ARCHLine.XP® 2016

Windows

ARCHLine.XP® Interior

Tutorial 1

Preliminary level

Information in this document is subject to change without notice and does not represent a commitment on the part of CadLine. The software, which includes the information contained in any databases, described in this document is furnished under a license agreement or nondisclosure agreement. The software may be used or copied only in accordance with the terms of the agreement. It is against the law to copy the software on any medium except as specifically allowed in the license or nondisclosure agreement. The licensee (purchaser) may make one copy of the software for the purpose of creating a -backup copy. No part of this tutorial may be reproduced, transmitted, transcribed, or translated into any language in any form or by any means, without the express written permission of CadLine.

First Edition
2016 CadLine. All rights reserved.

In no event shall CadLine be liable for special, indirect or consequential damages in connection with or arising from the use of this document or any programs contained herein.

Microsoft, MS, and MS-DOS are registered trademarks and Windows is a trademark of Microsoft Corporation.

ARCHLine.XP® is a trademark of CadLine.

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

Contents

1. Lesson: Reception Room 9

1.1. Modelling an empty room 11
1.2. Editing wall 13
1.2.1. Add Rectangle extension to the room 13
1.2.2. Add next Rectangle extension 14
1.3. Floor definition 15
1.3.1. Setting floor style 15
1.3.2. Create floor 16
1.3.3. Add Ceiling 16
1.4. Room Maker 19
1.4.1. Room Maker – Interface Overview 19
1.4.2. Room Maker – Interface 20
1.4.3. Add Doors 20
1.4.4. Add Windows 23
1.4.5. Add Curtains 27
1.4.6. Change Curtain fabric - Optional* 32
1.4.7. Add Light Switches & Sockets 35
1.4.8. Add Profiles 36
1.4.9. Add Ceiling lamps 38
1.4.10. Add Wall lamps 41
1.4.11. Add Painting 42
1.4.12. Finishing Touches - Floor 45
1.4.13. Finishing Touches – Ceiling 45
1.4.14. Finishing Touches – Walls 46
1.5. Perspective 3D views 48
1.6. Lights editing - create copy 50
1.7. Curtain editing 51
1.8. Furniture 51
1.9. Documentation 55
1.9.1. Dimension 55
1.9.2. Wall elevation view 57
1.10. Printing 59
1.11. Visualization 59
1.11.1. Shadows 60
1.11.2. Rendering 62

2. Lesson: Foundation 67

2.1. Introduction 67
2.1.1. Welcome Dialog 68
2.1.2. Interface 69
2.2. Basic Drafting tools 71
2.2.1. Drawing in ARCHLine.XP®: *Click & Release* 71
2.2.2. Undo and Redo 72
2.2.3. Zoom in, Zoom out and Optimal zoom 72
2.2.4. Panning the drawing 73
2.2.5. Simple selection and delete 73
2.2.6. Select multiple items 74
2.2.7. Selection by rectangle 74
2.2.8. Selection by type 77
2.3. Design 78
2.3.1. Creating Walls 78
2.3.2. Continue creating walls 80
2.3.3. Active window 81
2.3.4. Manage the 3D View 81
2.3.5. The 3D representation modes 81
2.3.6. Partition walls – with properties 82
2.3.7. Save the Project 84
2.3.8. The Slab tool – Create a Floor 85
2.3.9. Floor management – Create and edit floors 87
2.3.10. Drawing the Doors 89
2.3.11. Modifying the property of an existing item 91
2.3.12. Drafting the windows 93
2.4. Furnishing and representation 95
2.4.1. Setting up the perspective 95
2.4.2. Furniture items - The Design Center 96

2.4.3. Movement and rotation ... 98
2.4.4. Furniture items – The 3D Warehouse ... 99
2.4.5. Layer management ... 101
2.4.6. Playing with the model – The „3D hammer" ... 104
2.4.7. Modifying downloaded objects - Optional ... 106
2.4.8. Save project using another file name – Content of the project ... 107
2.5. Summary ... 108

3. Lesson: Bathroom -Tiling ... 111

3.1. Open and save the Project ... 112
3.2. Tiling using Room Maker ... 114
3.3. Create a tile pattern – Tiling style ... 117
3.3.1. Define Style 1: Folkstone 01 ... 118
3.3.2. Place Style 1: Folkstone_01 in the Room maker ... 121
3.3.3. Define Style 2: Folkstone 02 – with strips ... 121
3.3.4. Place the Style 2: Folkstone02 from the Design Centre ... 122
3.3.5. Define and place Style 3: Auvernia_01 ... 123
3.3.6. Define and place Style 4: Cantal_01 ... 124
3.3.7. How to create vertical stripes in tile pattern - Optional ... 125
3.4. Integrating mirrors on tiled wall ... 126
3.4.1. Mirror 1: Generate the wall layout ... 126
3.4.2. Mirror 2: Generate the wall layout ... 129
3.5. Tiling layouts ... 131
3.6. Wall elevation view ... 132
3.7. Tiling Consignation - Quantity take off ... 134
3.8. Rendering ... 136

4. Lesson: Kitchen Design ... 141

4.1. Open and save the Project ... 142
4.2. Base cabinets ... 143
4.3. Countertop ... 149
4.4. Hood ... 151
4.5. Adding cabinets ... 151
4.6. Creating plinth ... 153
4.7. Editing cabinets ... 154
4.8. Creating a new custom-shaped cabinet ... 160
4.9. Enable the visibility of the final drawing ... 168

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 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 displays 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.

1. lesson: Reception Room

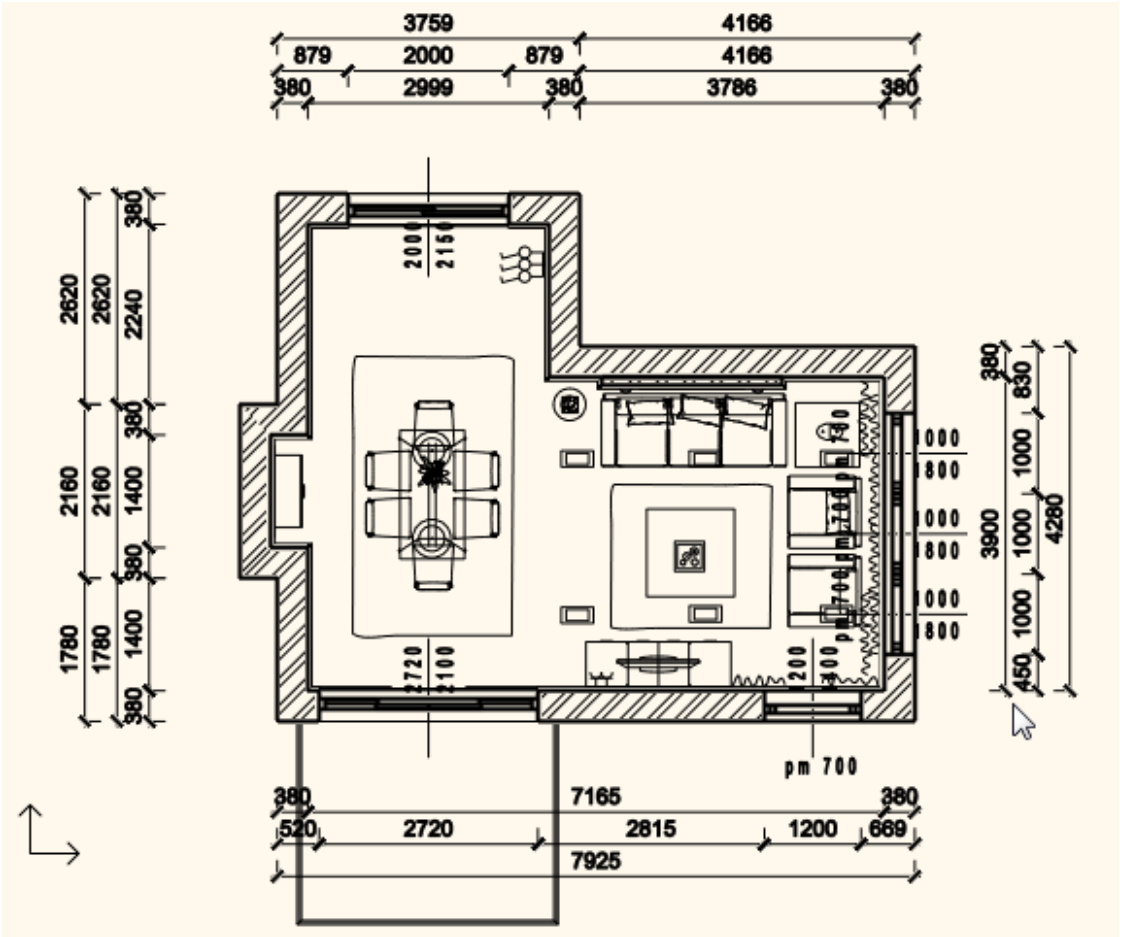
1. Lesson: Reception Room

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 lesson we are going to create the project of the following reception room:

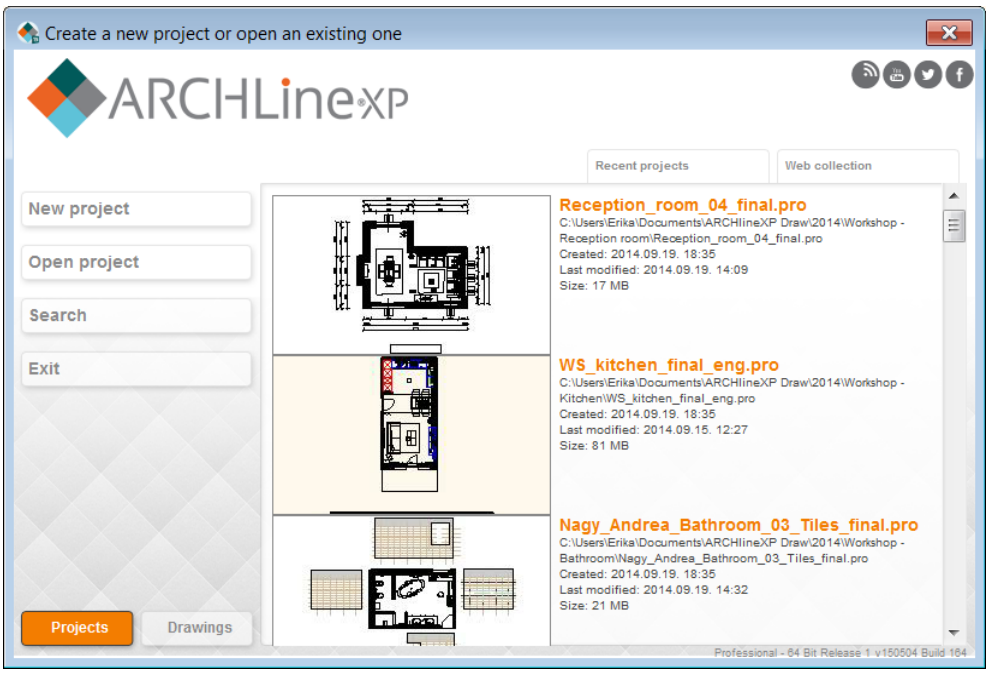


- Please open the following playlist in your browser:
  http://www.archlinexp.com/video-tutorials/workshop/reception-room-workshop
  The video tutorial consists of five parts.
  Your screen should look as follows: Press the ARROW button in the bottom left corner to play the video and pause it any time you need with pressing the same button again.

Starting

- Start ARCHLine.XP®. Your screen should look similar as follows:
- Click on New Project to start.

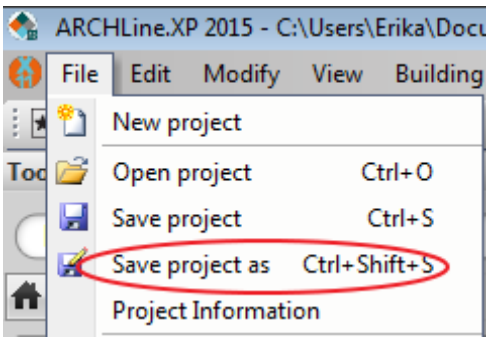
Tutorial

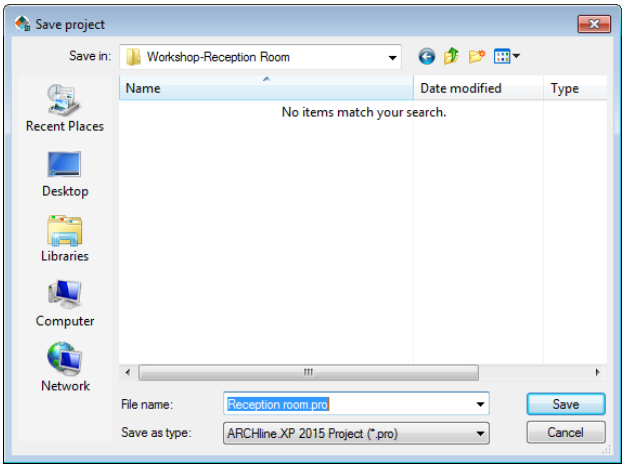


Save your project

- Before starting to design it is recommended to save your project with a real project name, as MyReceptionRoom.pro.
- Click on File menu – "**Save project as"** command and type your file name to save the project.

Your screen should look as follows:



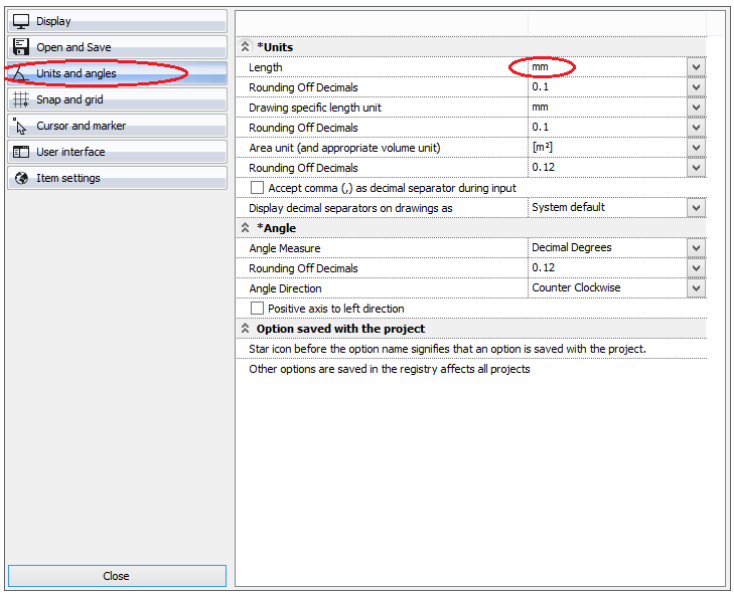


1.1. Modelling an empty room

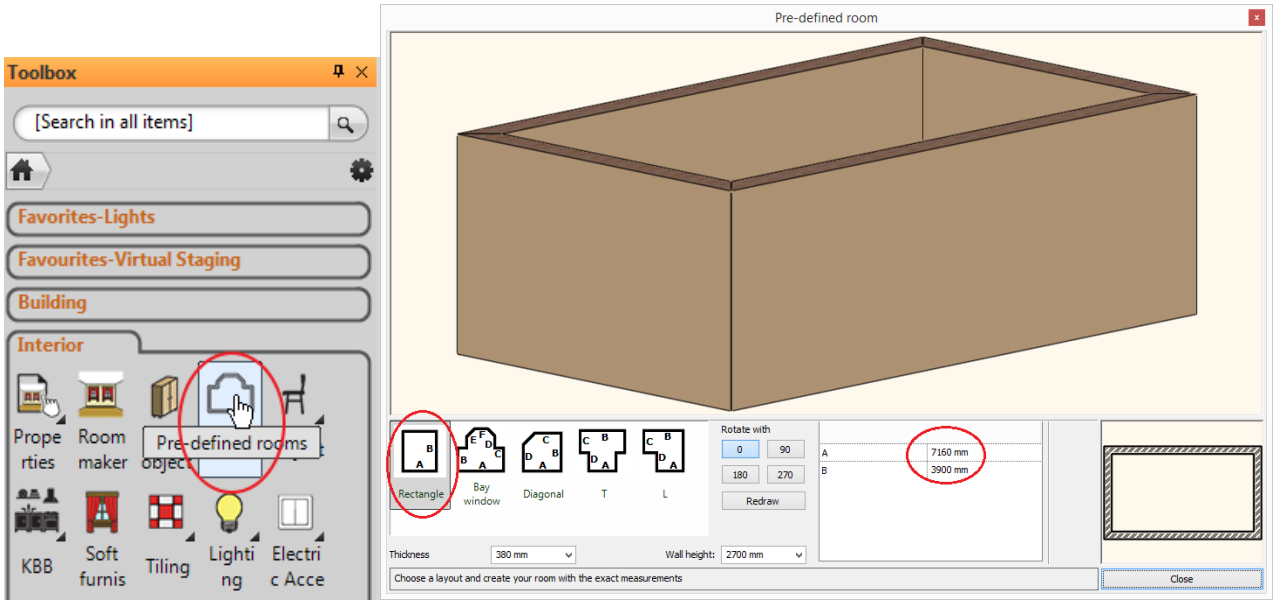
Design approach may vary from person to person. However, it is recommended to start the drawing in a 2D floor plan.

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, since we use **millimetre** in this lesson.

