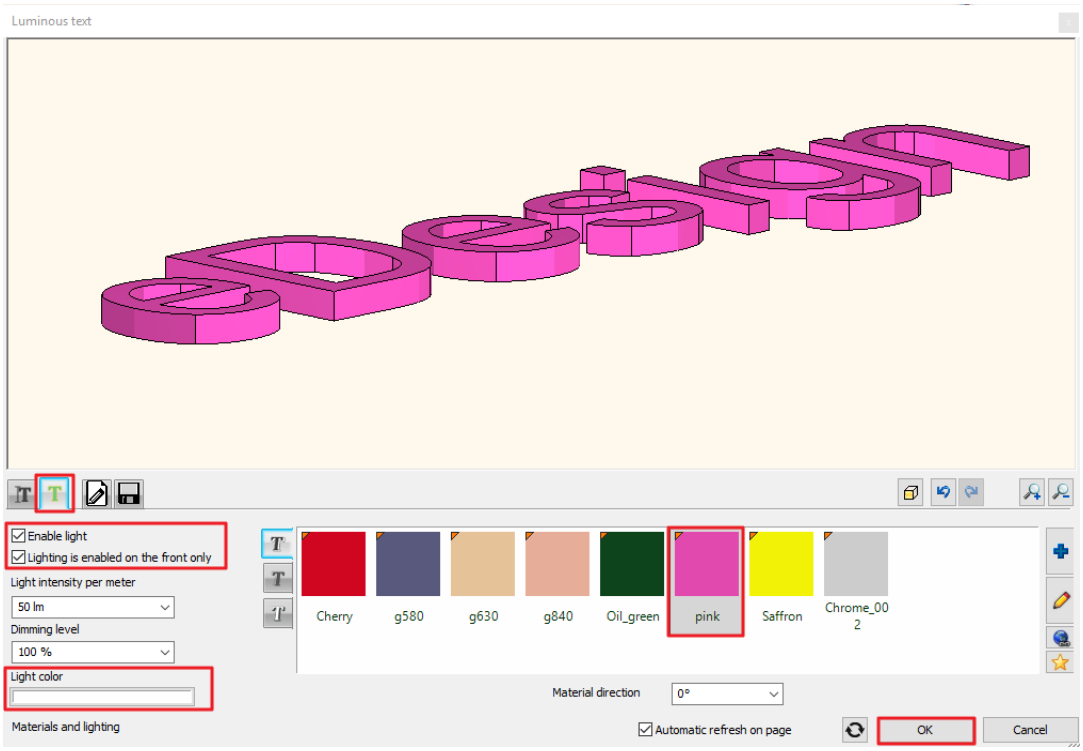
In the appearing properties dialog set the following:

- Set the height of the text to 400 mm.
- The style of the text should be set to: Arial 200.



- Go to the Materials and lighting tab.
- Activate the **Enable light** and **Lighting is enabled on the front only** options.

- Modify the colour of the text to “pink”.
- Close the dialog with the OK button.

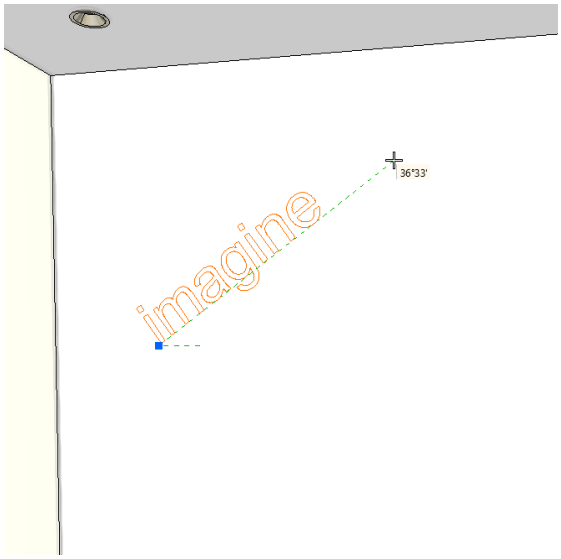


If the text is not at the right place, it can be moved afterwards with the markers or with the arrows.

The next step is to place more luminous text to the bare wall at the back of the store.

Delete the lamp and the spot placed during the work.

- Activate the 3D window and select a perspective view so the wall we want to work on is visible.
- Select **Ribbon bar / Interior / Lighting / Luminous text** command again.
- Type in a word and place it diagonally, not horizontally this time.

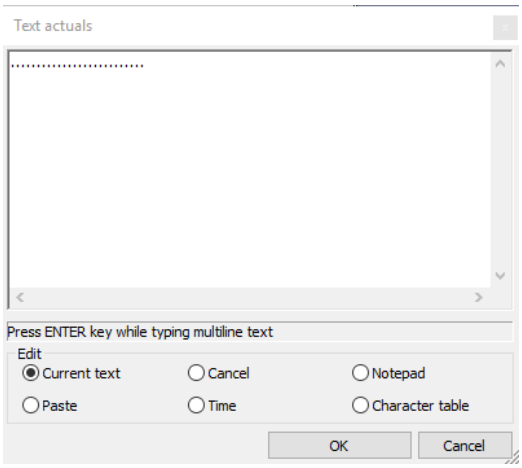


- In the appearing property window set its height to 200 mm.
- Go to the Materials and lighting tab.
- Activate the **Enable light** and **Lighting is enabled on the front only** options and choose a colour to the text.
- Hit OK to close the dialog and place more texts in any direction.

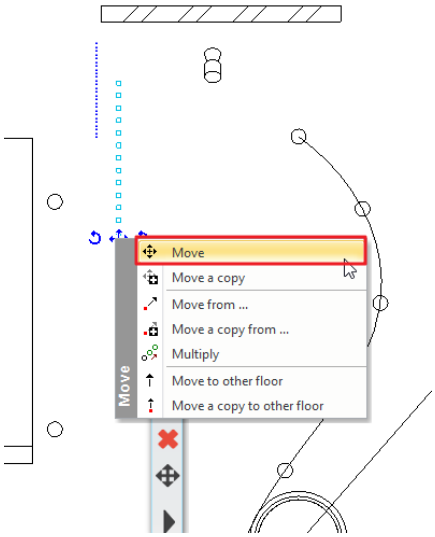
The result should be similar to this image:

Let’s place decorative strips on the floor with the Luminous text command.

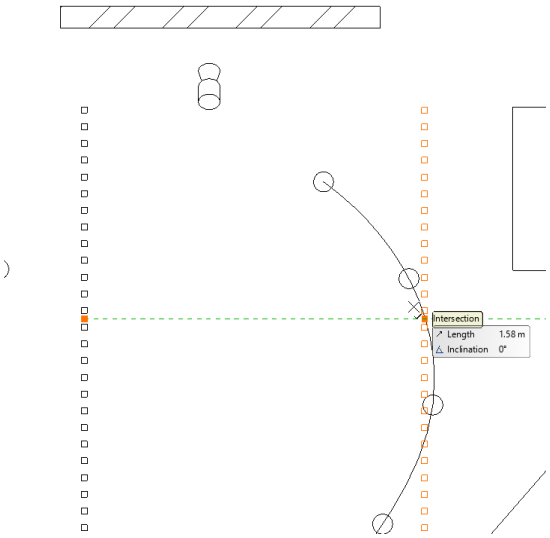
- After starting the command type in points and not text to the appearing window.



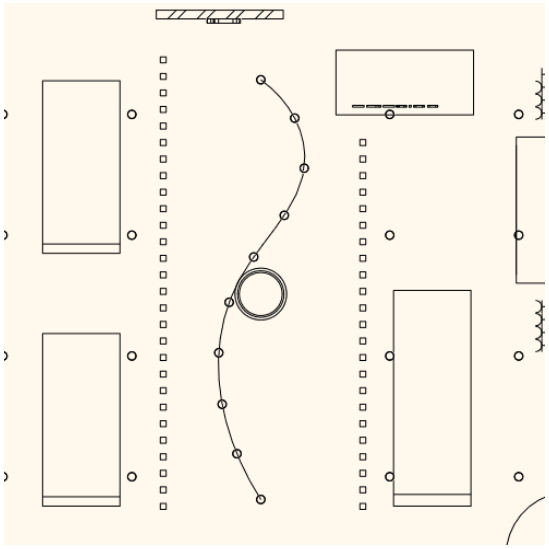
- Give the place of the light strip on the floor.
- Set the extrusion height to 5 mm and the text height to 500 mm.
- Activate the **Enable light** and **Lighting is enabled on the front only** options on the materials and lighting tab.
- If the light strip has shifted to a wrong place during the modifications just move it to the right place. To do so activate the 2D layout and relocate it with the Move marker.



- Place another light strip parallel to the first one with the Move a copy command.

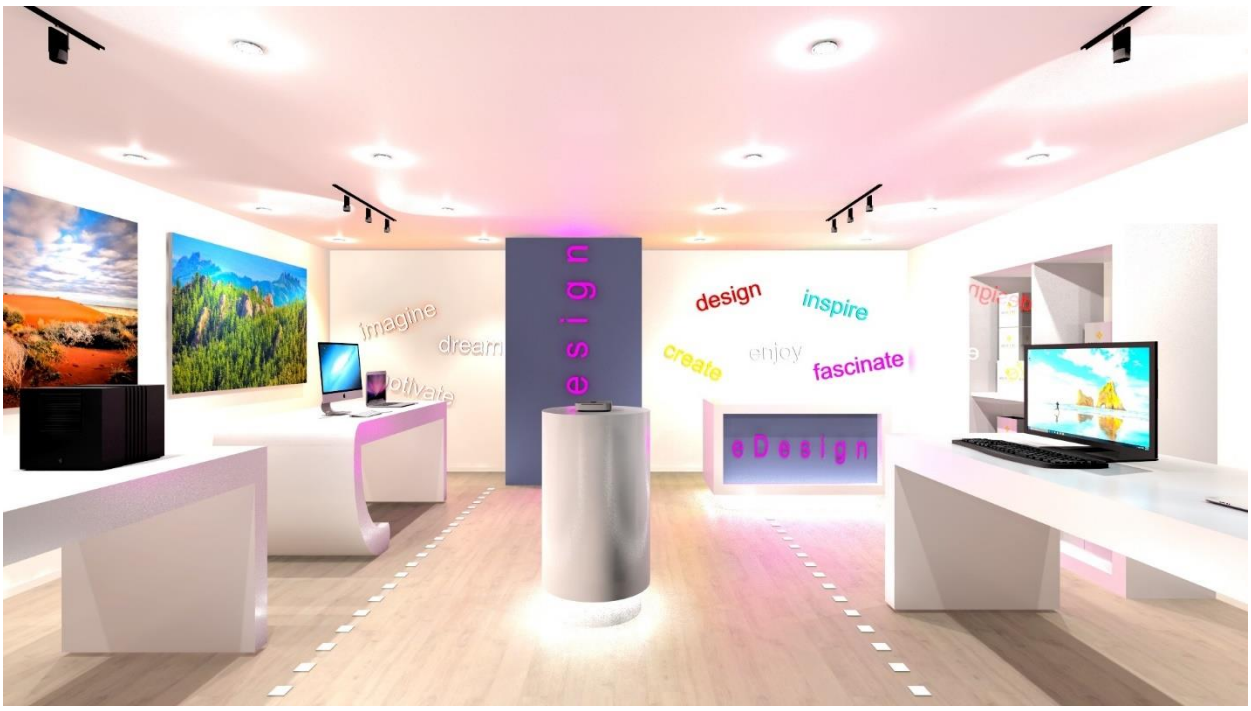


- The light strip can be modified after placement. Open its properties and delete as many points as needed.