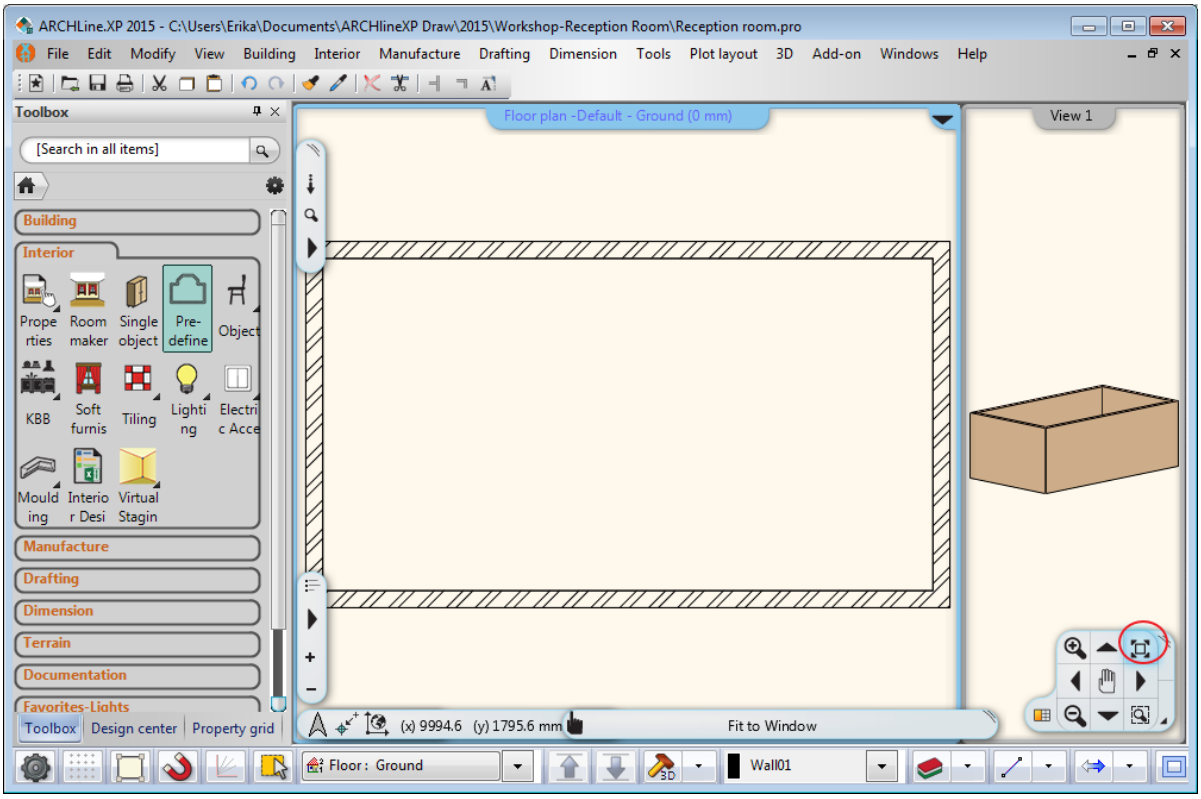


- Then click on **Toolbox/Interior/Pre-defined rooms** command.



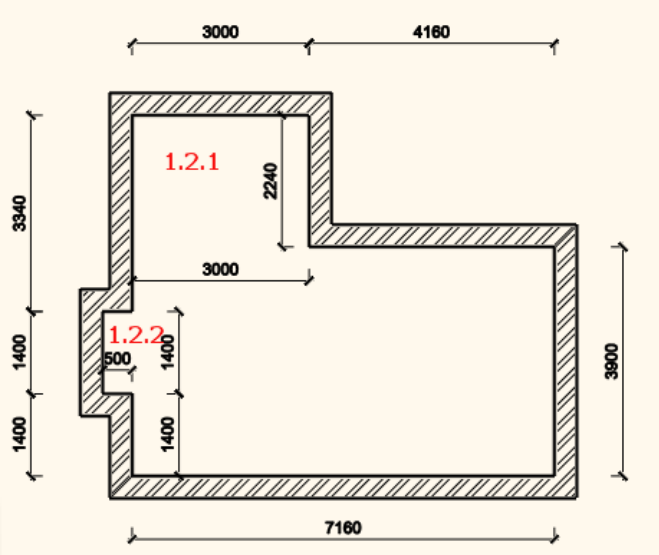
- Choose in the upcoming dialog the room shape: **Rectangle**
- Create your room with exact room internal measurements: A: 7160, B: 3900 mm
  The values represent the internal wall lengths.
- Wall properties: Thickness: 380 mm, Wall height: 2700 mm,
- Press the *Close* button and place the room shape 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 bottom right corner icon marked as 2 in order to have the optimal view.



1.2. Editing wall

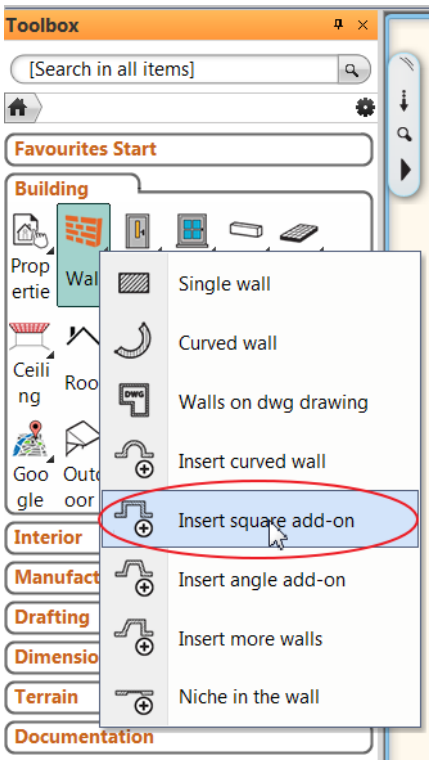
In this chapter we add two room extensions as displayed below 1.2.1 and 1.2.2.

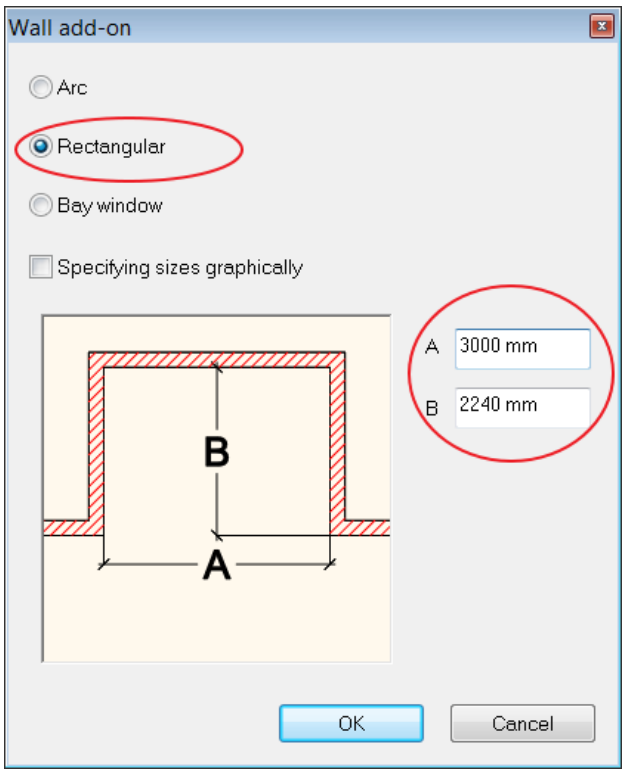


1.2.1. Add Rectangle extension to the room

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

- Click on **Toolbox/Building/Wall/Insert square add-on** command

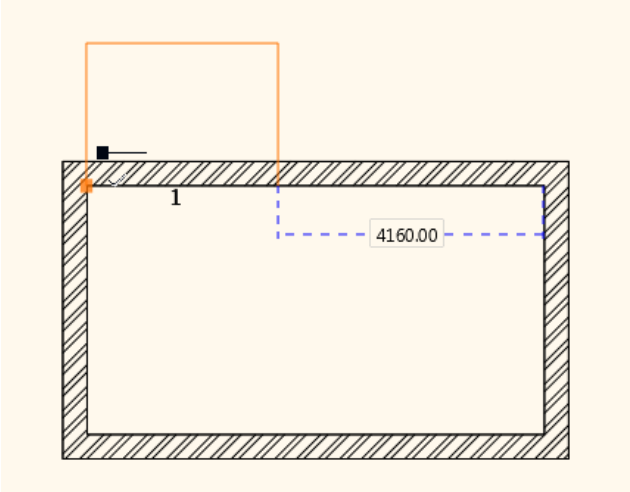


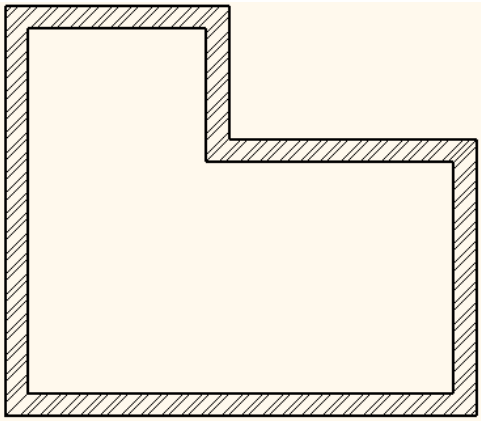


- Choose the room extension type: Rectangular.

  The room extension sizes can be defined by graphically or numerically.
- Choose the numerical way and type the value of A and B: 3000 and 2240. OK.

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



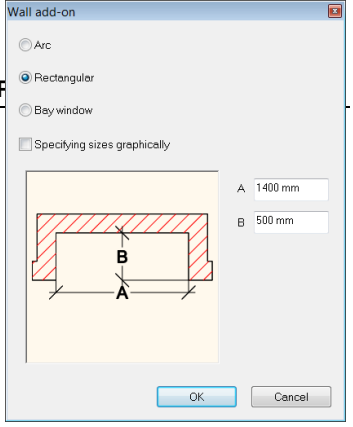


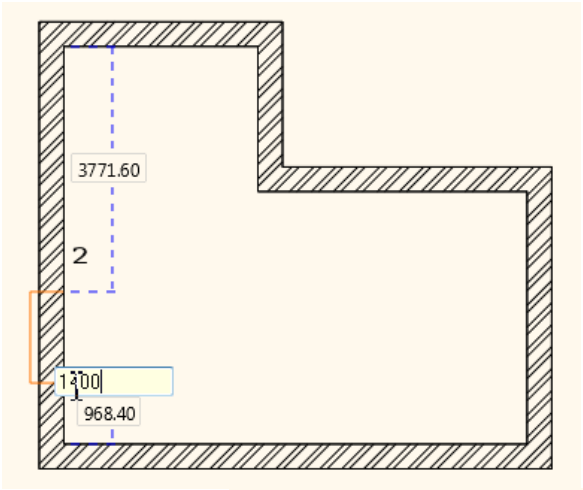
1.2.2. Add next Rectangle extension

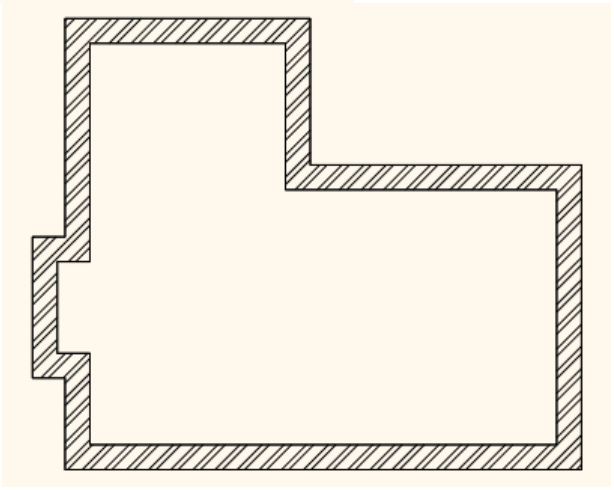
Create another rectangle form room extension (1.2.2) on left side of the room with room internal measurements: A: 1400, B: 500 mm. It starts from the room inside left corner at 1400 mm
The values represent the internal wall lengths.

- Click on **Toolbox/Building/Wall/Insert square add-on** command
- Choose the room extension type: Rectangular.
- Choose the numerical way and type the value of A: 1400 and B: 500, 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





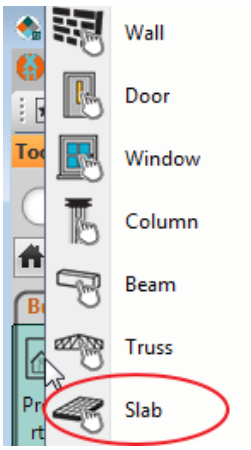


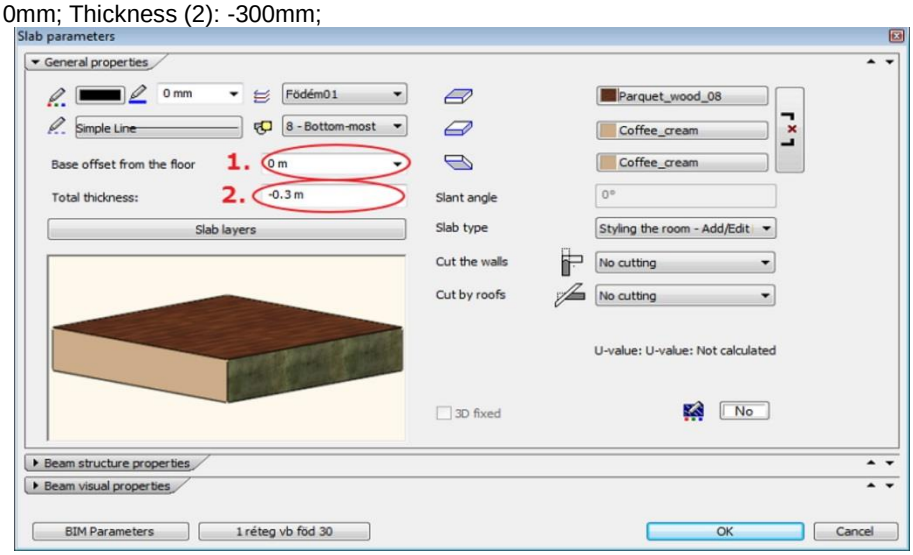
1.3. Floor definition

1.3.1. Setting floor style

Check the slab properties before you create the floor.

- Define floor properties: Toolbox/Building/Properties/Slab:
- Set up these values in the dialog:
  Floor relative height (1): 0mm; Thickness (2): -300mm;

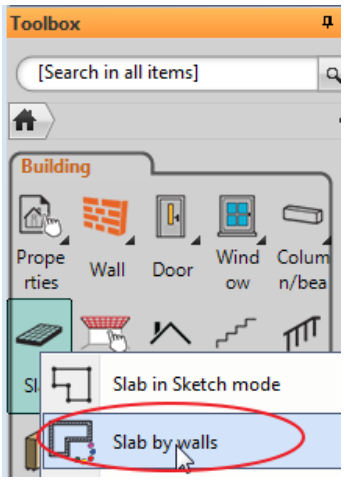


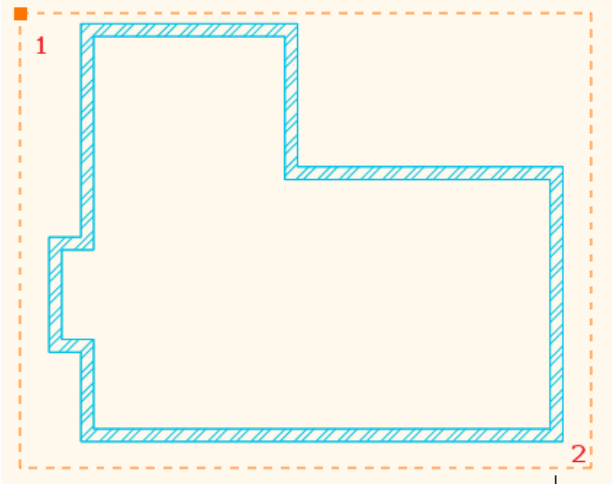


1.3.2. Create floor

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.

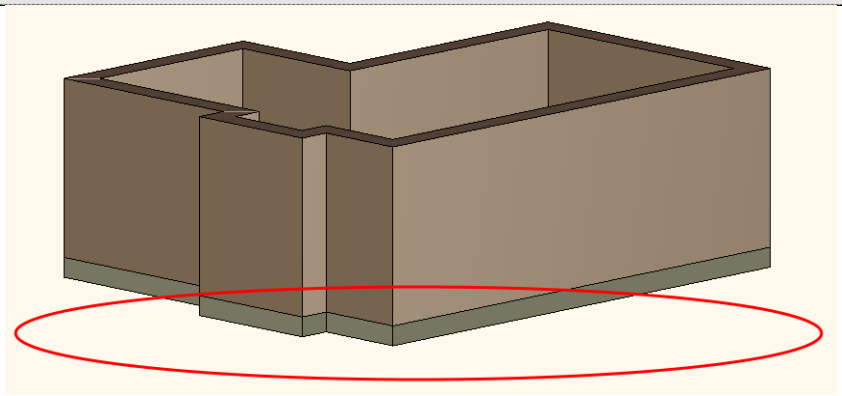
- Select the command: **Toolbox/Building/Slab/Slab by walls.**
- Select all the walls with a selection window. Click on the screen two diagonal coordinates that forms an enclosing box around all items (1,2).
- Click on the two opposite corner points of the selection rectangle and hit Enter to finish to close the command
- The program creates the floor and generates it in 3D view as well.