With this tool any luminous text, decorative strip or from can be placed in the project.

Turn on the layers named „Decor” and „Led” and rebuild the 3D. The project is finished:


imagine
dream
design
inspire
create
enjoy
fascinate
eDesign

Workshop 7: Rendering

7. Workshop: Rendering

During this workshop you will learn those technical conditions and render settings which makes you capable of creating good interior and exterior visuals of your project. During the workshop we will discuss the following topics:

- Project settings
- Render settings
- Working with materials
- Render effects
- Render list
- The exterior render

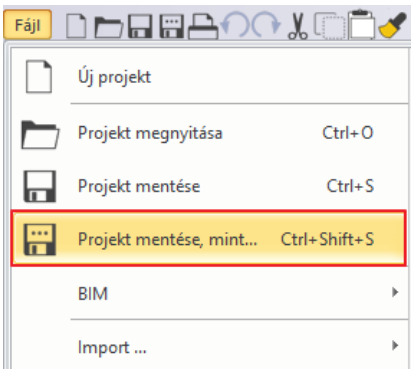
- Please open the following playlist in your browser:
  https://www.archlinexp.com/education/webinars/interior-design-4-lights-and-rendering

Start

- Start ARCHLine.XP.
- Click on **Open project.**
  Open the following project:
  Documents\ARCHlineXP DRAW\2018\Workshop - Preliminary\Rendering\eDesign_Shop_1_start file.

Saving the project

- Before starting, we recommend to save the project with a different name, not to overwrite the original project. Select the **File / Save project as** command, then give the name of the new project and the place where you want to save it.



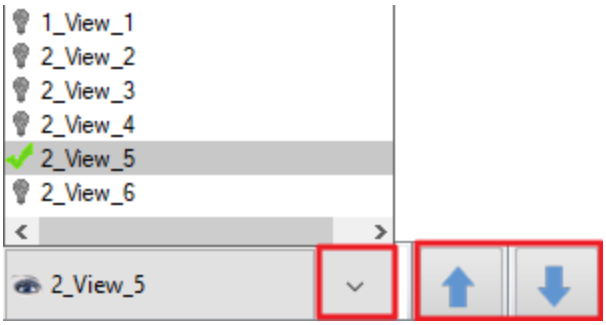
7.1. Default settings

Before starting the work, let's get to know the project.

7.1.1. Perspectives

Let's look through the perspective views.

In order to navigate between the already set up views, click on the black arrow next to the name of the actual view. The saved views appear. You can activate a view by clicking on it or you can switch between them using the blue arrows.



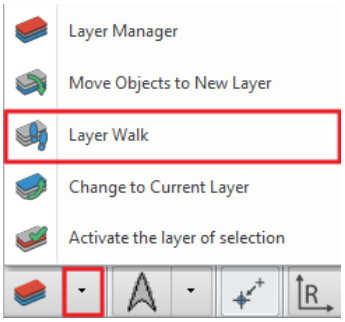
it is recommended to set up the views in a room clockwise so they are traceable and understandable to everyone. Create more views in a room and when naming them, first type in the name of the room then the number of the view (e.g.: kitchen_1). If we have a multi-storey building, type in the number of the storey before the name of the room (e.g.: 1_kitchen_1). if you follow this method your views will be easily understandable.

Select the perspective view named "2_View_5".

7.1.2. Layers

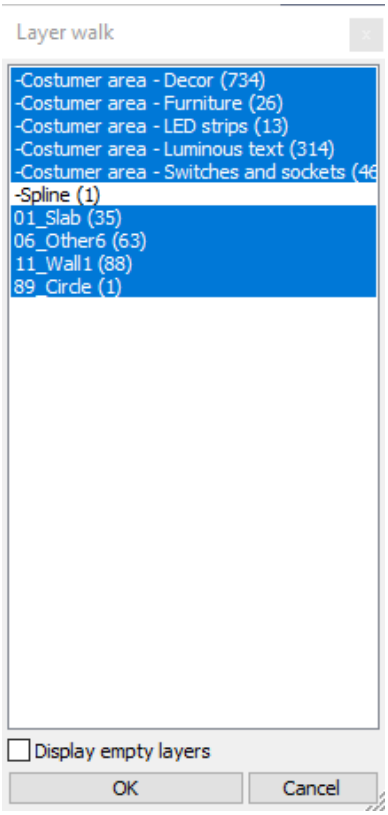
The view also has a floor plan. The project has a costumer area and a storage area. We will work in the costumer area. Let's look at the layers of the project.

The Layer manager can be found on the Status bar. Click on the arrow next to the Layer Manager icon and select the Layer walk icon.



A window appears with the layers. You can see that the names of the layers are grouped in the following way. There is a room, which is now the "Customer Area", and for this space different layers were created:

- a layer for furniture
- a layer for décor
- a layer for switches and sockets
- a layer for the LED strips
- and finally one layer for the luminous texts



When creating your layers, it is recommended to use this grouping method, because, for example, you can easily display the project without decorating. Simply enter the Layer Manager and turn off the "decor" layer from the Used layers. This can be turned on at any time later.

To summarize, it is recommended to create layers similarly when dealing with an interior design plan. Type in the name of the room and create a lone layer for the furniture, for the décor and for the lighting. These are elements that need to be turned on at the final rendering, but it will speed up the workflow if you can turn them off.

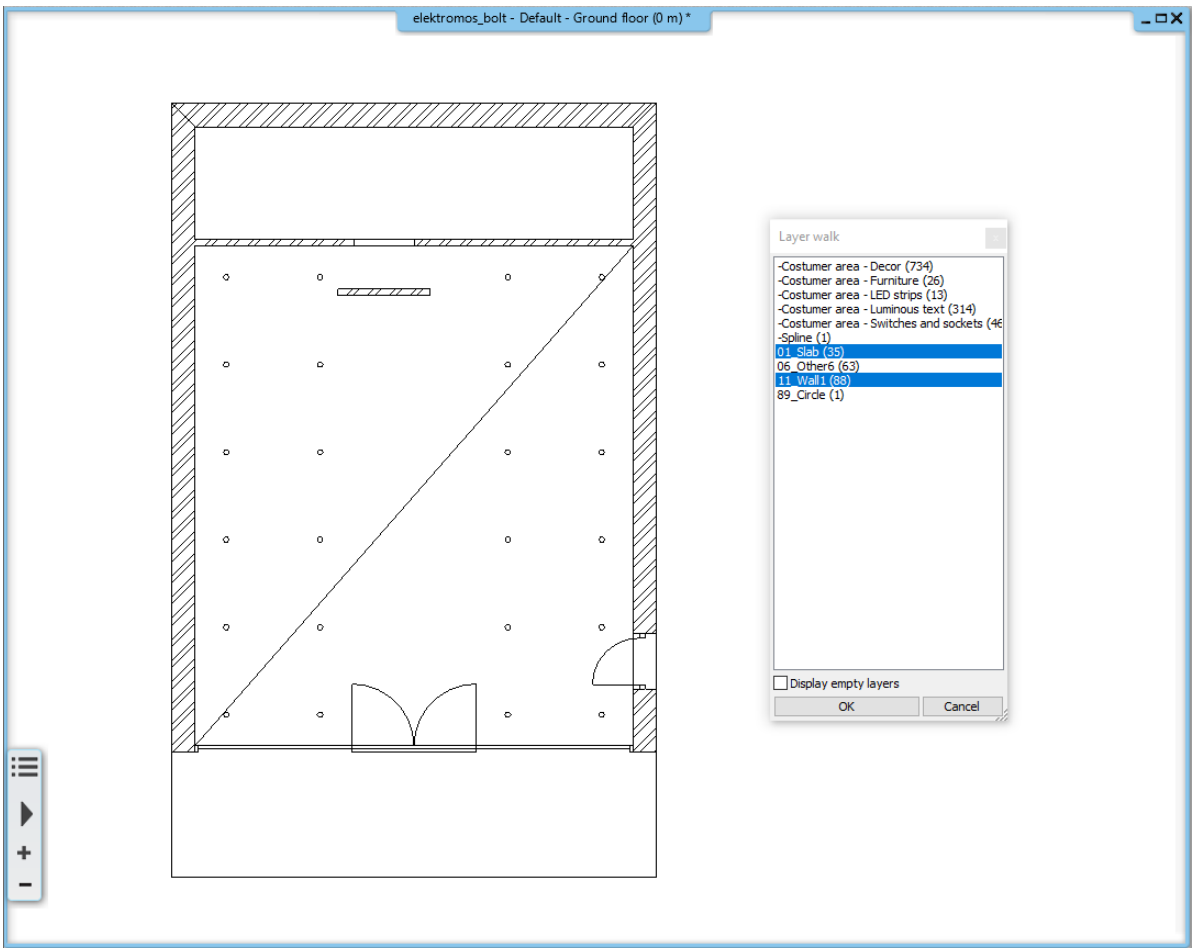
If you do not deal with a layer (do not create a new layer) during the work (e.g.: walls, slabs), the program automatically places these items on a pre-created layer. You can also turn them off and on.

Attention! The 3D and the 2D can have different layer lists so we always create the 3D from the 2D.

7.2. Render settings

Let’s simplify the model for the work:

- Activate the 2D window.
- Click on the Layer walk icon and select the layer of the slab and while holding the CTRL key select the layer of the wall.
- Close the dialog with the OK button.
- The 2d layout has been changed accordingly to our choice. Let’s generate the right 3D view from the 2D by clicking on the 3D hammer.



7.2.1. Render time

Which factors define the render time?