Your screen should look as follows: The slab is ready and you see it in the 3D view under the walls.

Activate the 3D view with a click inside the window and try to rotate it clicking on the NaviBar (1) – Rotate button (2)

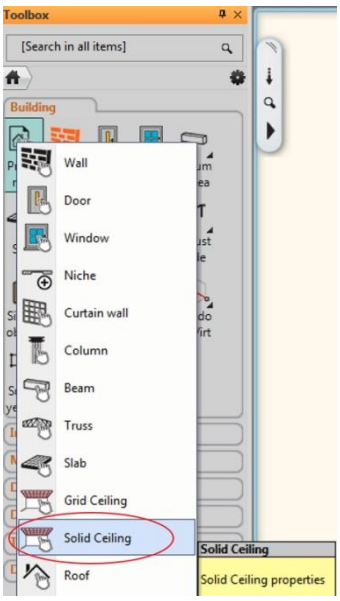


1.3.3. Add Ceiling

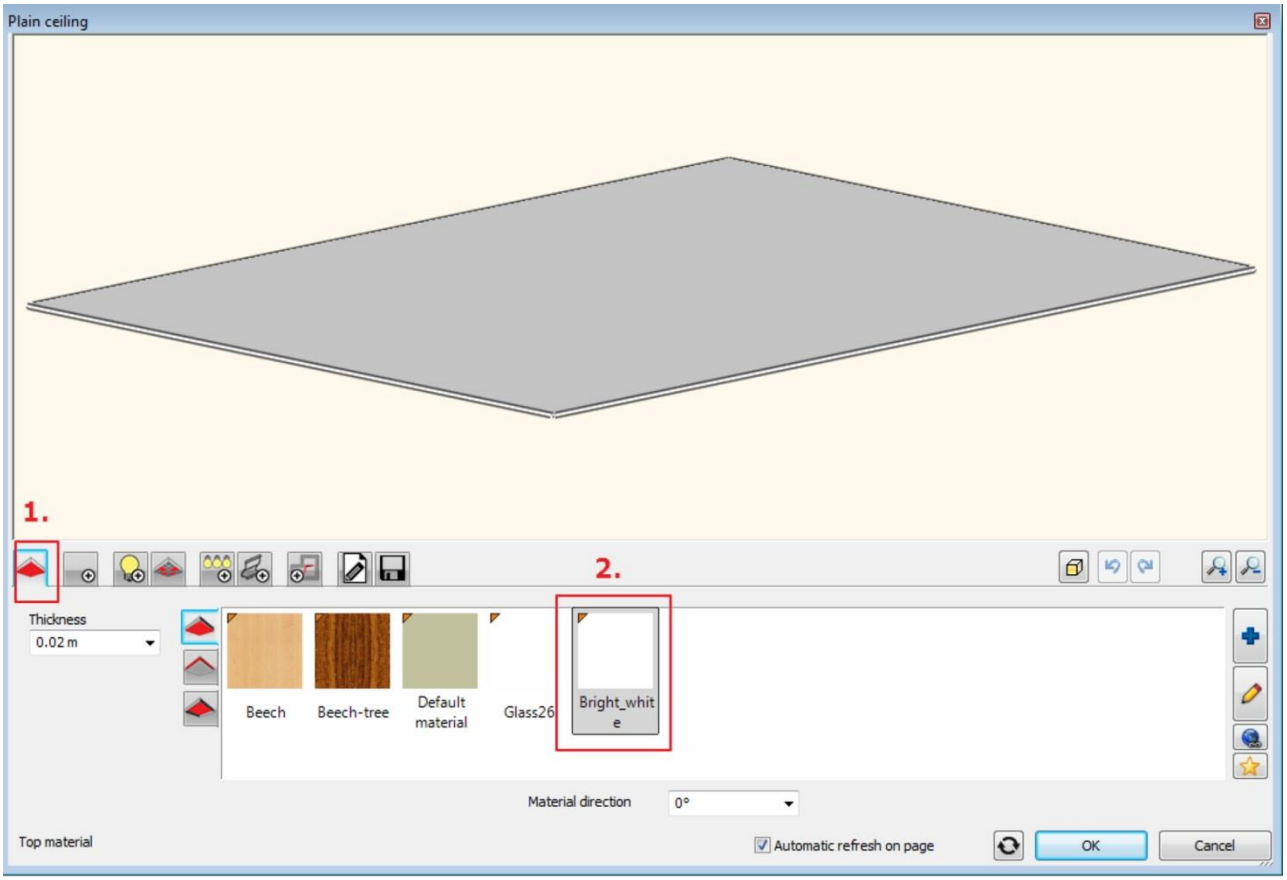
Now we will create the ceiling.

First of all set the Solid ceiling properties.

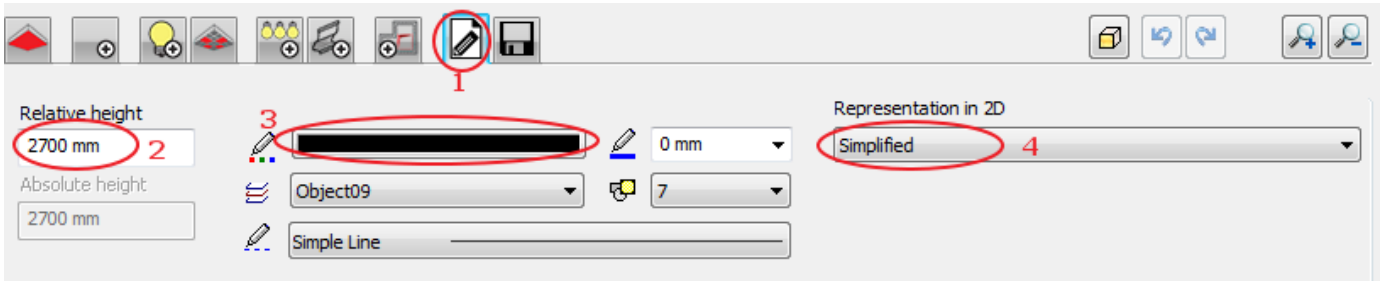
- Click on the **Toolbox/ Building/Properties/Solid Ceiling**
- The Plain Ceiling Properties window will appear on your screen.



- Click on the Top Material icon to change the material(1).
- Change bottom material to Bright White (2).

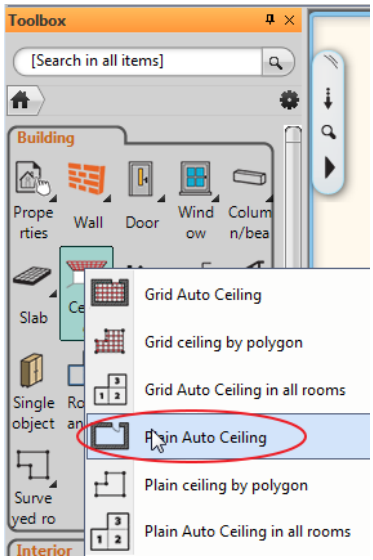


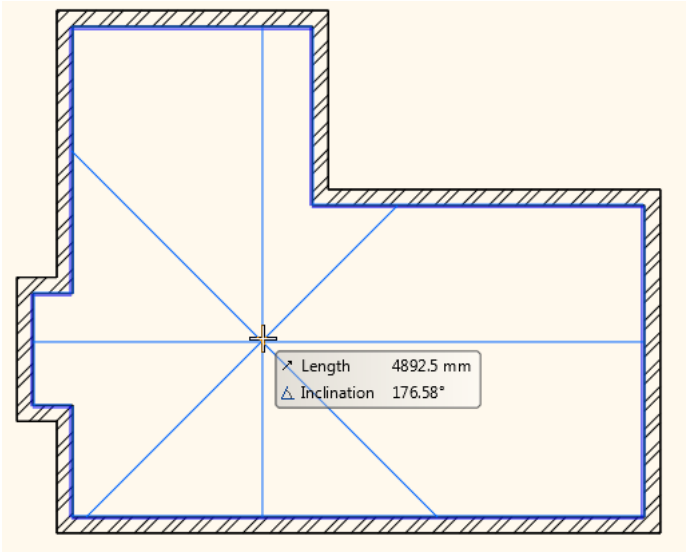
- Click on the General setting icon (1).
- Change the relativ height to 2680 (2).
- Change the colour to black (3).
- Choose Simplified option (4) for the 2D representation.



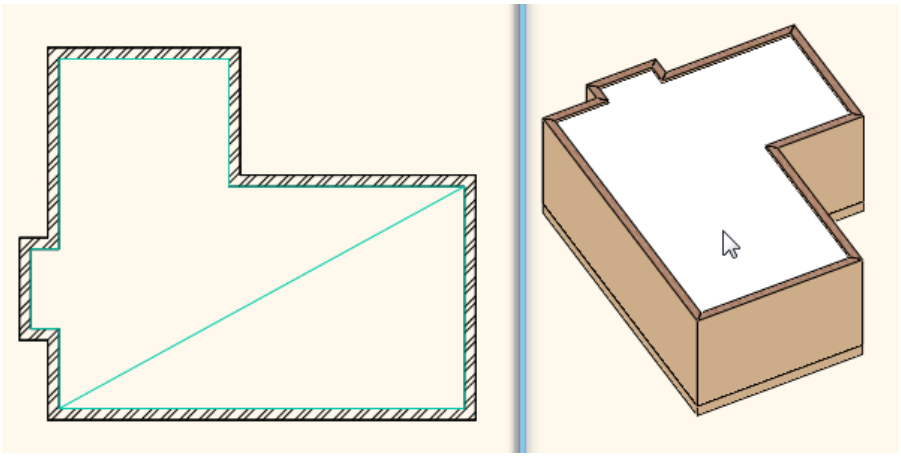
Choose the Ceiling tool - Auto plan ceiling command and click inside the room.

- Activate the 2D view with a click inside the floorplan.
- Select the command: **Toolbox/Building/Ceiling/Plan Auto Ceiling**.
- Click inside the room.

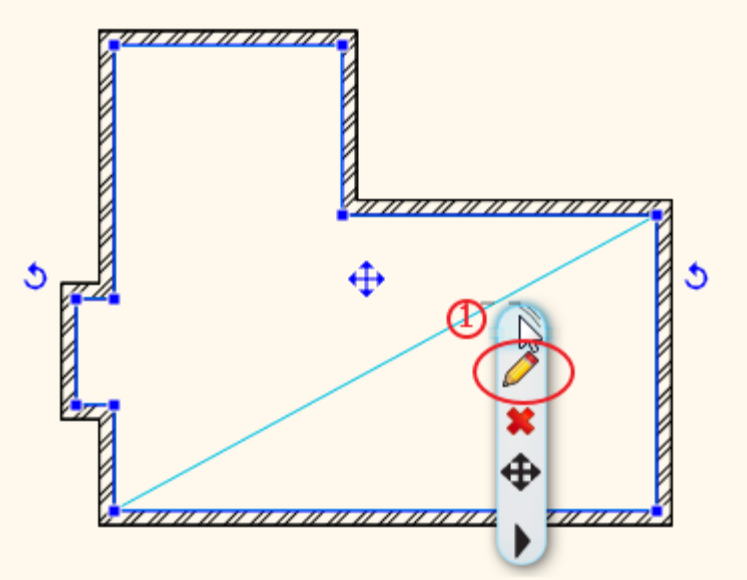




- Finally press the Enter key to close the command. The program creates the ceiling and generates it in 3D view as well.



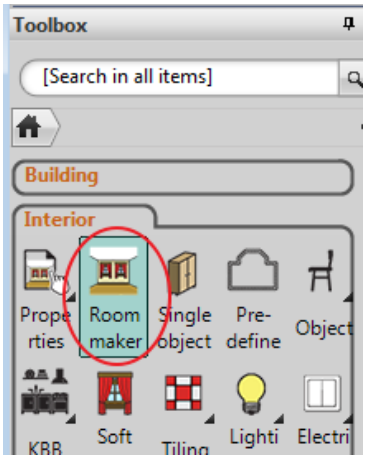
- Click on the ceiling (1) and click on the pencil marker.
  The ceiling properties dialog appears.
  Here you can change the ceiling properties as well.

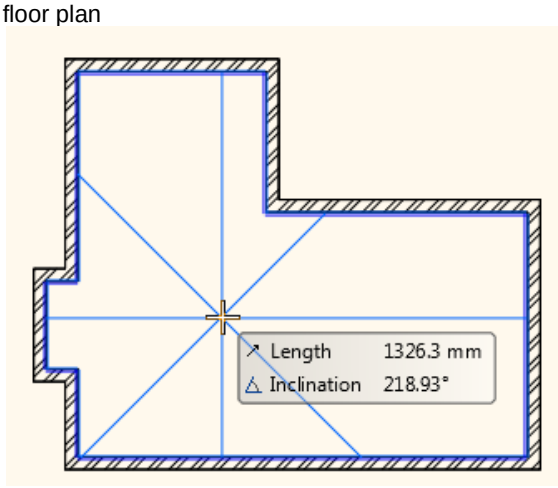


1.4. Room Maker

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: **Toolbox/Interior/Room Maker.**
- Click inside the room shape on the floor plan



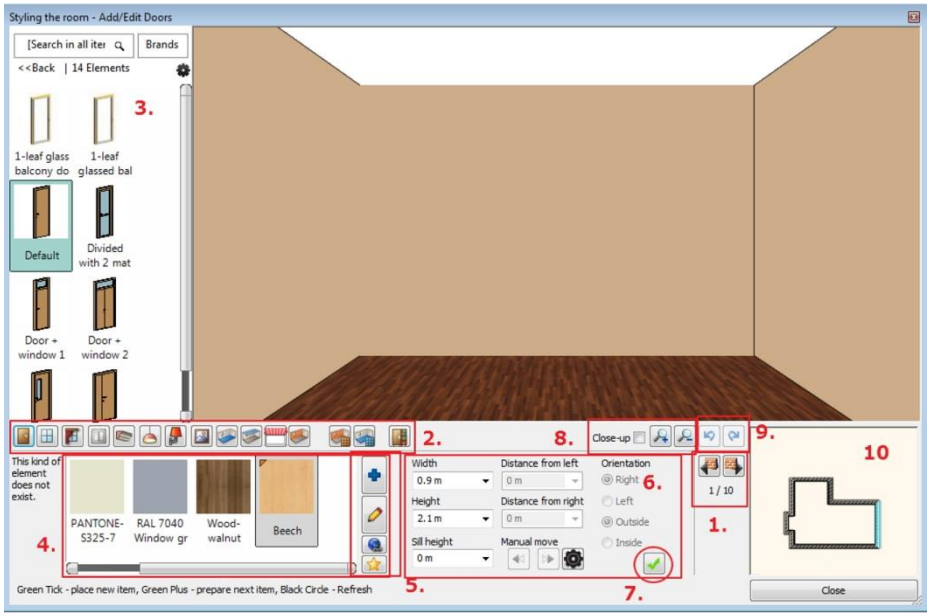


1.4.1. Room Maker – Interface Overview

- 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

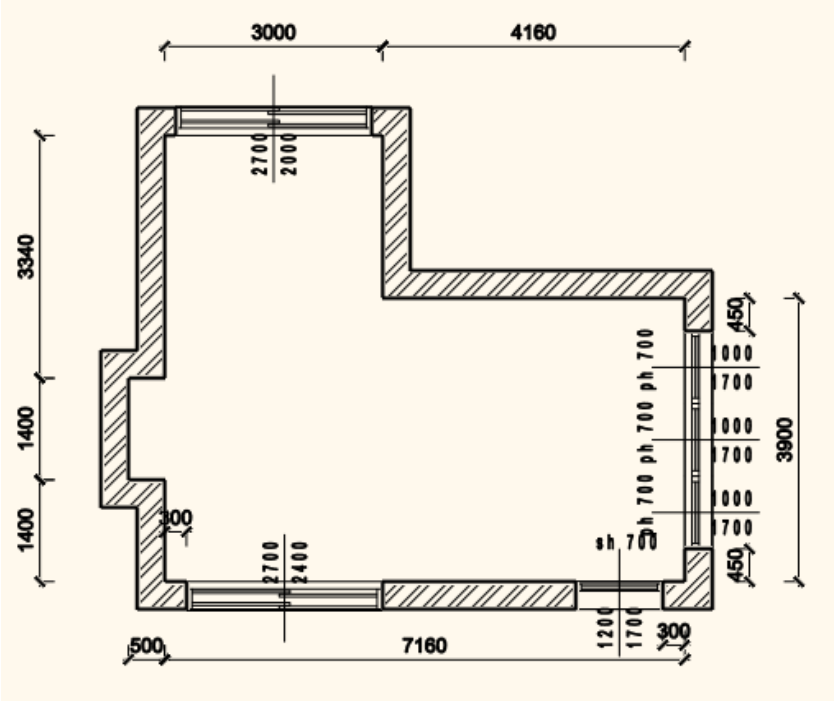


1.4.2. Room Maker – Interface

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 values 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

1.4.3. Add Doors

In this and next chapter we are going to place openings regarding the floor plan:



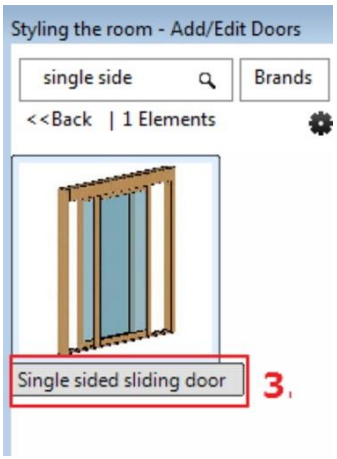
First door

Select one from the "Favourites" list or use the "Browse" button to find even more.