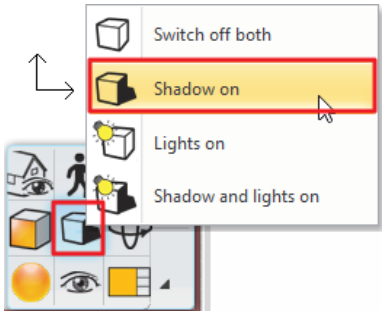
1. The computer you are working on (processor speed, memory size).
2. Project size (number of surfaces).
3. The complexity of the materials.
4. The complexity of the lights.
5. The render settings.

When rendering, it is recommended to turn off all the details of other rooms, except from the room currently being rendered. This will save you a considerable amount of render time, as the program does not need to calculate items that are not displayed in the final result.

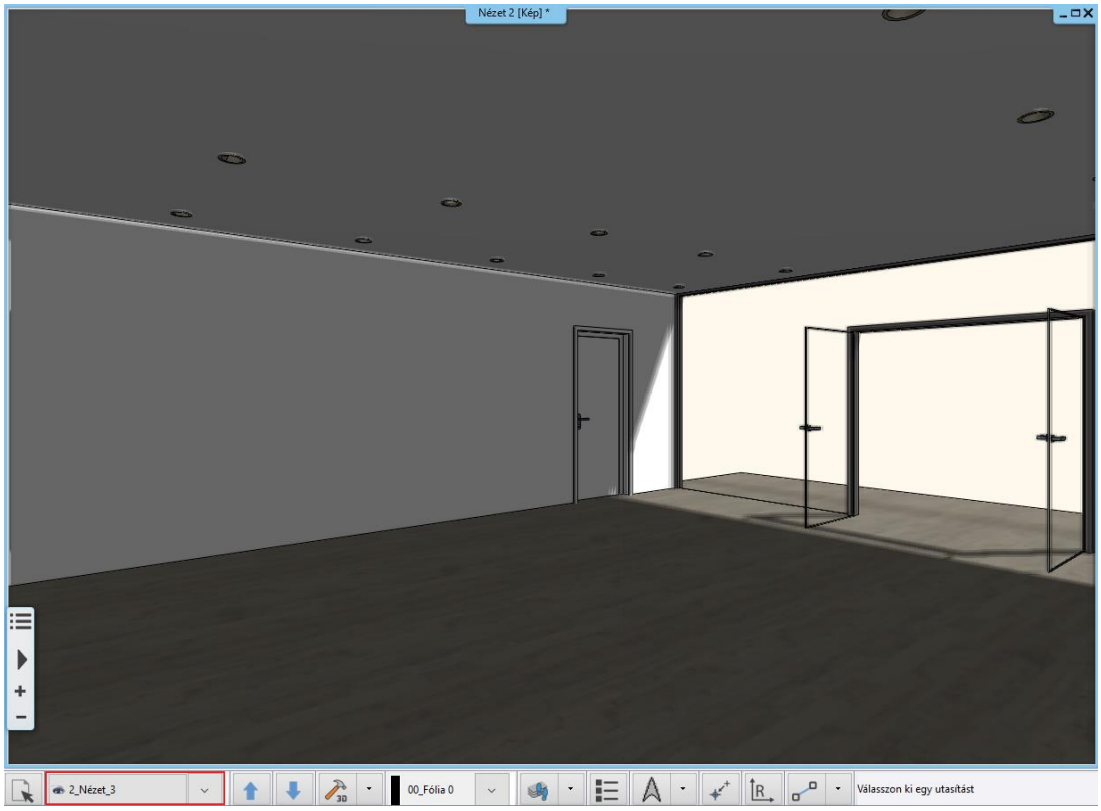
7.2.2. Sun settings, shadows

Set sunlight (shading) and the North direction for natural lighting.

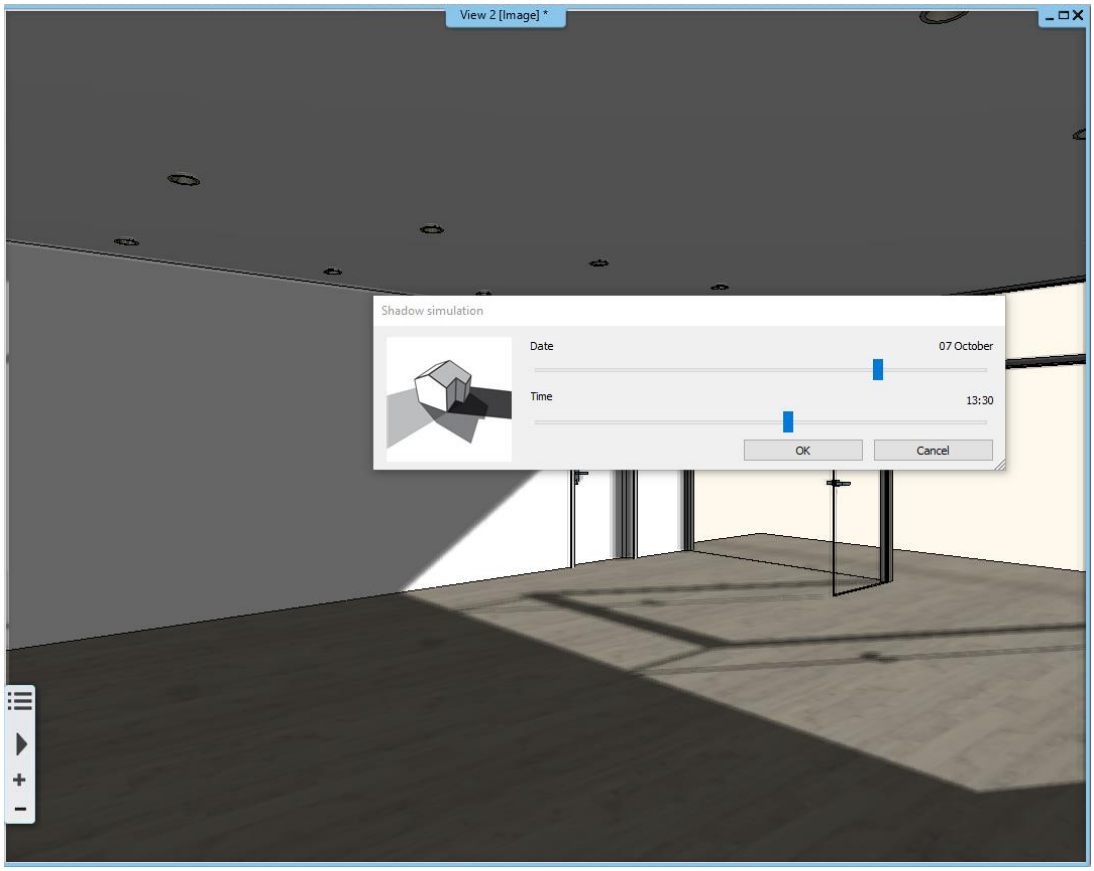
- Activate the 3D window.
- Select the Shadow on option on the Navibar Shadows icon to display the shadows.



- Select the view named „2_View_3” to see the light through the glass portal.



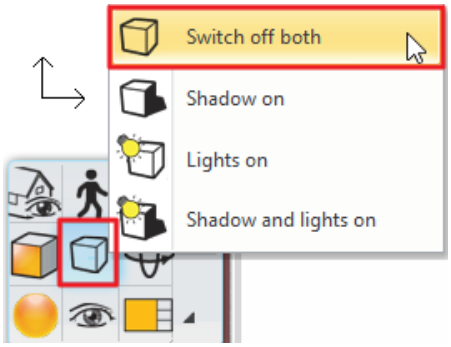
- To see the shadow simulation click on **Ribbon bar / View / Shadow simulation** command. In the appearing window you can select the date and time of the displayed shadows.



- If you have set the right date and time and the most advantageous view, click OK and the sun setting is ready.

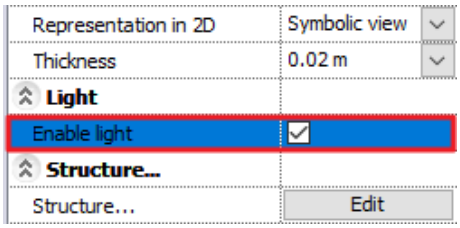
There are multiple possibilities in the program to set the sun. Using them you can focus on an artistic approach or on an accurate geographical representation as well. To learn more about sun settings see our further tutorials.

- We do not need the shadows for the further work so select the Switch off both option on the Navibar Shadows icon and select the view named „2_View_5”.



Check that the spots on the ceiling are switched on.

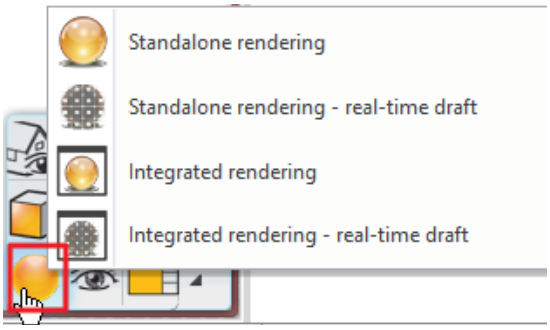
Click on a spot lamp on the ceiling and check if the Enable light option is active on the appearing Properties panel on the left side.



If this option is turned on the spots will have lights on the renders.

7.2.3. Main settings

To start the rendering click on the yellow orbit icon on the Navibar.



You have two main choices: you can start a standalone or an integrated rendering.

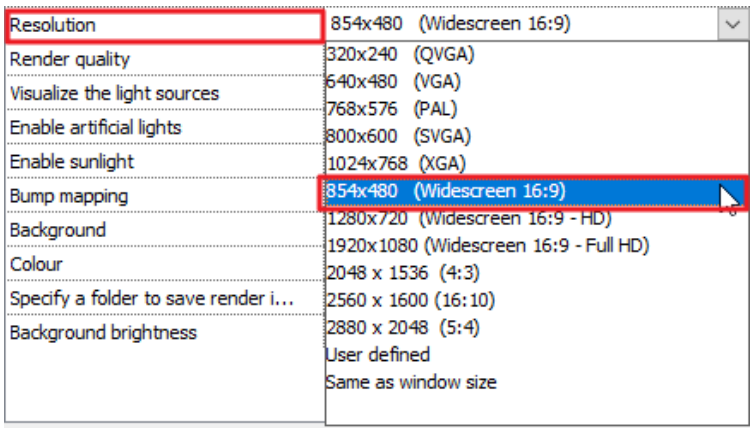
The **Integrated rendering** appears as a drawing in the project and you can handle it as the drawing windows.

The **Standalone rendering** opens an application which is in close connection with the program but runs separately.