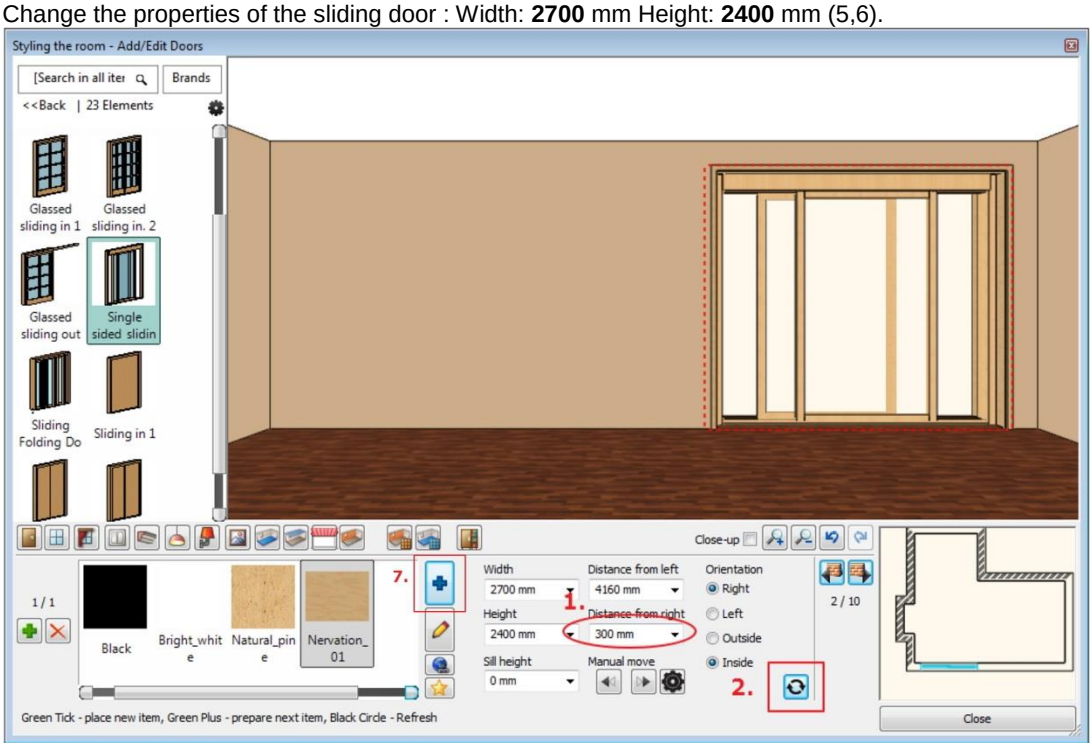
Select a the door.

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

- 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 (3) in the search result list.



- Select the wall with the length 7160 mm clicking on the Wall finder button (4)
- Change the properties of the sliding door : Width: **2700** mm Height: **2400** mm (5,6).

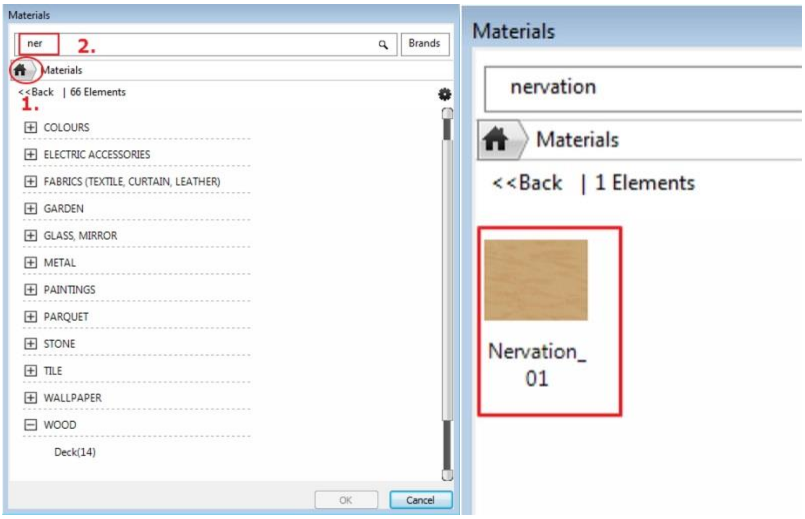


- Select Nervation_01 from the favourites.

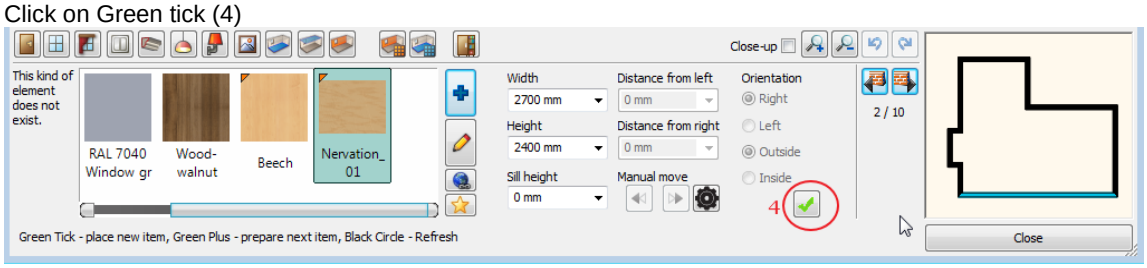
Very probably the Nervation_01 is missing from the favourites so must add it with the **Add new material** button (7).

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

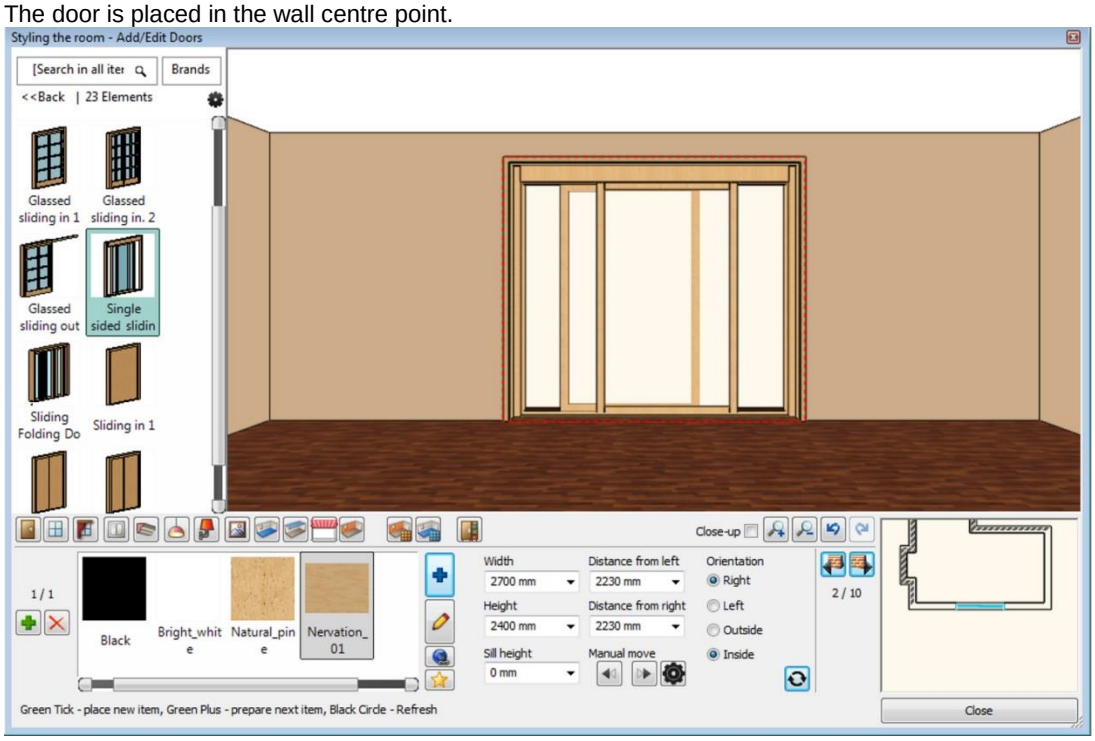
- Click on the Home button (1) and select the first line as “Search in all items”
- Search for the desired material by typing the first part of the material name (2) : Nervation
- Select the appropriate material from the list (3)
- Click on the Add new material button.



- Press Ok to close the dialog.
- Click on Green tick (4)

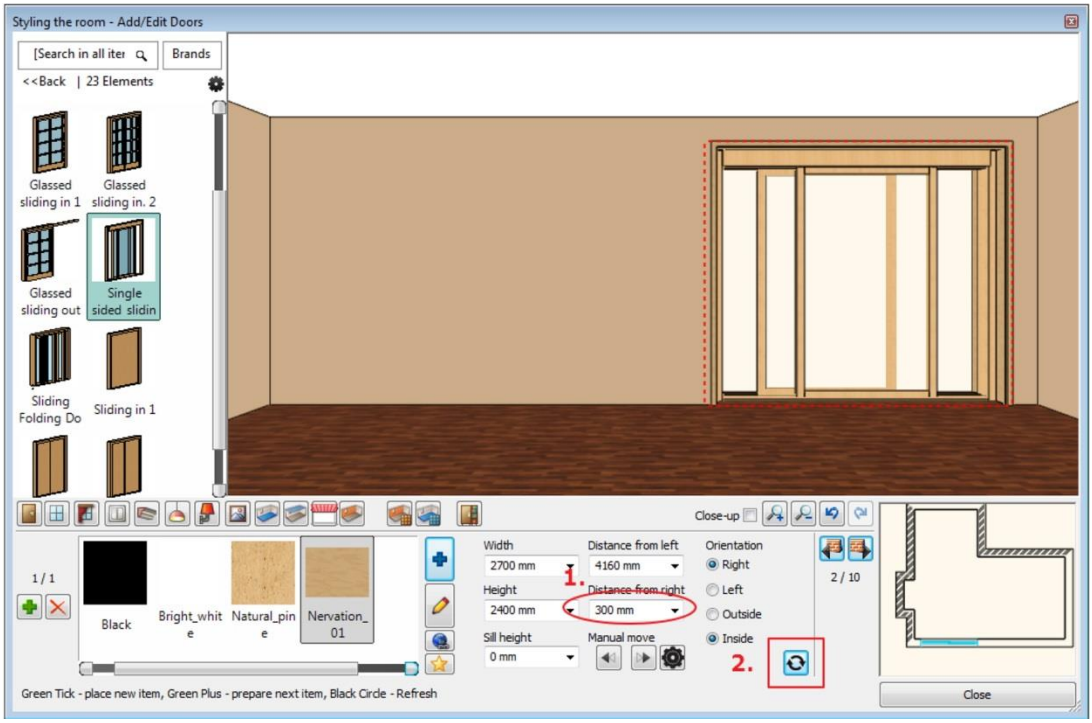


The door is placed in the wall centre point.



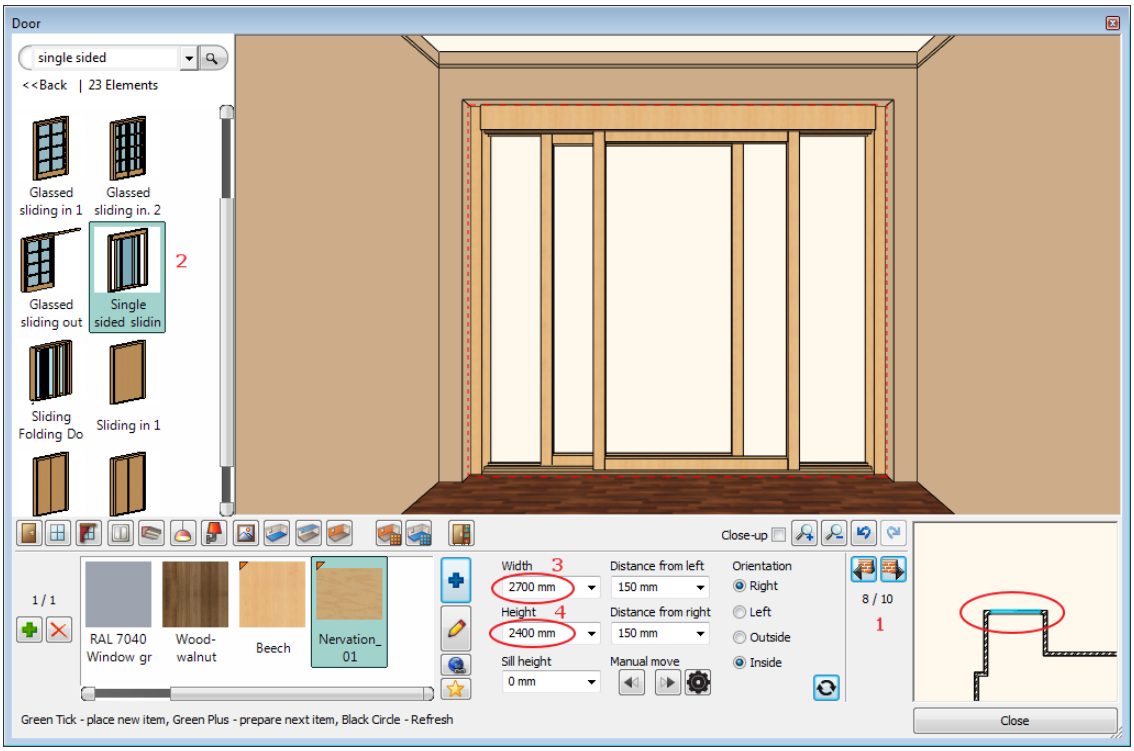
Once the door is in the wall, you can change its distance from the corners.

- Change right distance to 300 mm (1) and press Enter or Update icon (2).



Next door placement

- Select the wall with the length 3000 mm clicking on the Wall finder button (1) and you will place the next door on it.
- Select the same door type, **Single sided sliding door** (2) and change properties: Width: 2100 mm Height: 2400 mm (3, 4).
- Click on Green tick –the door is placed in the wall centre point

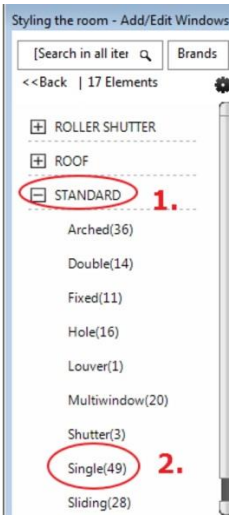


1.4.4. Add Windows

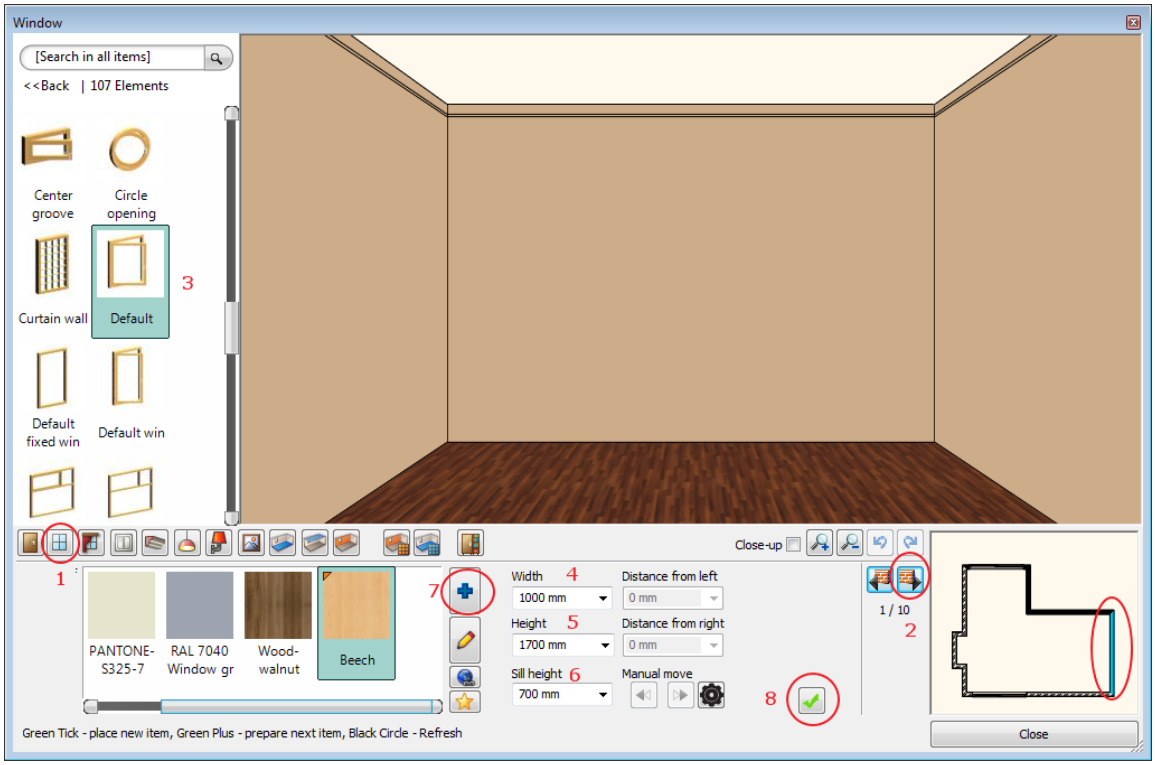
First window

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

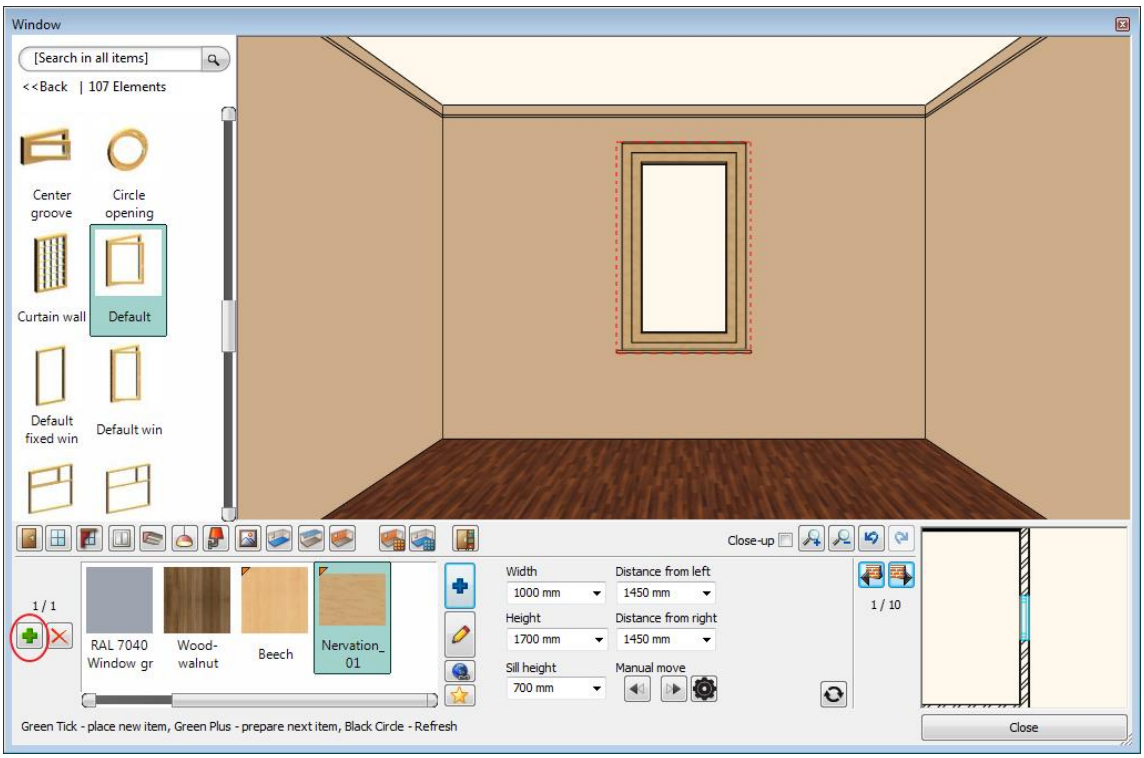
- Press on the Toolbar the window icon (1). Select the indicated wall with Wall finder (2): We place the first window on this 3900 mm long wall.



- Choose Default type from the favourites (3) and change properties: Width:1000 mm, Height: 1700 mm, Sill height 700 m, (marked as 4,5,6,).
- Click on the *Add new material* button (7).
- And select Nervation_01 from the Material library.



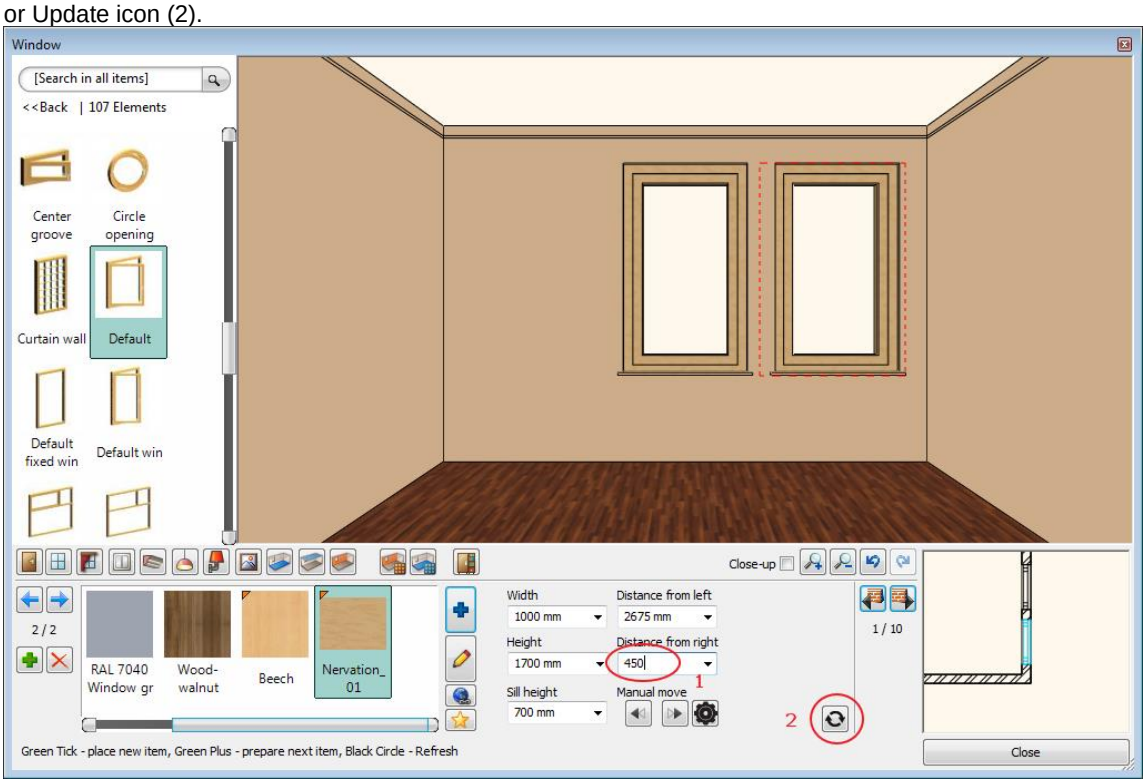
- Click on Green tick (8) – the window is placed in the wall centre point.



Second and third windows

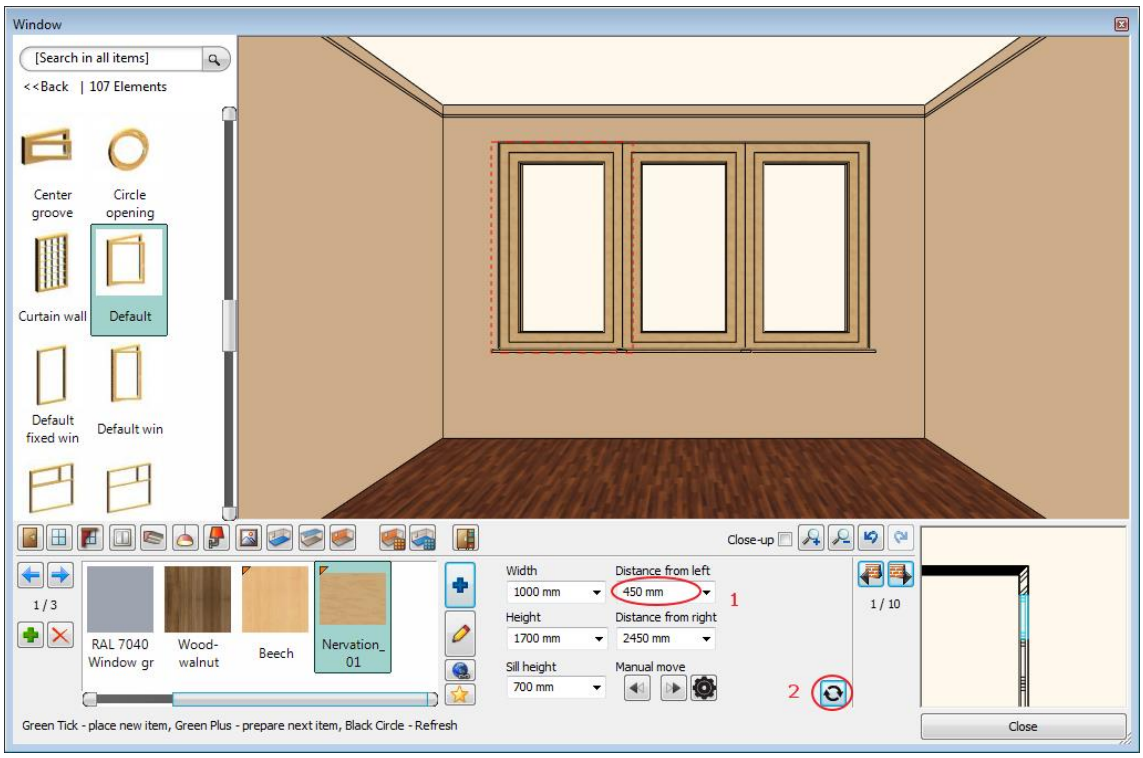
Place the second window on the same wall:

- 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 (1) and press Enter or Update icon (2).



Place the third window on the same wall:

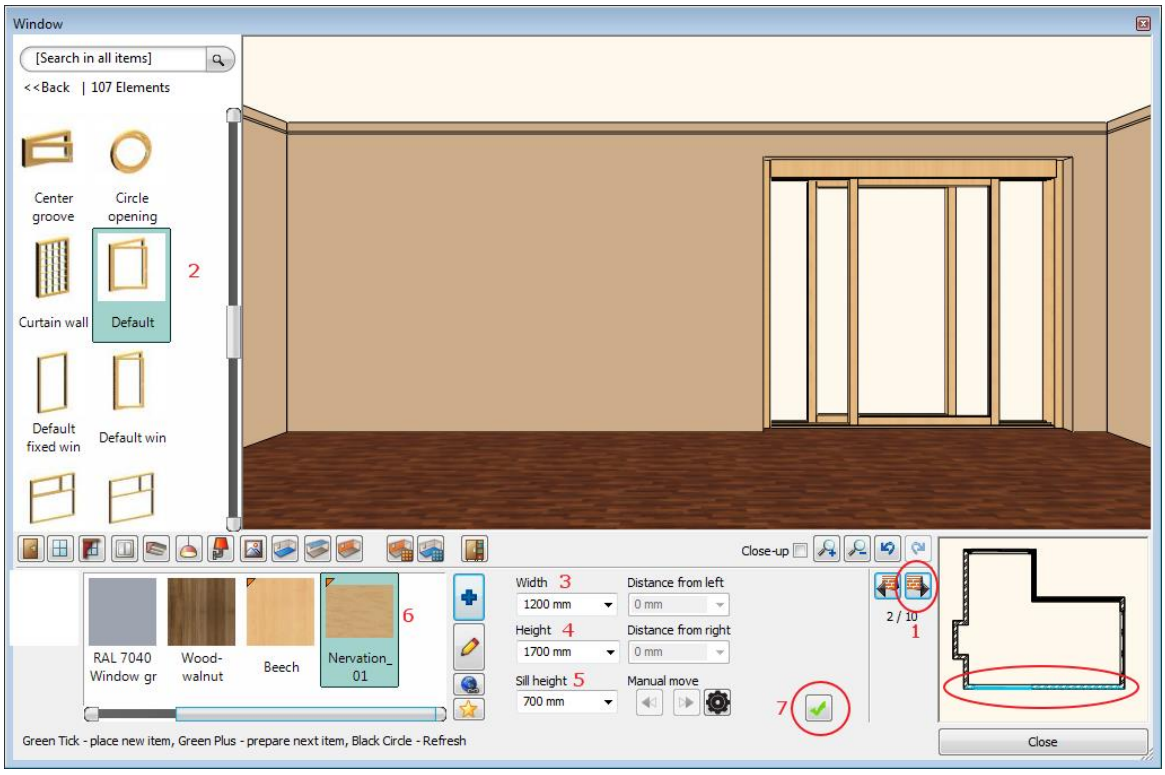
- Press the Green Plus first to prepare the next window.
- Click on Green tick – the window is placed on the wall where it is possible..
- Change its "**Distance from left**" value to 450 mm (1) and press Enter or Update icon (2).



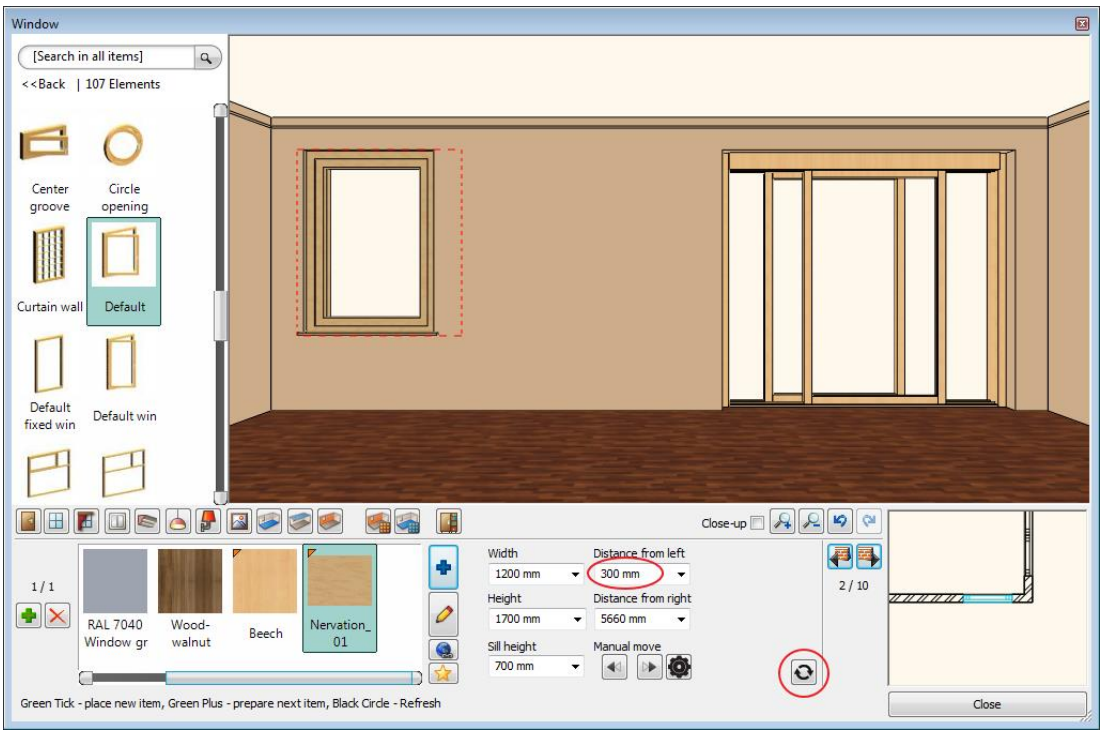
Window on another wall

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 m, (marked as 3,4,5).
- Select Nervation_01 from the favourites



- 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

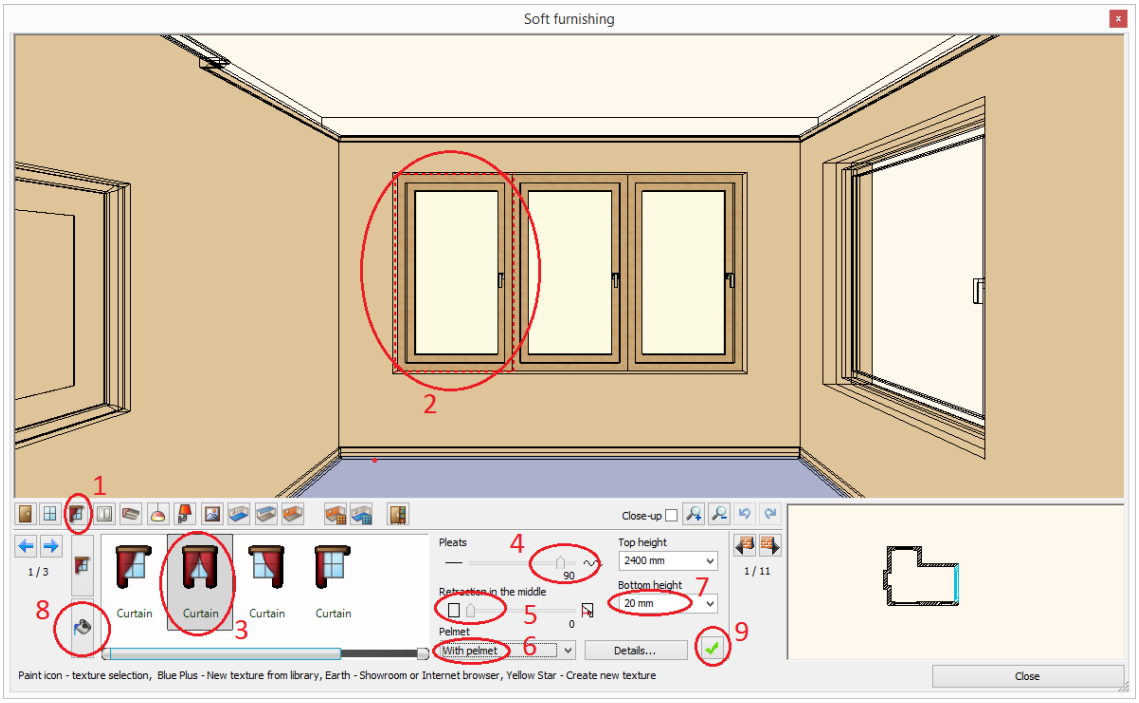
ARCHLine.XP offers a wide variety of window treatments.