You can start these two modes as real-time draft, which are in a live connection with the content of the 3D window and can react immediately to several modifications, and display the draft of the result in a short time.

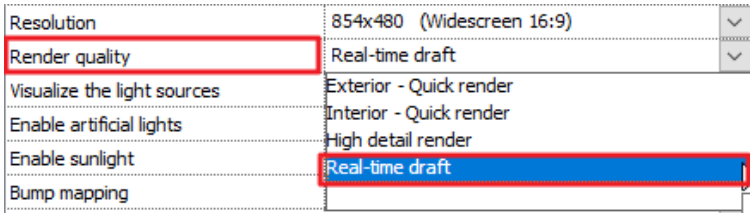
Click on the Standalone rendering – real-time draft and check its settings.

1. The first important setting is the **Resolution**. You can select from the list or define an individual resolution.



Among the predefined options there are low-resolution, so-called work sizes, and there are higher-resolutions that can be presented to the client.

2. The next setting is the **Render quality**. It is currently a real-time draft. This mode will give a quick but not a presentable result.

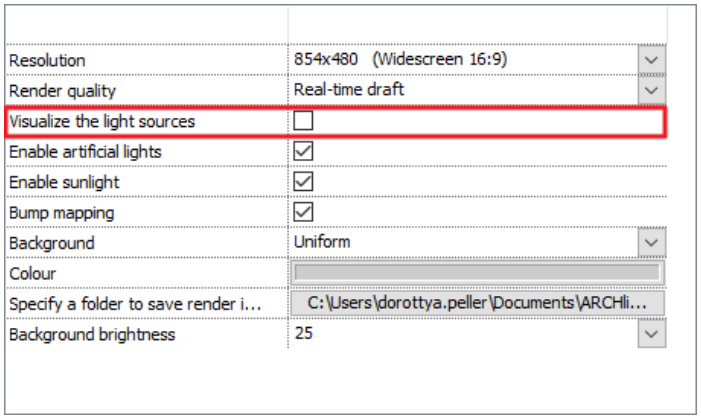


If you want to create a presentable render for your client, you have to choose from the following options:

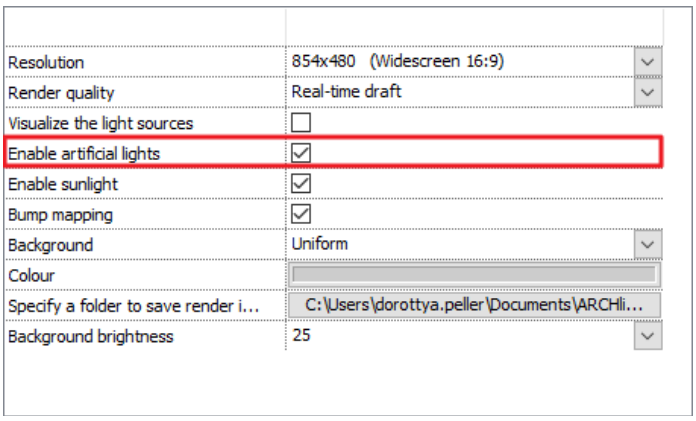
- **Exterior – Quick render:** For exteriors and well-lit interiors.
- **Interior – Quick render:** For images that are not clear enough using the exterior render. (Most probably when there is not enough direct light).
- **High detail render:** More details are displayed; the result will be clearer and noiseless but it will take more time.

Therefore, it is not advisable to make the final image routinely with the High detail render, only in justifiable cases, since it is obvious from the facts mentioned above that the rendering can be created in high quality in a number of cases with using only the Quick Render settings. When the Quick render is clear and noiseless, the High detail render will not give you a different result either.

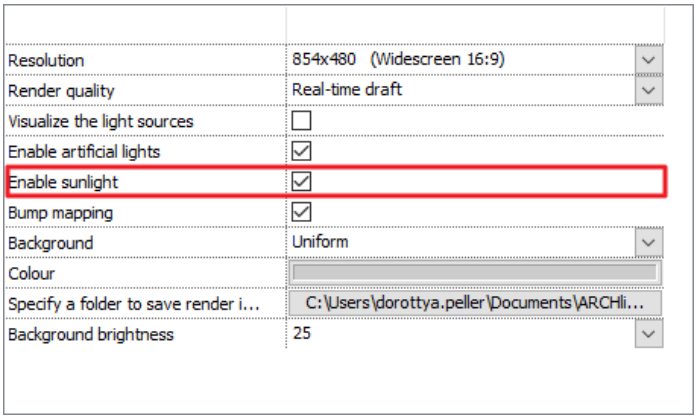
3. **Visualize the light sources:** Using this option you can turn on a simulation which visualize the light sources of the project as light bulbs. This option is recommended when the light sources are not directly visible. Usually this option should be turned off because the light is seen without it too.



4. **Enable artificial light:** This option switches on and off the lights of the lamps in the project. This option should be turned on.

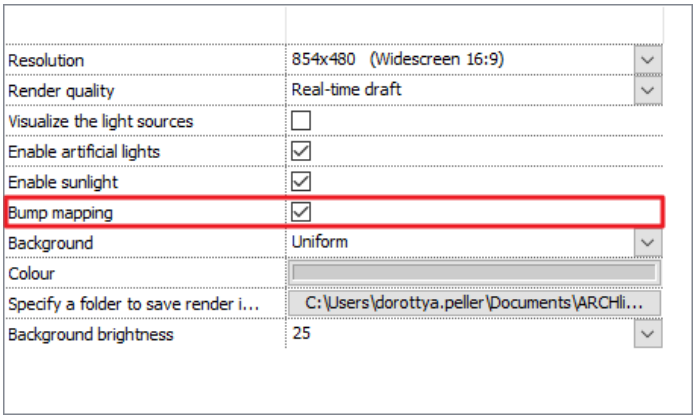


5. **Enable sunlight:** turns on and off the direct sunlight. (It does not mean that we will have a night time render, if this option is turned off, the result will only be a cloudy scene.

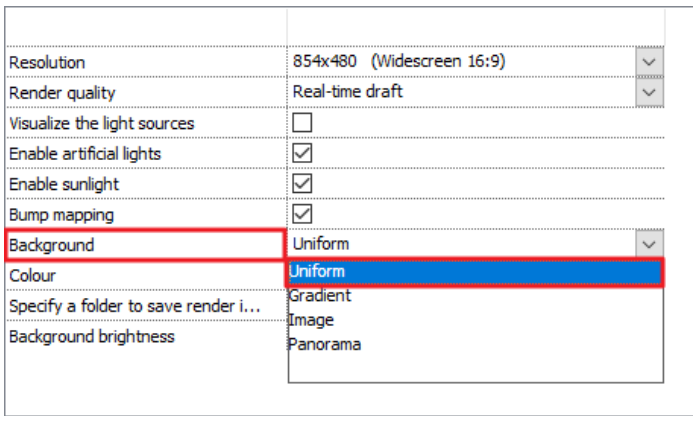


If the last two options are turns on (sunlight and artificial lights), you will have a combined render, in which these two will result in a combined effect.

6. **Bump mapping:** Different surfaces can be rough or smooth according to the pattern of the texture. If we activate this option the surfaces will be actually visible in the picture. This option should be turned on.



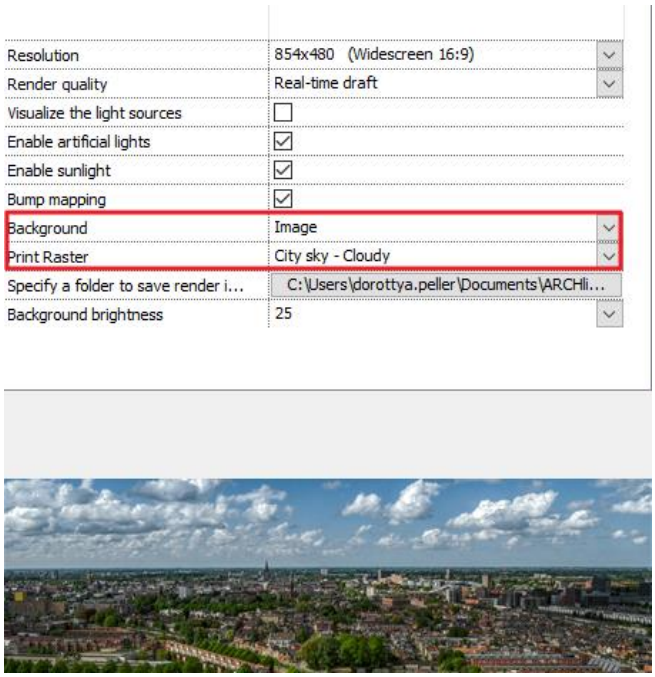
7. **Background:** You can choose a colour or an image as background. There are default images in the program but you can import your own background. You can also select a panorama as a background or import your own. (The panorama images completely surround the model).



For the current work select the Image option and the City sky – Cloudy background from the list.

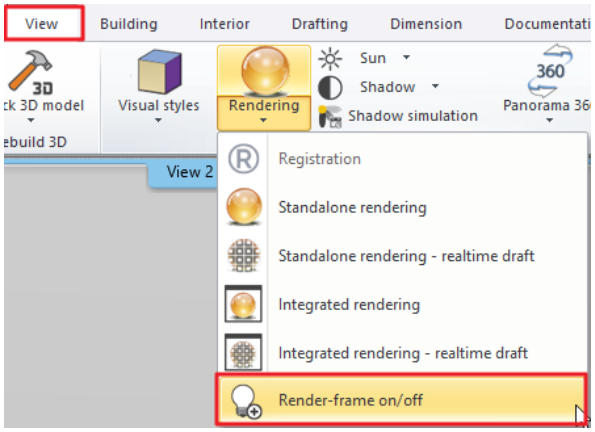
8. **Specify a folder to save render images:** This is basically a back-up save path, where the program creates a back-up of the last state of each image.

9. **Background brightness:** The brightness of backgrounds from different sources are not the same. You can adjust it here if necessary.

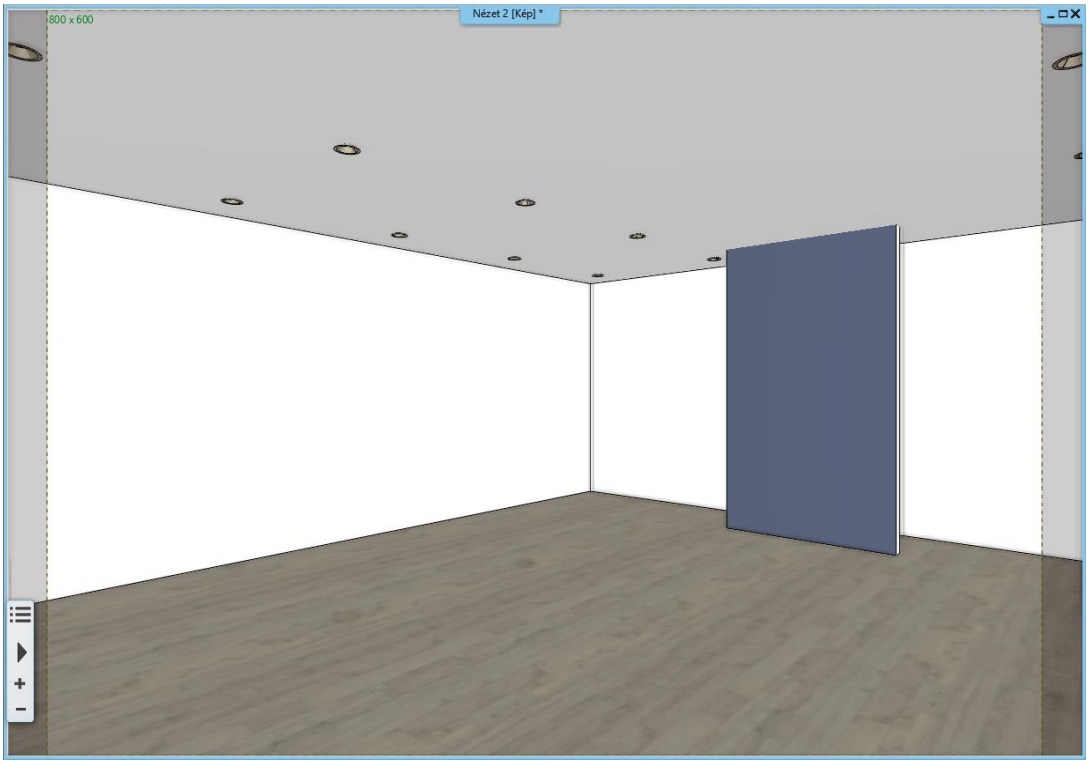


Accept the settings and close the dialog.

The render command can be also accessed from the Ribbon bar. Click on the View tab Rendering icon. Now the rendering commands which are also available on the Navibar appear. However, here an extra option, the Render-frame can be found.



Activate the render frame. A grey area appears on the left and on the right. This shows the details of the image which will not be in the final picture. The scene inside the dashed line will be the content of the final image.



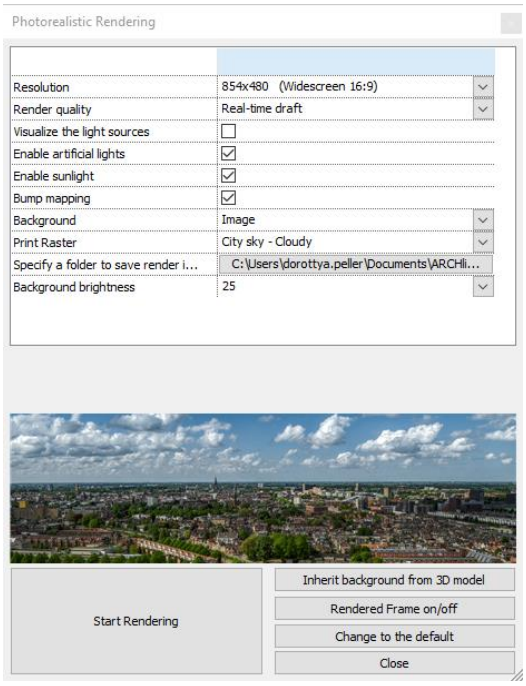
This function is useful to set the perspectives precisely, because you can define exactly which will be visible in the final render.

Turn off the frame.

7.3. Working with materials

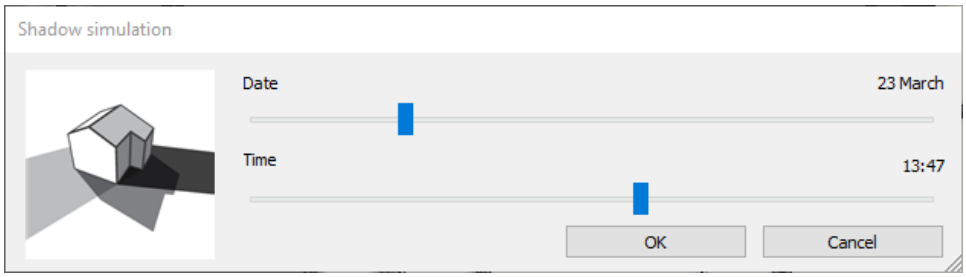
After reviewing the different render settings, start a Standalone render – real-time draft.

- The settings are the same.



- Click on the Start rendering button.

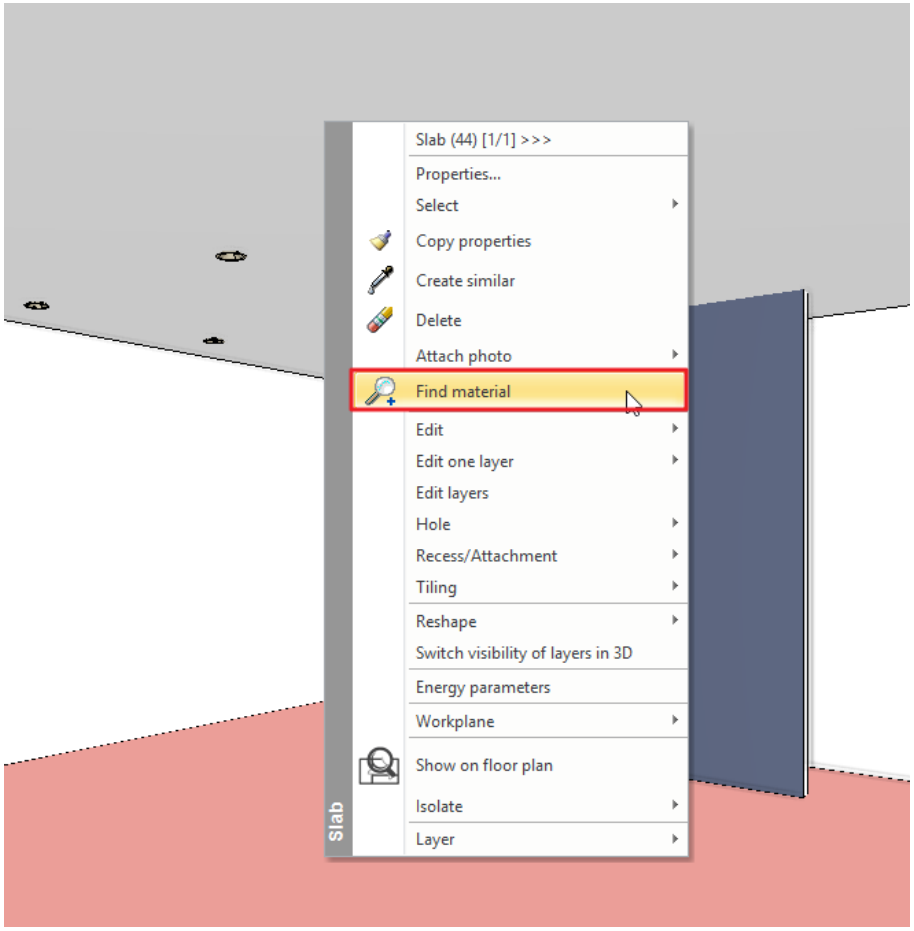
- As you can see the sunlight infiltrates too deeply into the interior, so it is quite contrasting. Since you've launched a real-time rendering, you can easily modify it.
- Activate the 3D window.
- Click on the **Ribbon bar / View / Shadow** simulation button and with the slides, modify the date and time, so that it does not infiltrate into the room so deeply.
- Hit OK to accept the changes.



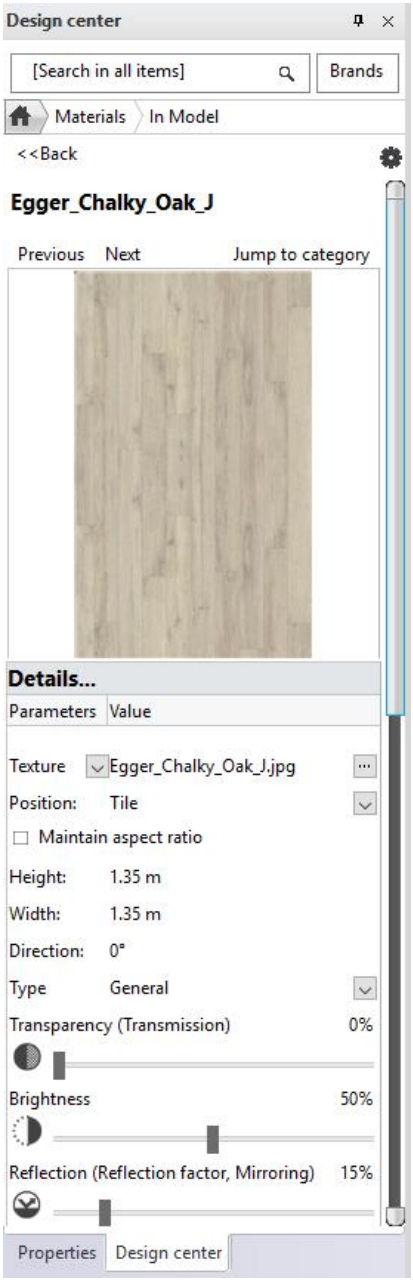
- Activate the render window and the modifications are instantly visible.

Let’s discuss the material settings through an easy example on the floor.

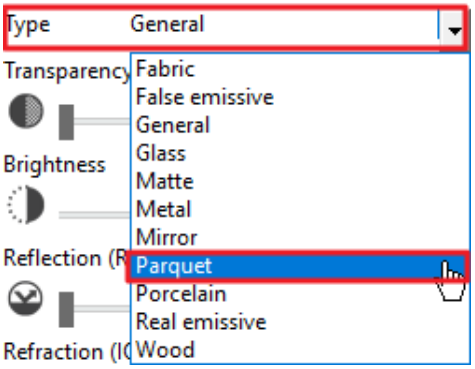
- Activate the 3D window.
- Click on the floor with right mouse button.
- Select the Find material option from the Local menu.



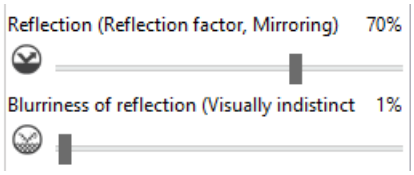
- The material appears on the left side with its properties, which can be modified here.