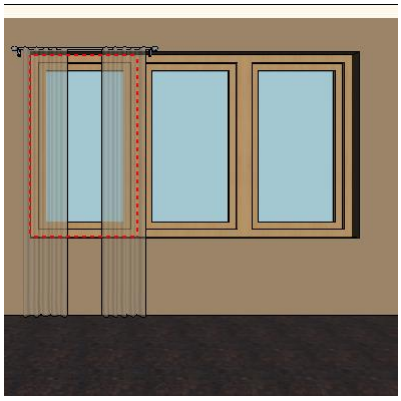
Select a curtain for example and customize it.

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). The curtain will be placed on this window.
- Select the 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 02”
- Click on Green tick (9) – it will place the curtain in front of the window.
- Click on Close-up (10) checkbox to see the curtain in optimal view.

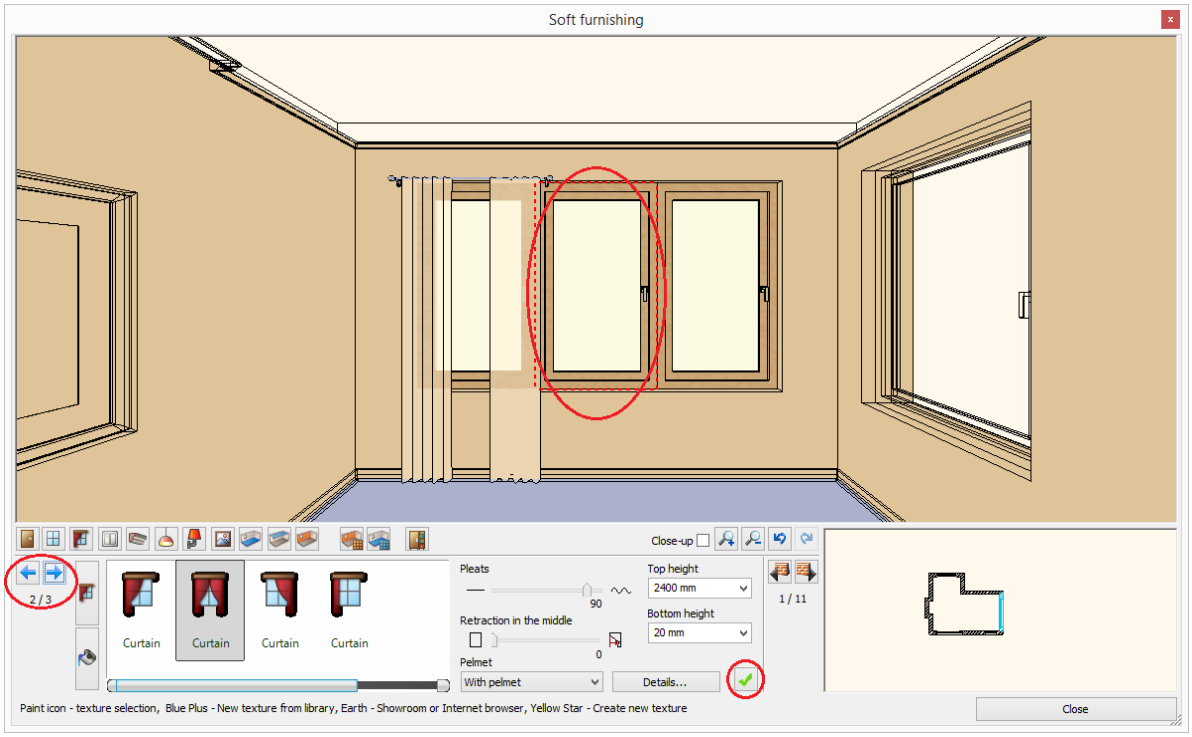


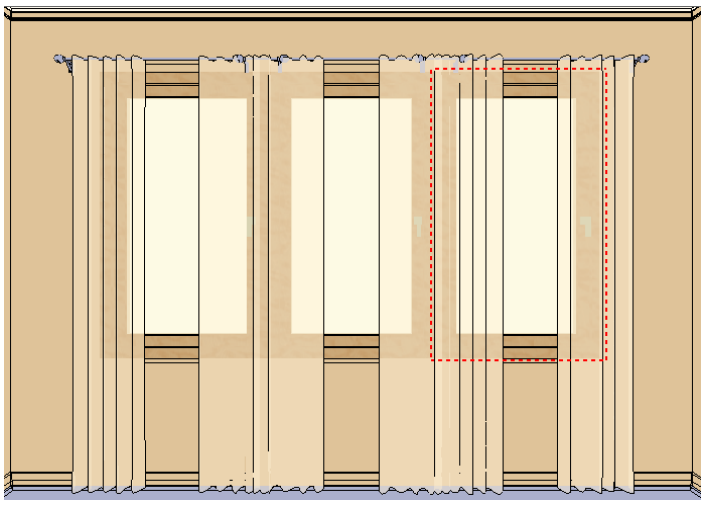


More curtains

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.





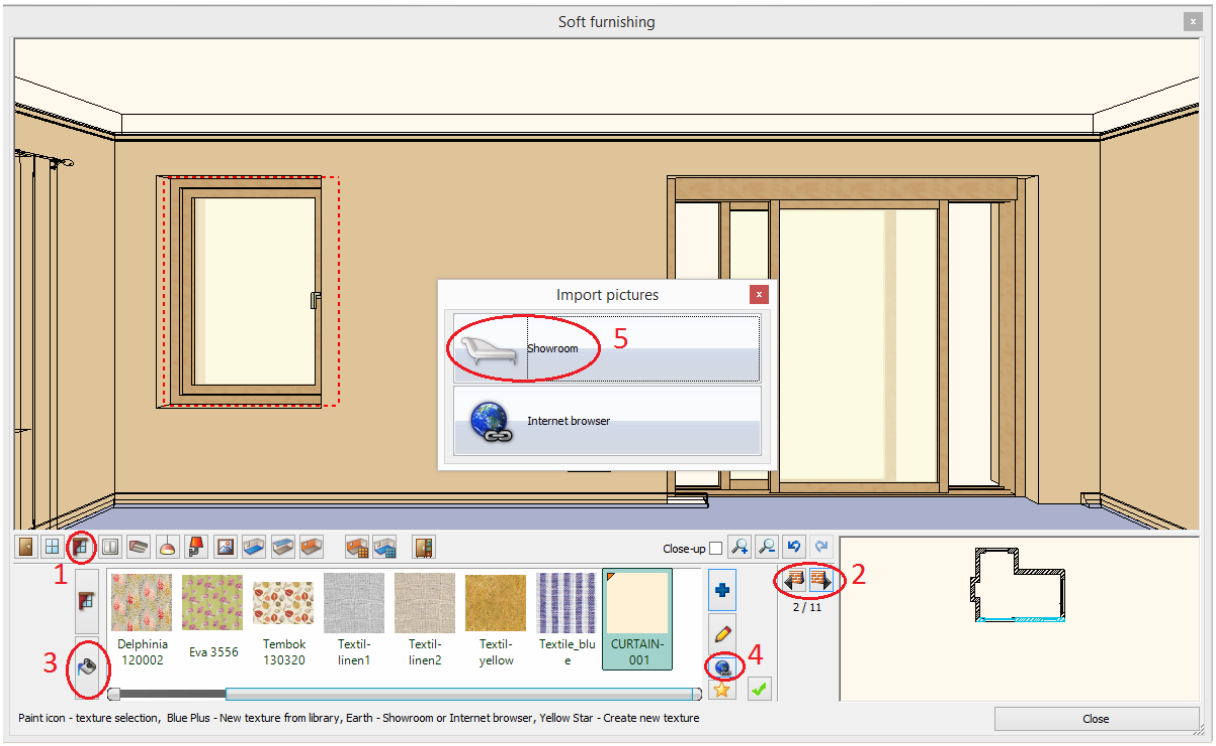
Curtain on the fourth window – Optional

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*:

*This topic is optional as requires Internet connection.



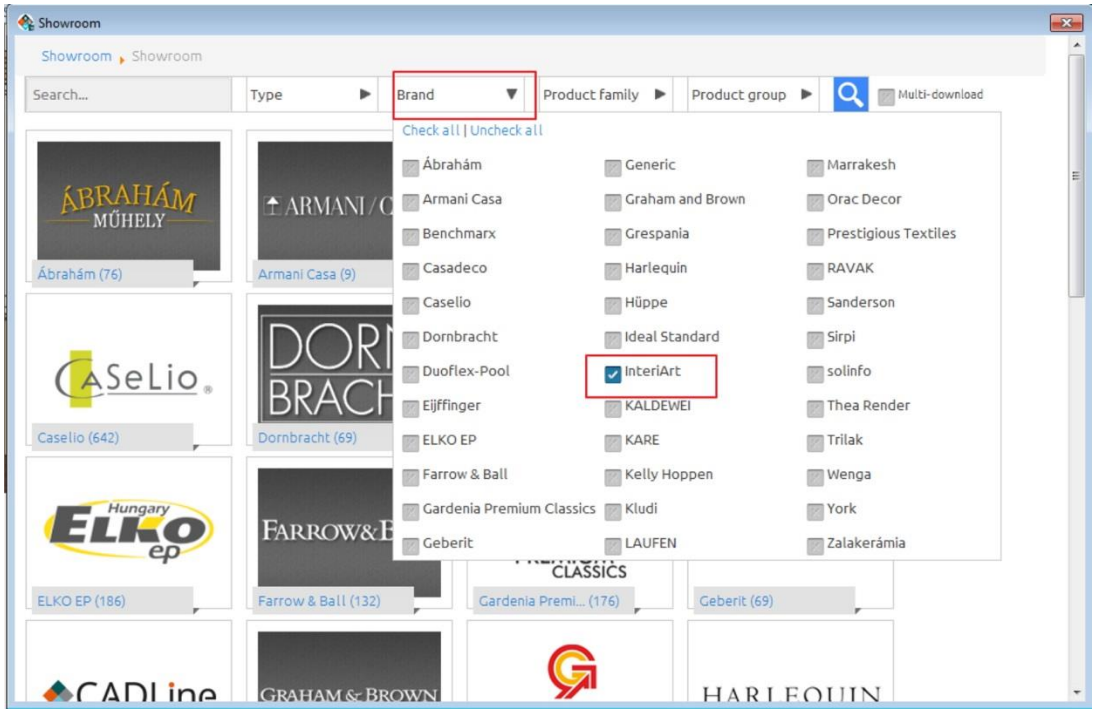
- Press on the Toolbar/Soft Furnishing icon (1).
- Select this wall with the length 7160 mm with clicking on the Wall finder button (2).
- Click on the Texture button (3).
- Click on the Internet button (4)

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

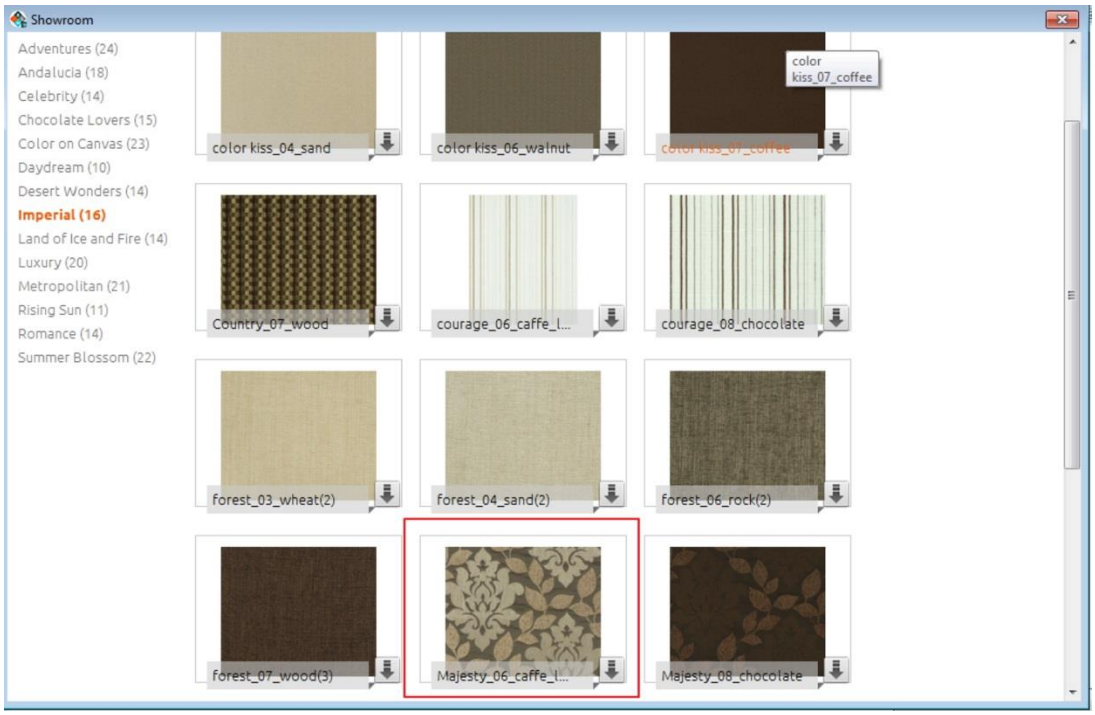
Pattern from the Showroom

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.

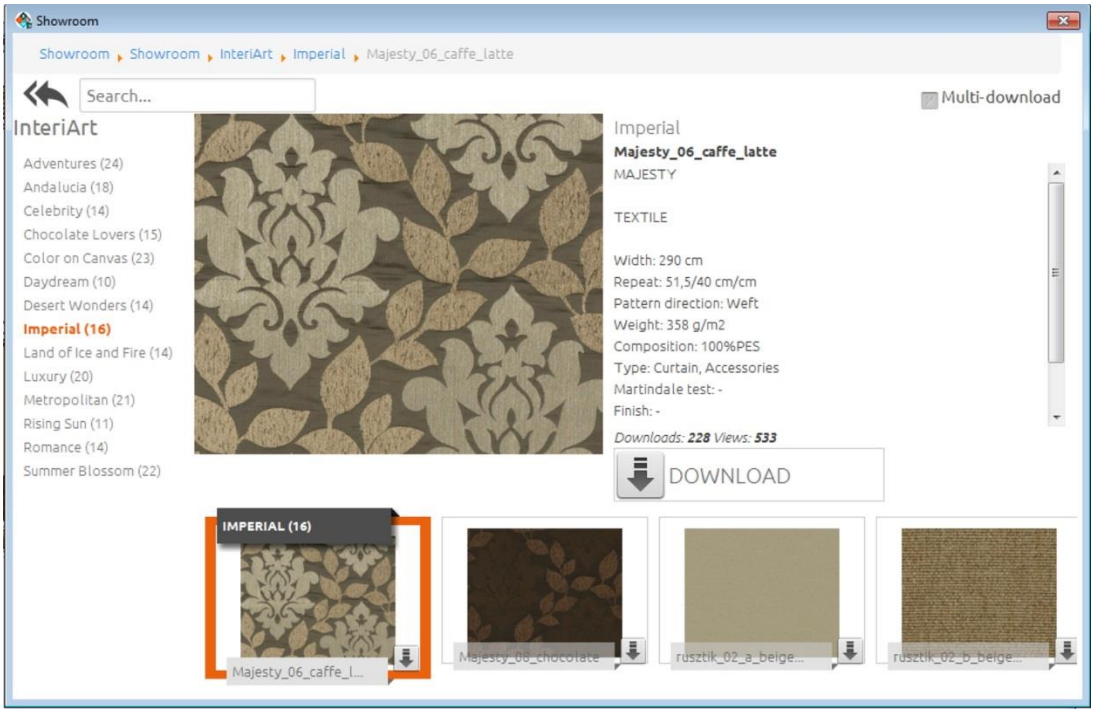
- Choose Showroom (5) . Your browser opens the ARCHLine.XP Showroom
- Select the Fabrics, wallpapers, etc. category and open the InteriArt family.
- Select the Imperial product line.



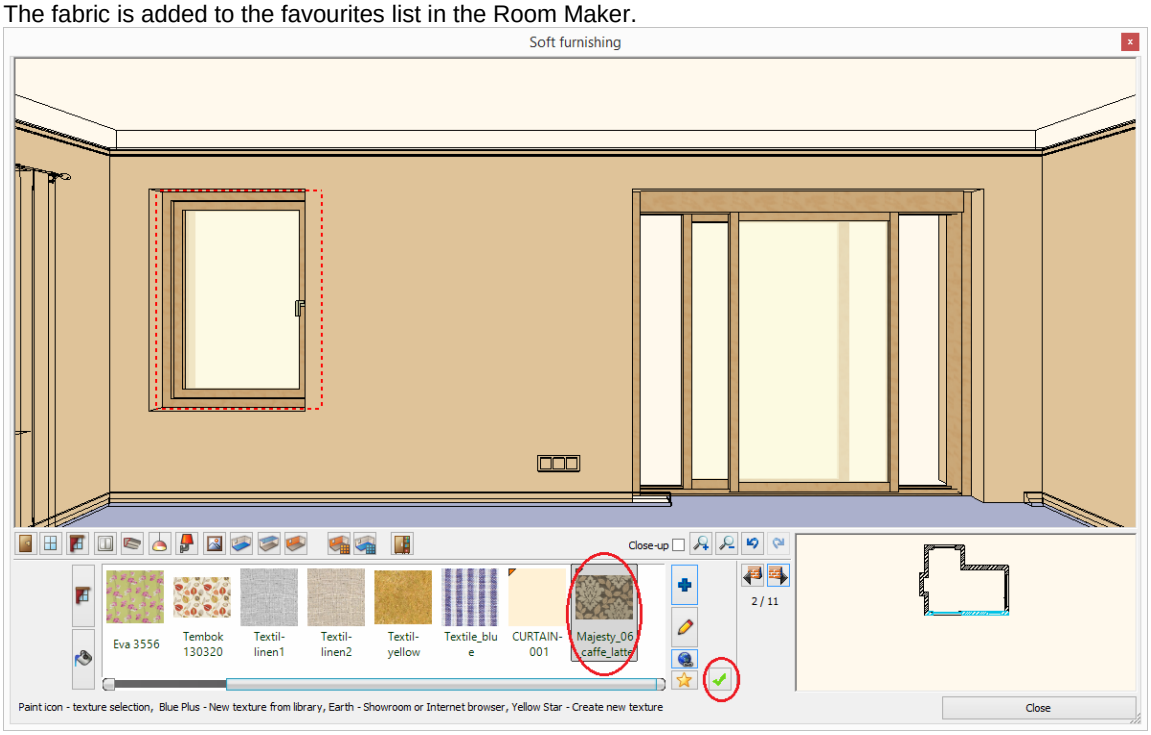
- Select the fabric named Majesty_06_caffee_latte.