- First select the type of the material. Select parquet. The properties are modified immediately.



- Activate the render window and check the result. The reflection is stronger now on the floor.
- If this is still not suitable for the interior, you can modify it further on the left side.
- Let's increase the **Reflection** to 70%. and check the result.
- The next step is to decrease the **Blurriness of reflection** to almost 0. The reflection on the floor is sharper now.

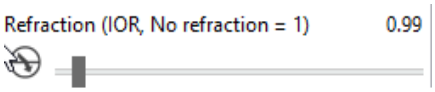


In case we need more settings to reach the most realistic material representation, use the **General type**, where every material setting is available.

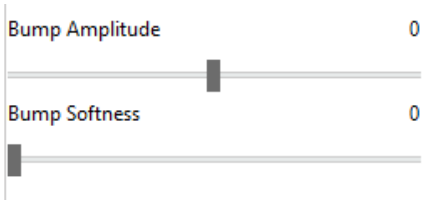
Tip: The left side of **Transparency** is where the material is not transparent at all, while we set it to 100% the material almost disappears.

*Tip: 5*0% of **Brightness** is the starting state. If we decrease this value the material will be darker, and if we increase it the material will be brighter.

- **Refraction:** It is depending on the type of material we have chosen.

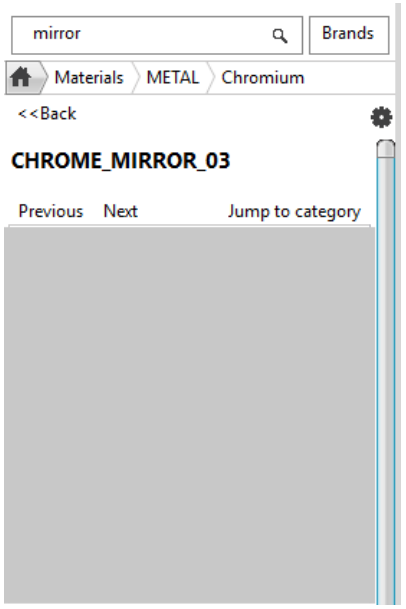


- **Bump amplitude:** For some materials, you can set a bump amplitude which is depending on the nature of its texture. It is recommended to smooth it a little afterwards (**Bump softness**).

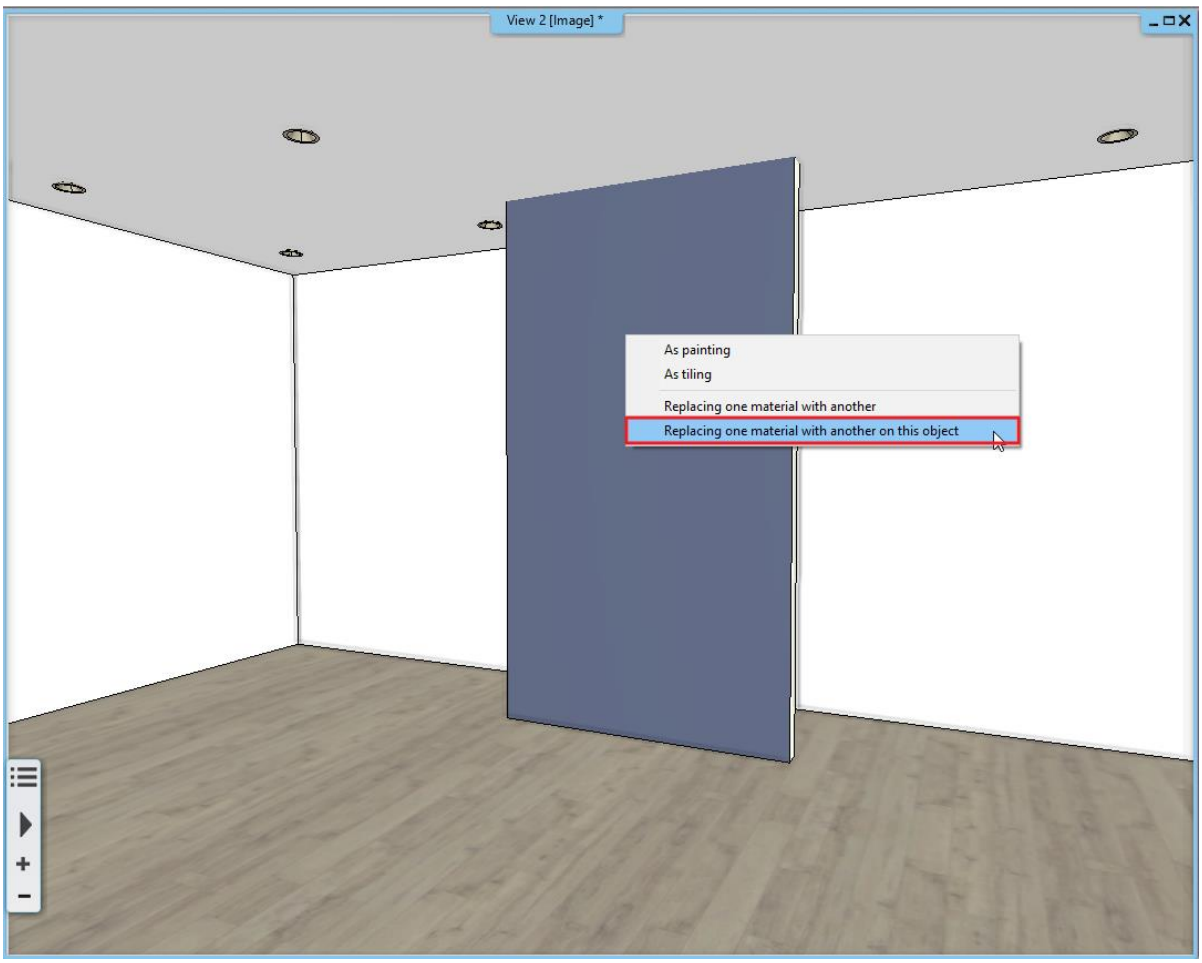


To sum up, if we modify anything on a material – or even completely change it to another one from the Design Center – the modifications will be immediately visible on the surface.

Let's see another example of modifying a material. We will place a mirror.

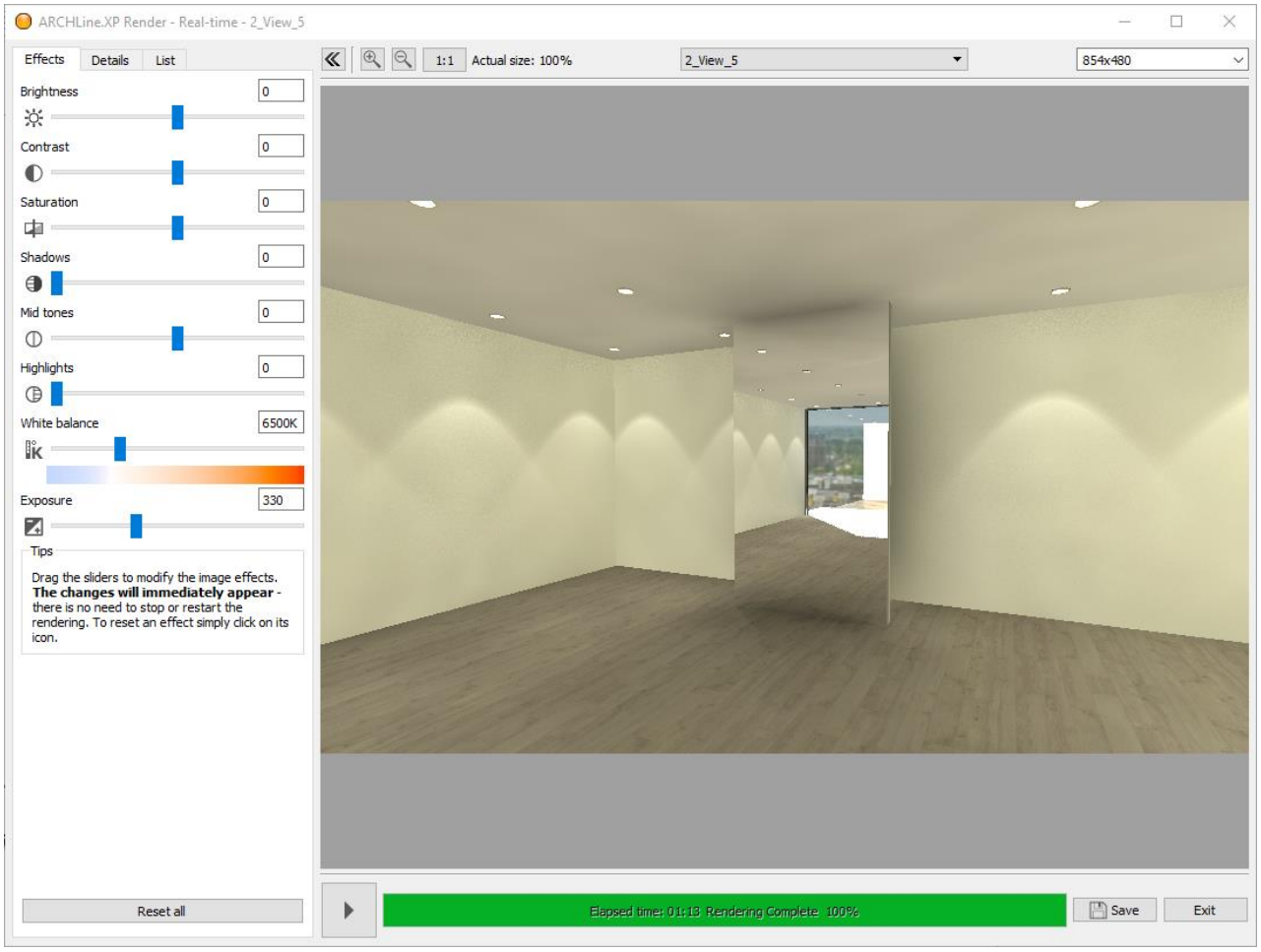


- Go to the Design Center and type in to the Search field at the top of the side bar: mirror. (Be sure that the search is started from the start page of the Design Center).
- Select the CHROME_MIRROR_03 from the appearing results.
- Using the "drag and drop" method place it on the dark grey wall. From the appearing menu select the Replacing one material with another on this object option.



- Click on the wall surface.
- Change to the render window and check the results.

This is how you can easily change one, already placed material to another one on an object or element.



- Undo this last step and activate the 2D layout.

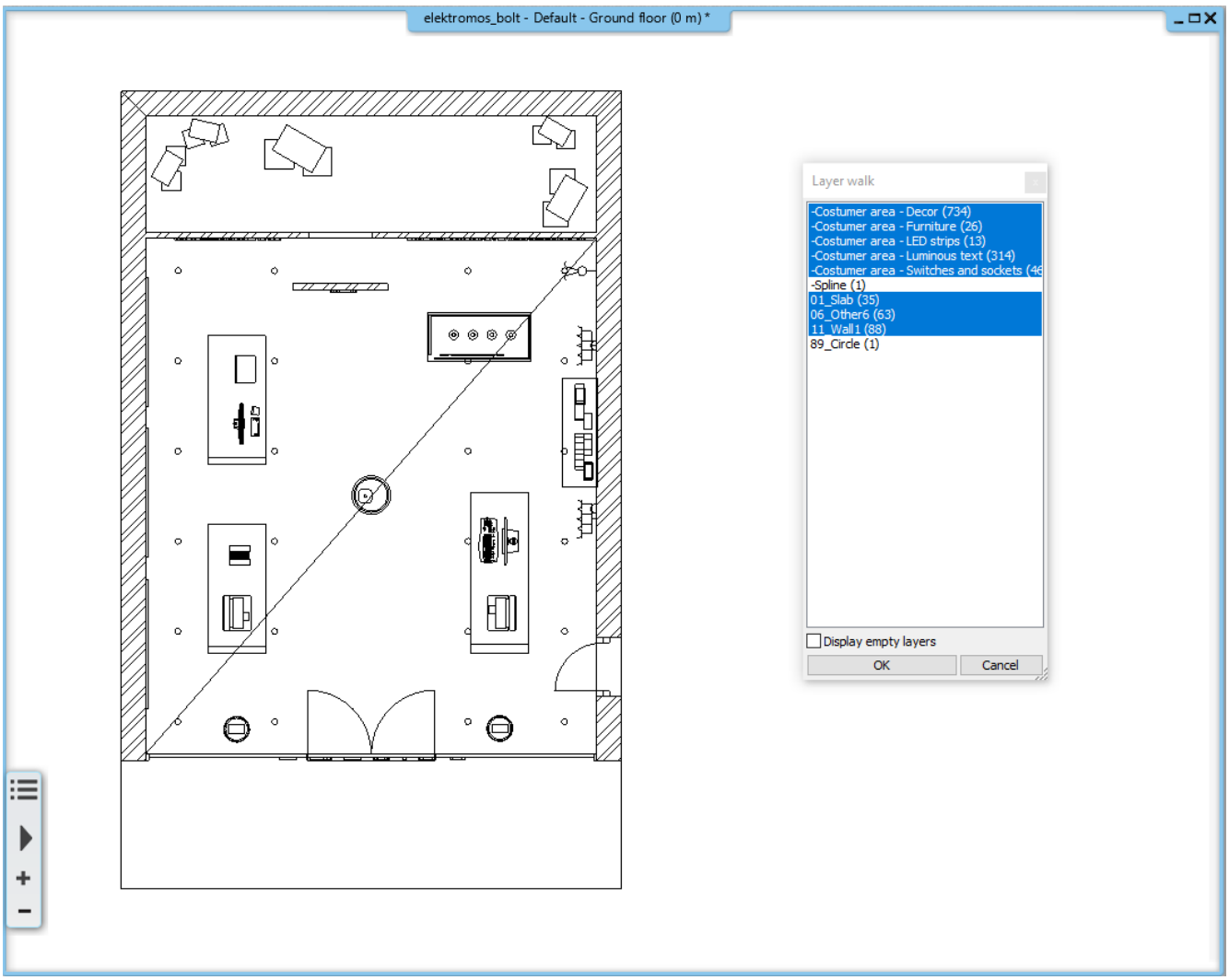
7.3.1. Displaying the details of the model

You can set the dominant surfaces of the project (floor, ceiling, walls) with the appropriate material and material properties as discussed previously. You can then display other model details (such as furniture), and you can also set the materials for those items. The advantage of this progressive workflow is that the tiny accessories are set at the end of the workflow - often enough to deal with the materials that really affect the visuals, which can save you a lot of time.

- Click on the Layer walk icon and turn on more and more details.
- Activate the “Customer area – furniture” layer first. Close the window with the OK button.
- Rebuild the 3D model from the layout using the 3D hammer.
- Activate the render window and check the appearing furniture and their materials.

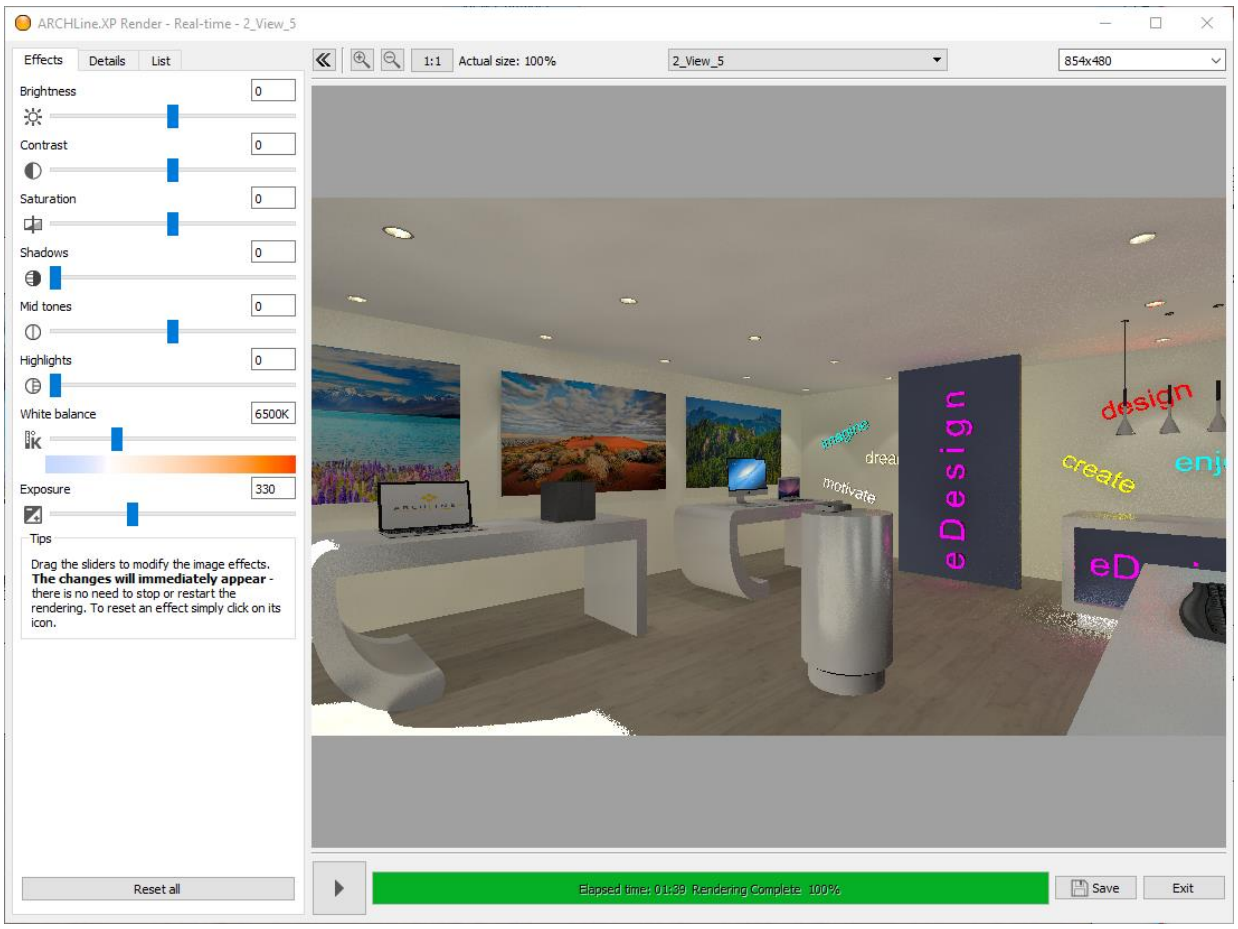
In this phase you can check and set the materials of the furniture. As an optional task modify some of its material settings and check the result.

- Activate the 2D layout and turn all the layers except the –“Spline” and the “89_Circle” layers. With the OK button close the window.



- Rebuild the 3D model using the 3D hammer.
- Activate the render window and you can decide what is needed to be modified before the final rendering.

During the workshop we did not change the current materials of the project but we do recommend to change some surfaces and create your own concept as an optional task.

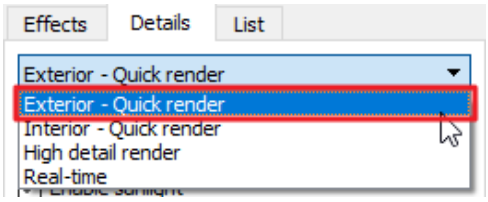


7.4. Render effects

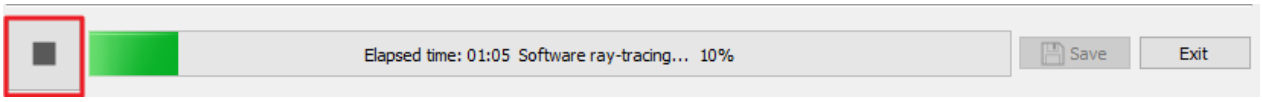
If you want to create a final image from a rendering started as a real-time draft, you have to do the following:

- Activate the render window.
- Go to the **Details** tab. Here can be found the settings with which you have originally started the work.

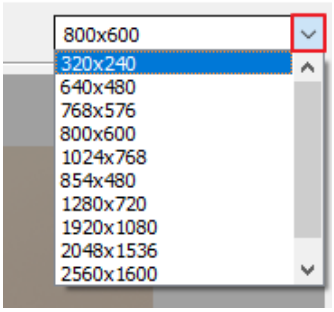
- Select the Exterior – Quick render type from the options and the program automatically changes to normal render. In this case it will take a bit longer to complete the render.



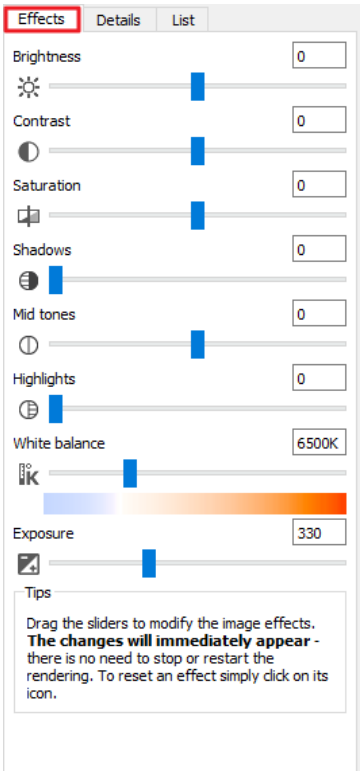
- The quality should only be increased if the details you see in the final image are not sharp and noiseless.
- The rendering can be stopped anytime with the Stop button seen in the picture below, then can be started again from zero using the start button.