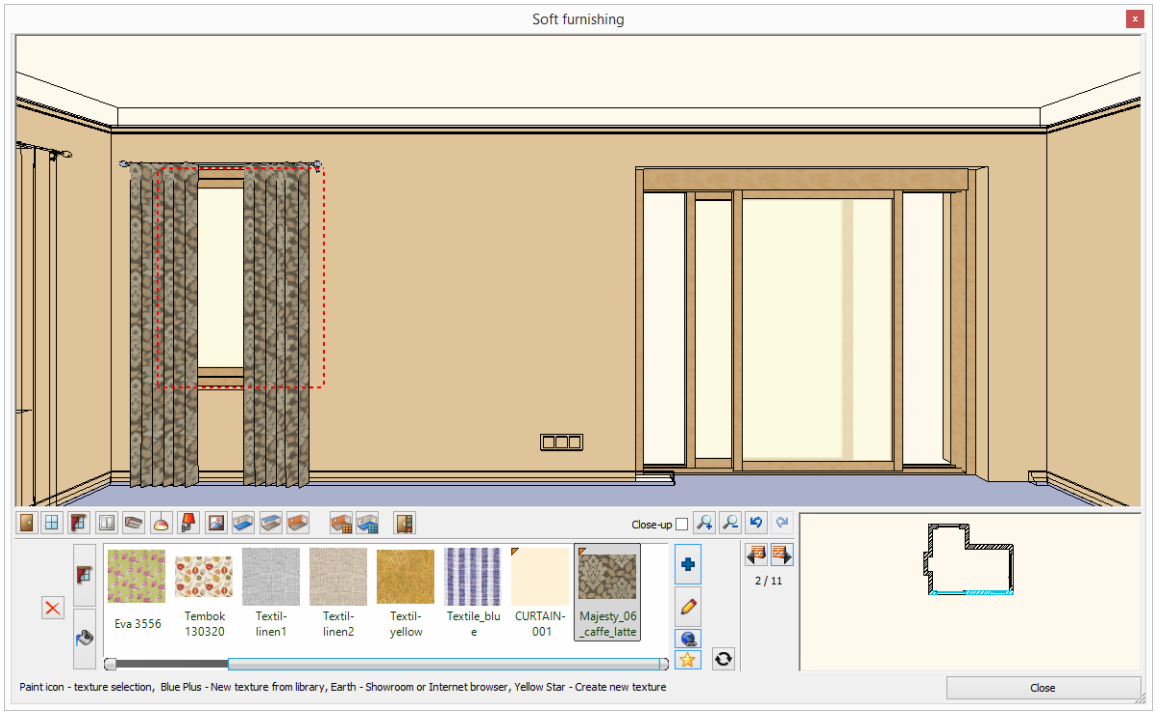
- Click on Download button.



- 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.



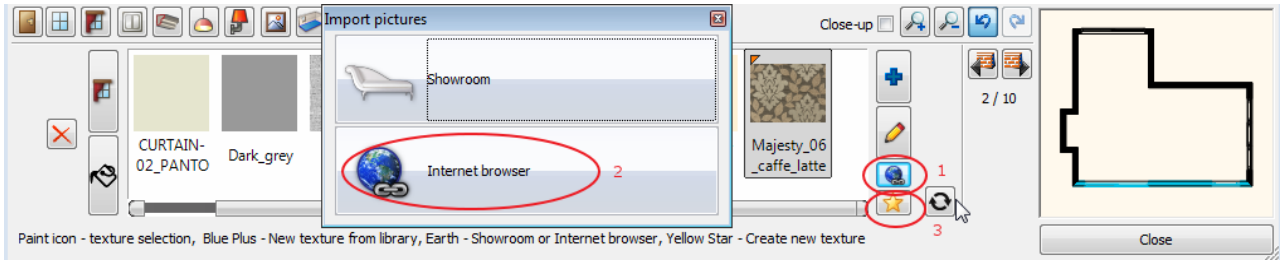
1.4.6. Change Curtain fabric - Optional*

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

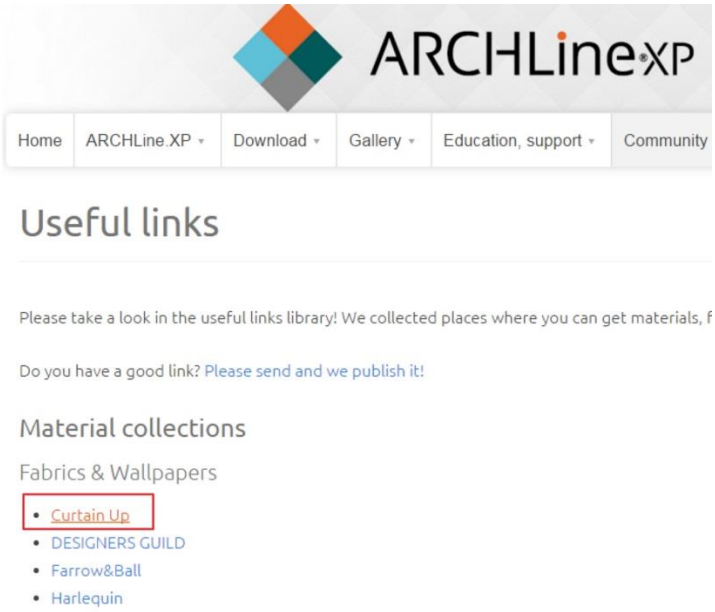
Import pattern from the producer website

*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.



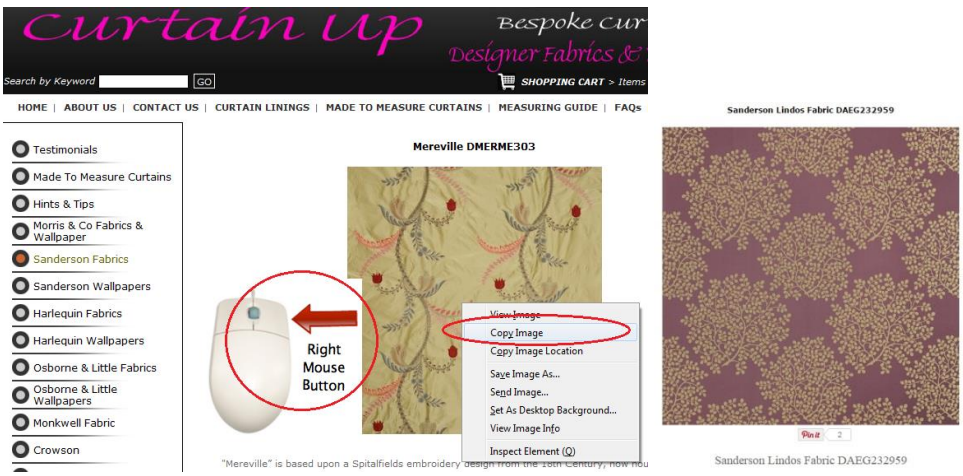
Your browser opens the ARCHLine.XP® Useful links website. www.archlinexp.com/useful_links



In our example we go to Curtain Up website to select the Sanderson Aegean Fabrics
The way how to choose the desired fabric pattern:

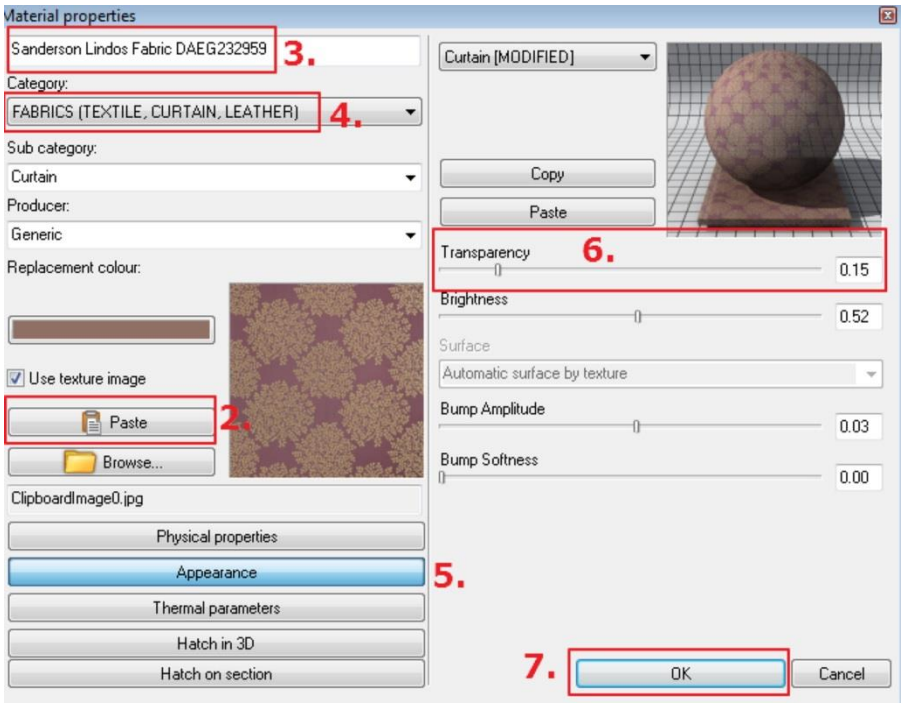
- You can insert directly the link of the producer website into the browser field or **go to Curtain Up website** to select a Sanderson fabric. Choose Lindos Fabric. Click on the image, it will be enlarged.

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

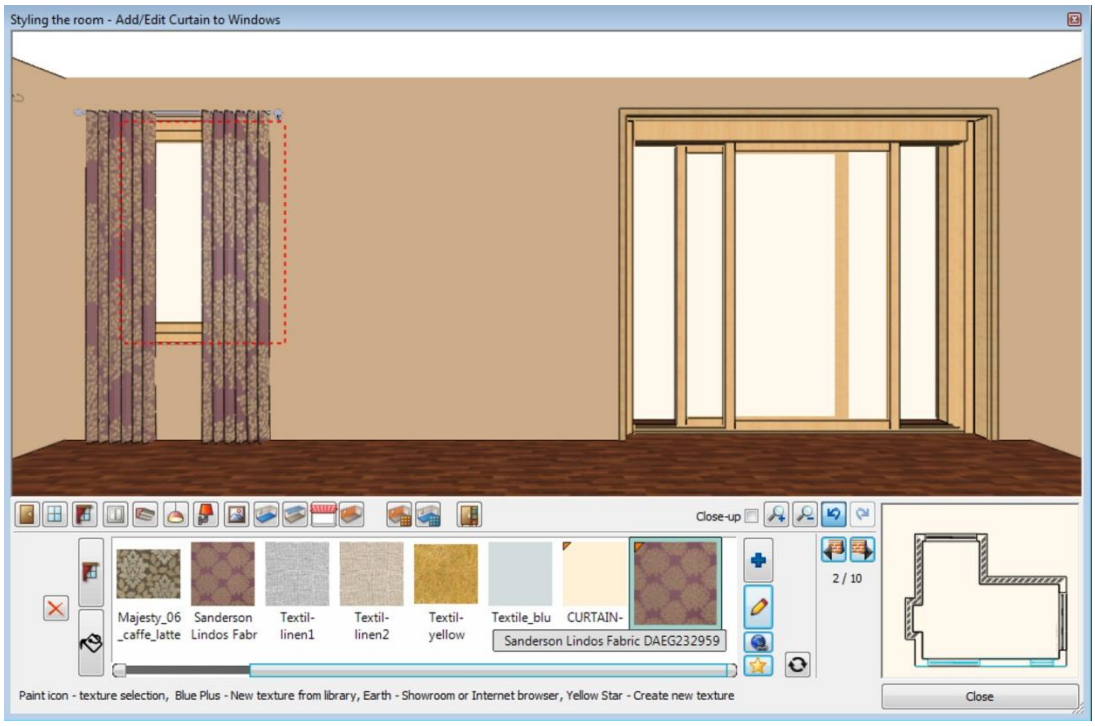


- Return to Room Maker and select New material icon (1).

- Press the Paste button (2). The image will be copied into the dialog.
- Type the name or copy and paste from the website into the name field (3).
- Select the curtain category to qualify the texture quality (4).
- Next set the appearance properties (5): Move the Transparency slider (6) to the left because this fabric is not transparent. Click on Ok (7) to close the dialog. The new fabric is added to the favourites list in the Room Maker.

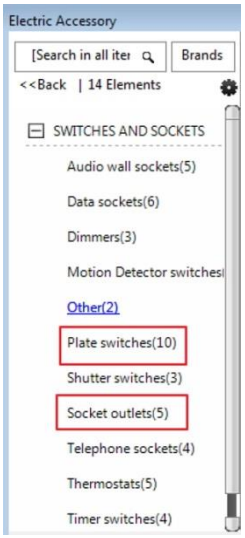


- The curtain takes the new fabric.