- If you want to modify the resolution, click on the Stop button. Modify the resolution is the top right corner, then restart the render.



- While the program is rendering, all the setting which are influencing the brightness, contrast and other settings of the final image can be modified on the **Effects** tab. These settings can be modified on the final result as well.



Tip: It is recommended to set the **Exposure** first, so that the white colours are right. This modification is visible immediately.

Be careful using these effects, because setting them too high or low can result in an undesirable final image.

If you want to get back to the default value at any of the settings, you just have to click on the icon of the setting next to the slider.

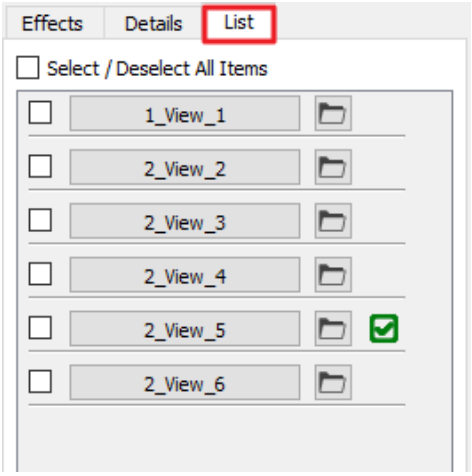
If you want to reset all the values, click on the **Reset all** button at the bottom of the tab.

The final image can be saved by clicking on the Save button with a new name to a folder selected by you. You can save multiple images with the different settings and render phases. You can also select its format before saving it. It is recommended to choose JPG if you want to send it to your client.

7.5. Render list

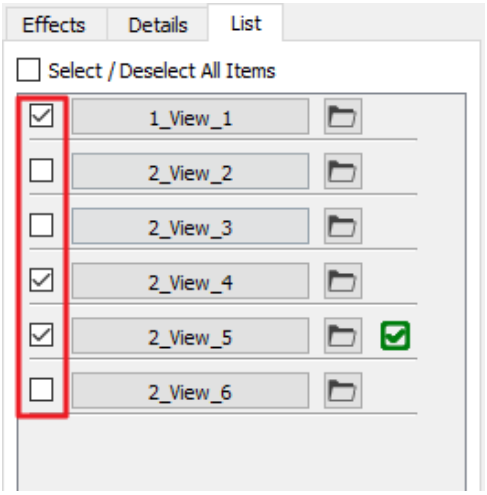
There is a third tab in the render window, the Render list. Creating the final images is a long process per image, and it is time consuming to save images and to switch to new ones, then launching a new rendering. Essentially, this process is automated by the rendering list.

- Click on the List tab.
- The previously saved perspective views appear here.



- If you click on another view the program starts to render it with the current settings.
- If you go back to the Effects tab, you can change the settings of the current image.
- If you click on previously completed image the program only displays it with the previous settings, not renders it again. Here you can modify the settings or change its resolution, then click on the Start button and render it again.

In the Render list you can select multiple views. You just have to tick the square before the name of the view, then click on the Start button below.



(The selected images are rendered with the settings and resolution previously selected at each image).

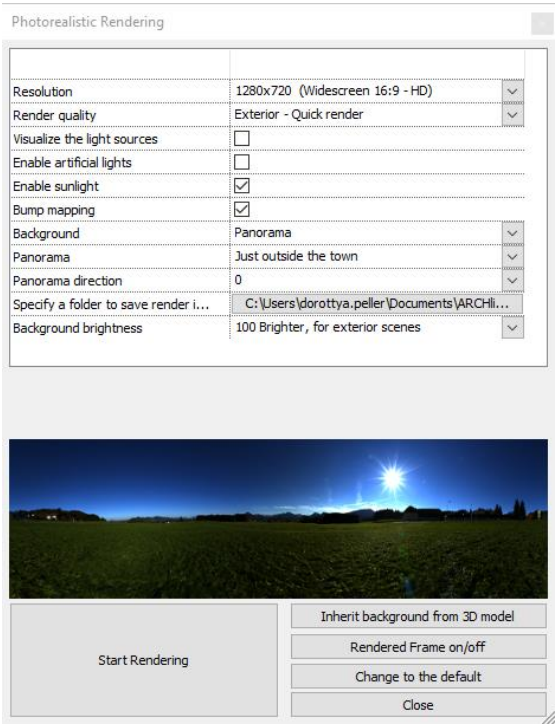
Tip: It is recommended to leave the computer “alone” after starting the final render list. No other programs should be run during the rendering because it will increase the render time.

7.6. The exterior render

It is useful to discuss the specialties of the exterior render.

To do so, open another project:
Documents\ARCHlineXP DRAW\2018\Workshop - Preliminary\Rendering\Scholtz_Gabor_E-Invest_Bp_XXII_engterv_render

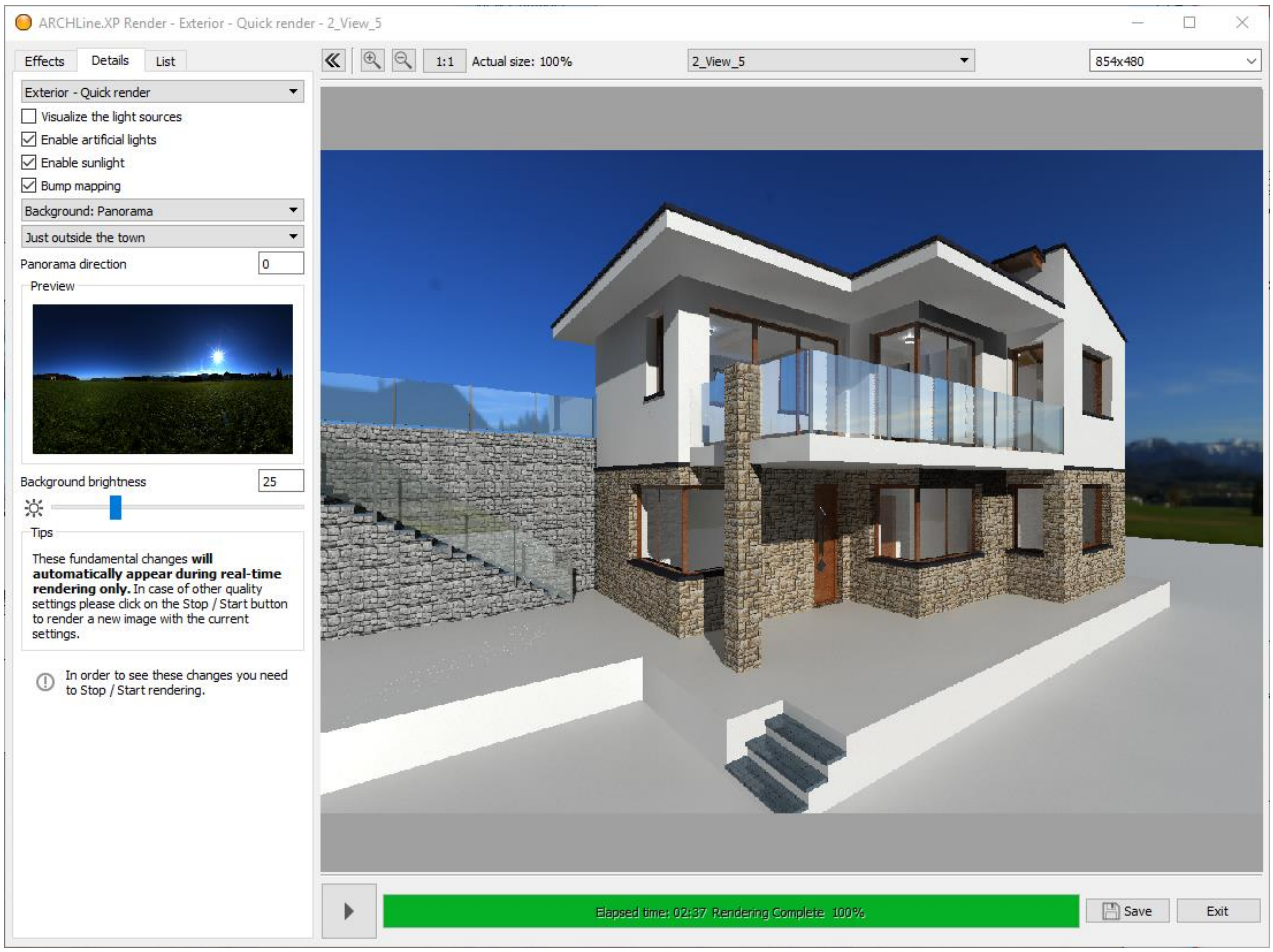
- To start the rendering, click on the Standalone render – Real-time draft on the Navibar or on the Ribbon bar.
- In the appearing window, the previously mentioned settings are available.
- Activate the **Enable sunlight** option.
- Activate the **Bump mapping** option, so the exterior stone surface’s effect is stronger.
- The **Background** will be more dominant because it will surround the model. We can select an image, a colour or a panorama as background.
- The most important difference from the interior render is the **Background brightness**. On an exterior render, the normal background brightness value should be set higher, so it will be adjusted to the outdoor lighting conditions.



- If you click on the Start rendering button, the render will start and the settings could be changed in the previously mentioned way.
- An important difference is the setting of **Exposure**. Here it should not be increased, like for the interior render, because the model is already lit by intensive direct light. Usually it should be increased only slightly or even decreased in some cases.

  For both exterior and interior renders, it is important that the surfaces that are set to matte are quickly rendered, but less likely to look like real materials. Accordingly, in this project, these surfaces are also set to have a minimal reflection. This setting is also visible on the current model's rendering, for example, on wood surfaces, where the blue sky appears on the right detail.

  Particular attention should be paid to the appearance of the glass and the different reflective surfaces when using exterior render. It is also recommended to set them to be lifelike, sufficiently reflective and transparent.

  With regard to the lighting, it is also possible to display the lamps placed in the interior when exterior images are being rendered and a night time scene was chosen.

- Go to the Details tab.
- Activate the enable artificial light option.
- Start the rendering again and check the result. The lights are clearly visible.
- If you use this setting, you should count on a longer render time since the program should count more light sources.