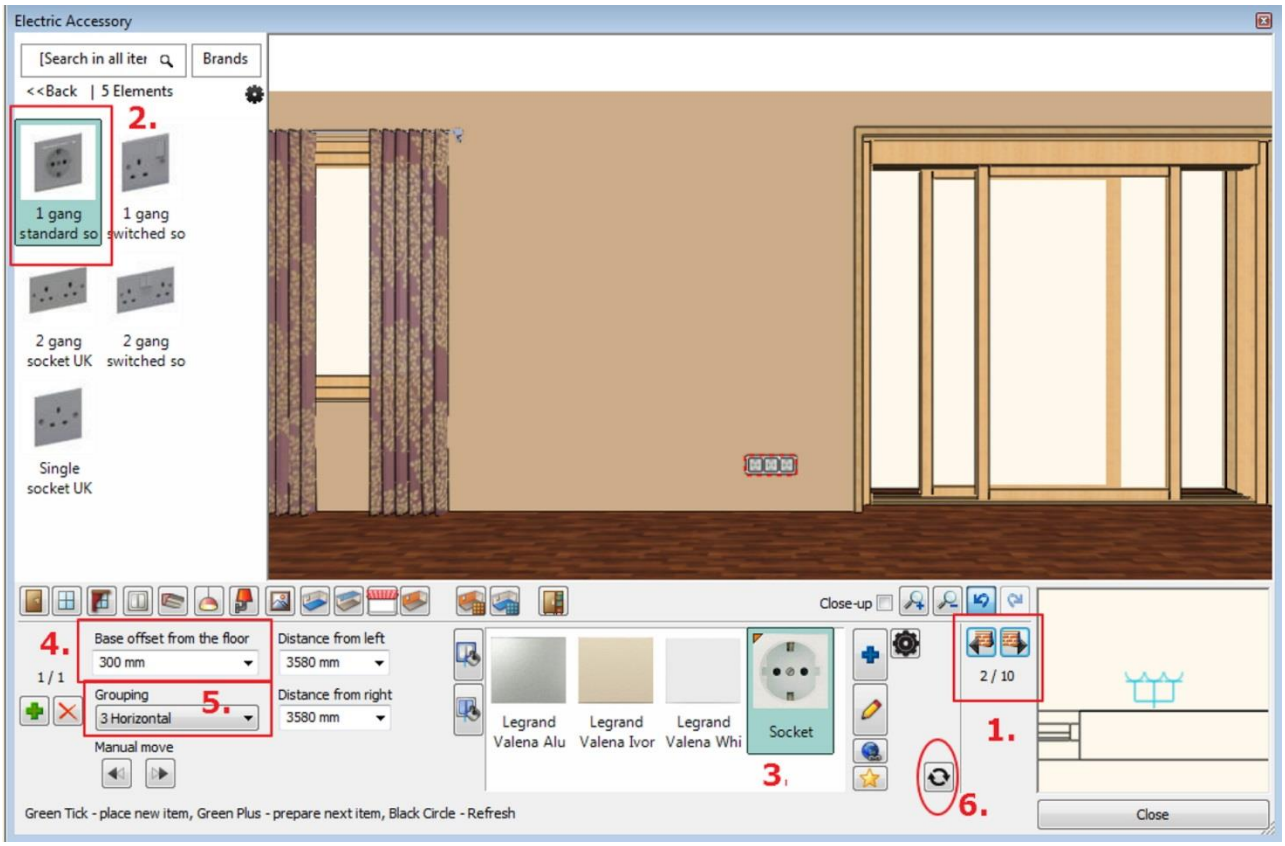


1.4.7. Add Light Switches & Sockets

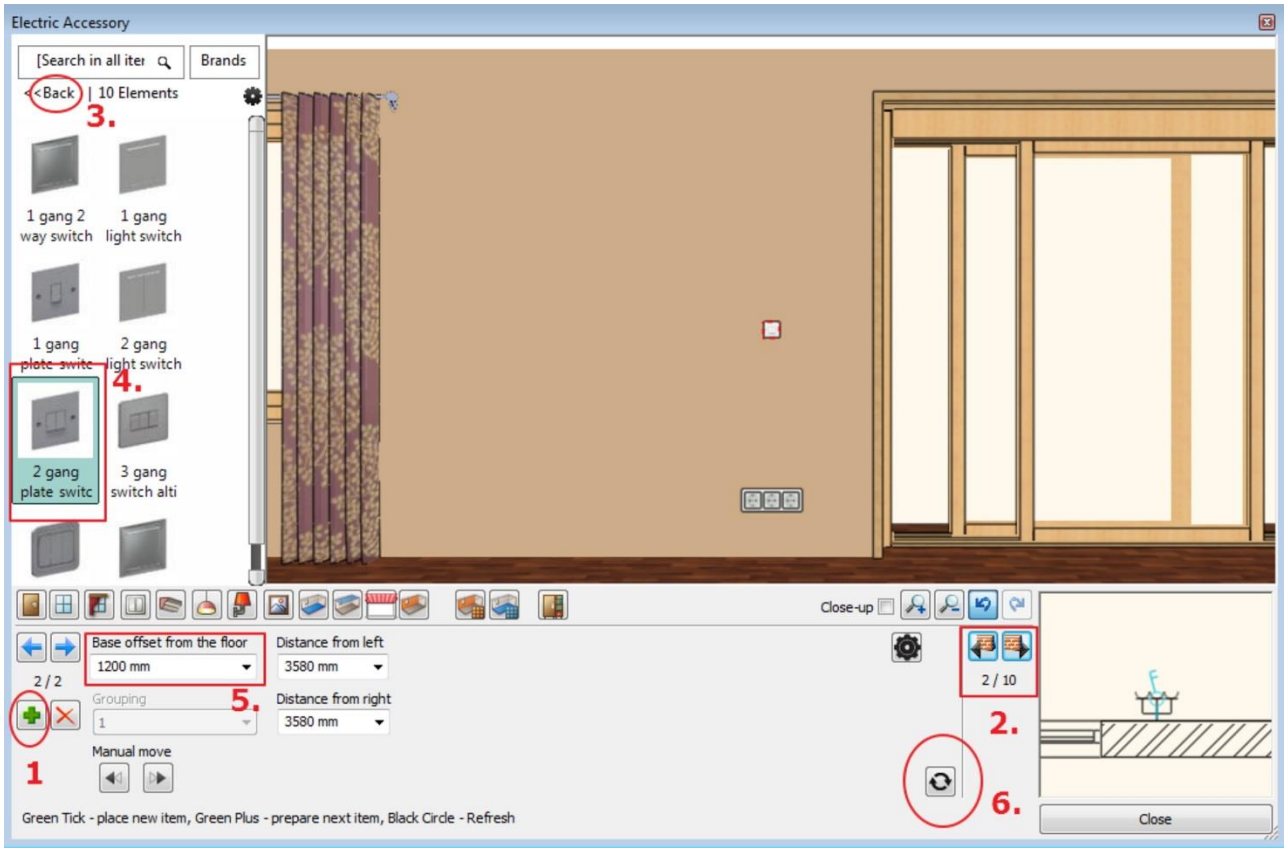
Select the Electrical accessories page of the Room maker to add sockets and switches to your design.
Select an item and set up the properties of it and place a socket on the wall with length **7160** mm.



- Select the 7160 mm long wall with Wall finder(1).
- Press on the Toolbar/Switches & Sockets icon (2).
- In the Type finder-Design Center select socket outlets and select the 1 gang standard socket (2)
- Change properties: Elevation from floor: 300mm (4).
- Change properties: Grouping 3 Horizontal (5)
- Click on Green tick (6) – The socket is placed on the wall.



- Select the 7160 mm long wall with Wall finder(1).
- Press on the Toolbar/Switches & Sockets icon (2).
- In the Type finder-Design Center select socket outlets and select the 1 gang standard socket (2)
- Change properties: Elevation from floor: 300mm (4).
- Change properties: Grouping 3 Horizontal (5)
- Click on Green tick (6) – The socket is placed on the wall.



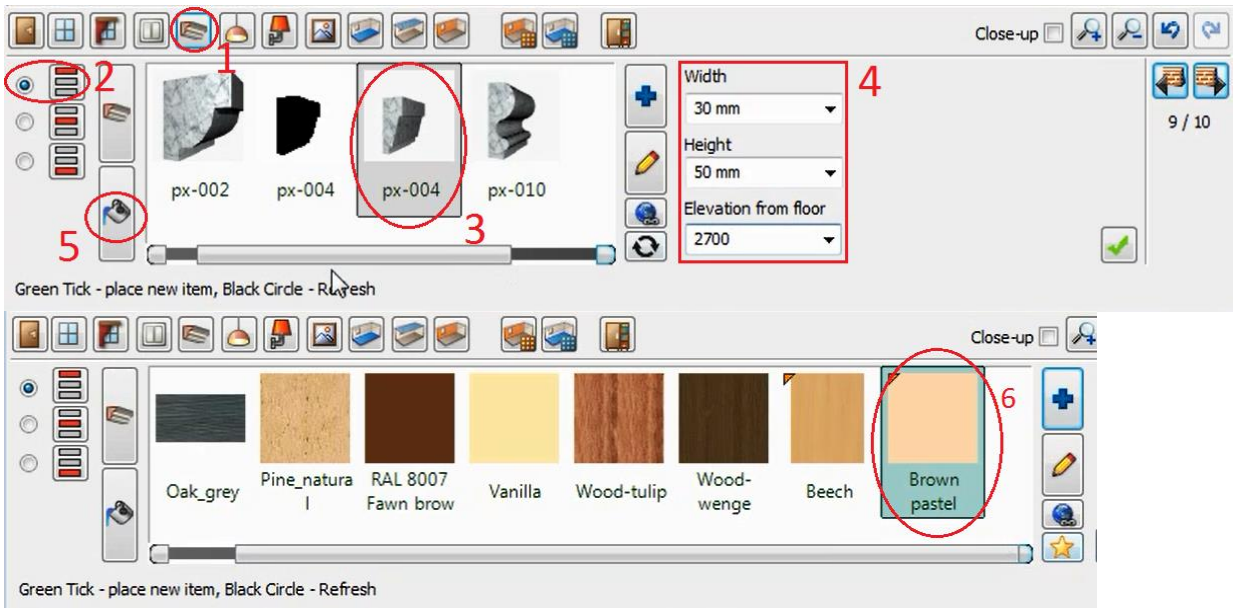
1.4.8. Add Profiles

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

Cornice

Place cornice that goes around the room.

- Press on the Toolbar the Profiles icon (1).
- Choose the Cornice option (2)
- Select the px-004 profile from the favourites (3) and change properties: Width: 30mm, Height: 50mm (4), Distance from the floor: 2700mm
- Select a material for the profile : Click on the Texture (5) and select “Brown pastel” (6).
- Click on Green tick – it will place the cornice around the room.



Skirting Board

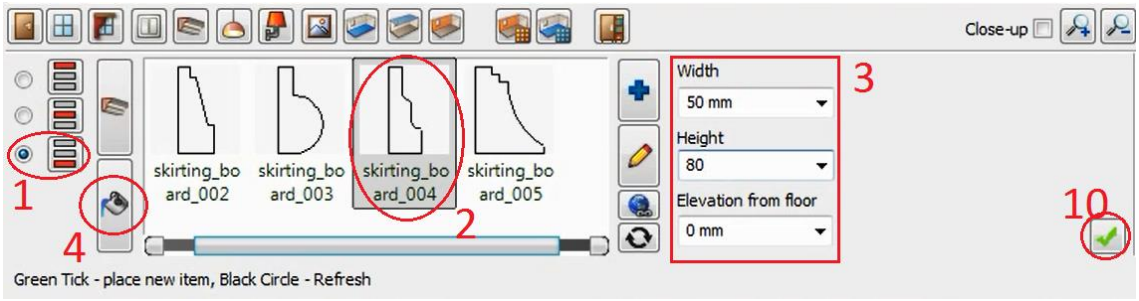
Place skirting board that goes around the room except the doors.

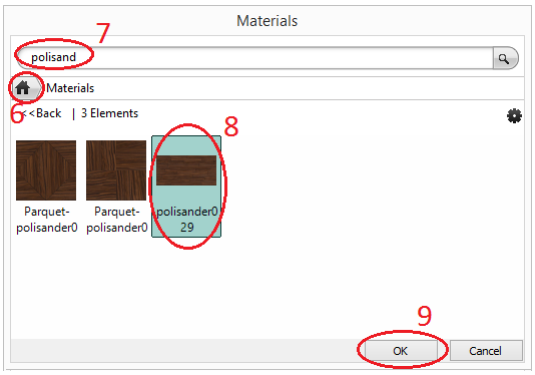
- Click on the Skirting Board icon on the left (1)
- Select the skirting board_004 profile from the favourites (2) and change properties: Width: 50mm; Height: 80mm, Distance from the floor: 0mm (3)

Very probably the Polisander_029 is missing from the favourites.

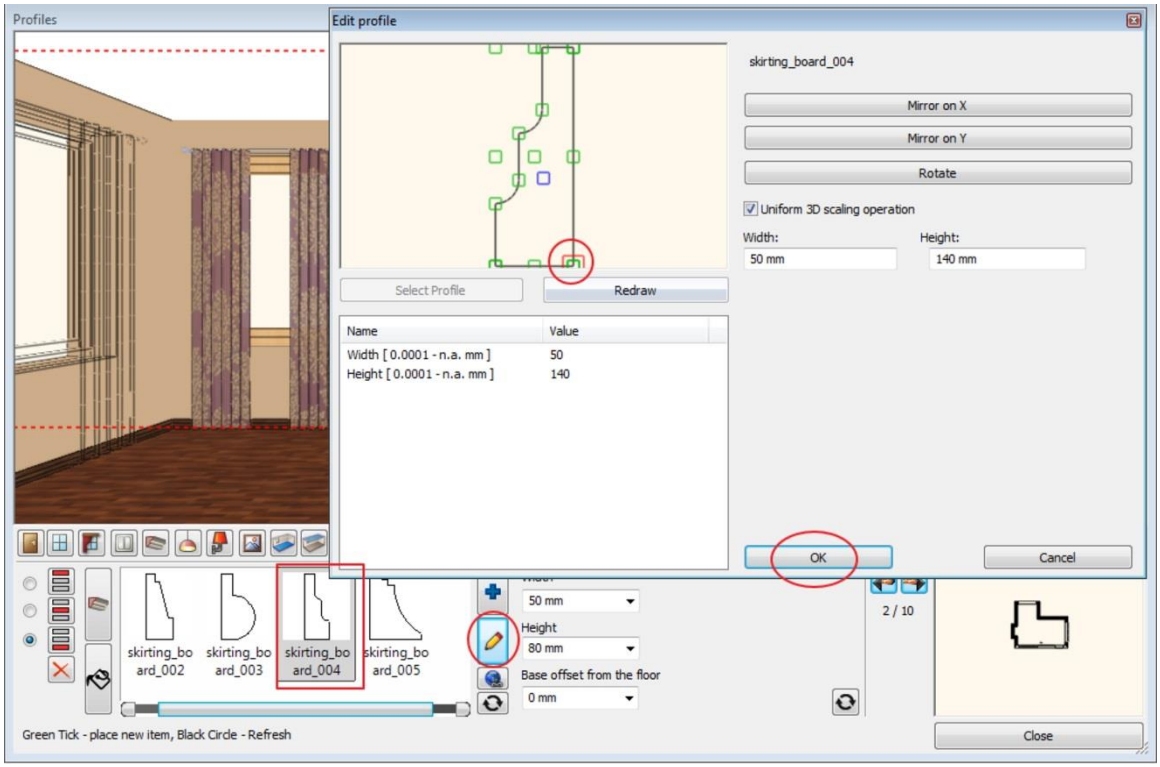
- Click on the Texture (4) and click on New materials (5) – the Blue plus button
- You will see the Design Centre that contains all material types. See below.
- Click on the Home button (1) and select the first line as “Search in all categories”
- Search for the desired material by typing the first part of the material name (2) : Polisand
- 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.

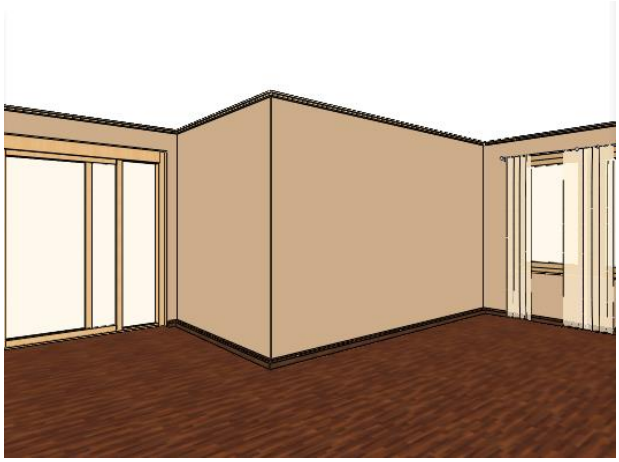
- Click on Green tick (10) – it will place the skirting board around the room.





Attention!
If you find the skirting board on an improper position you should check the profile reference point. Click on the Edit button (yellow pencil) 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.





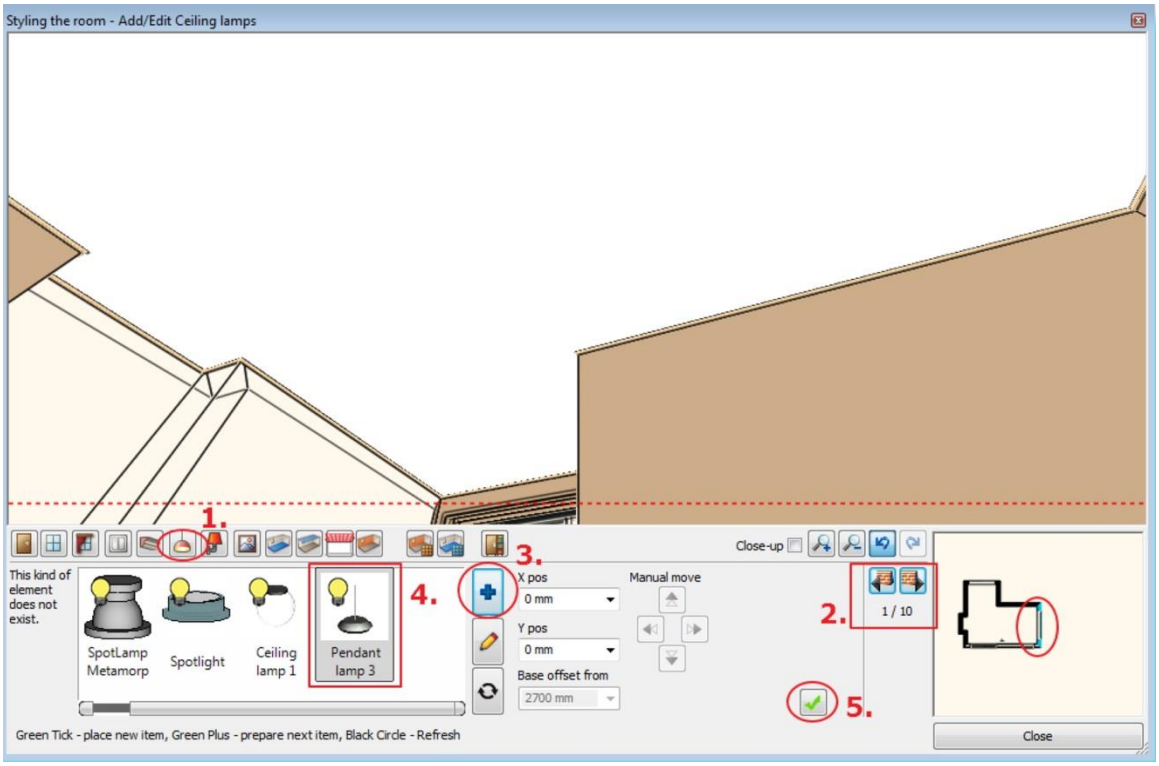
1.4.9. Add Ceiling lamps

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

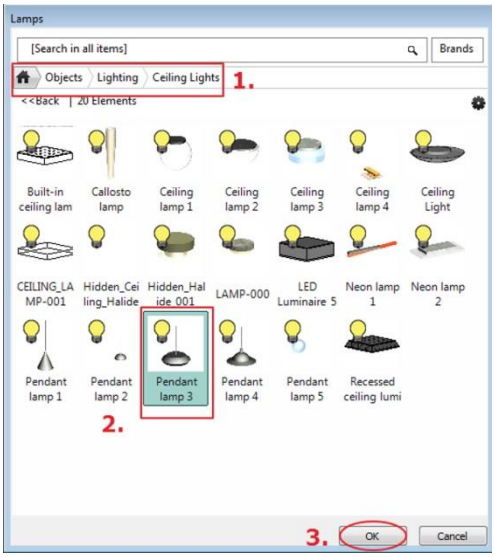
You can select pre-defined lamps from the libraries of ARCHLine.XP and of course you can also import or create a completely new one.

Place lamp on ceiling.

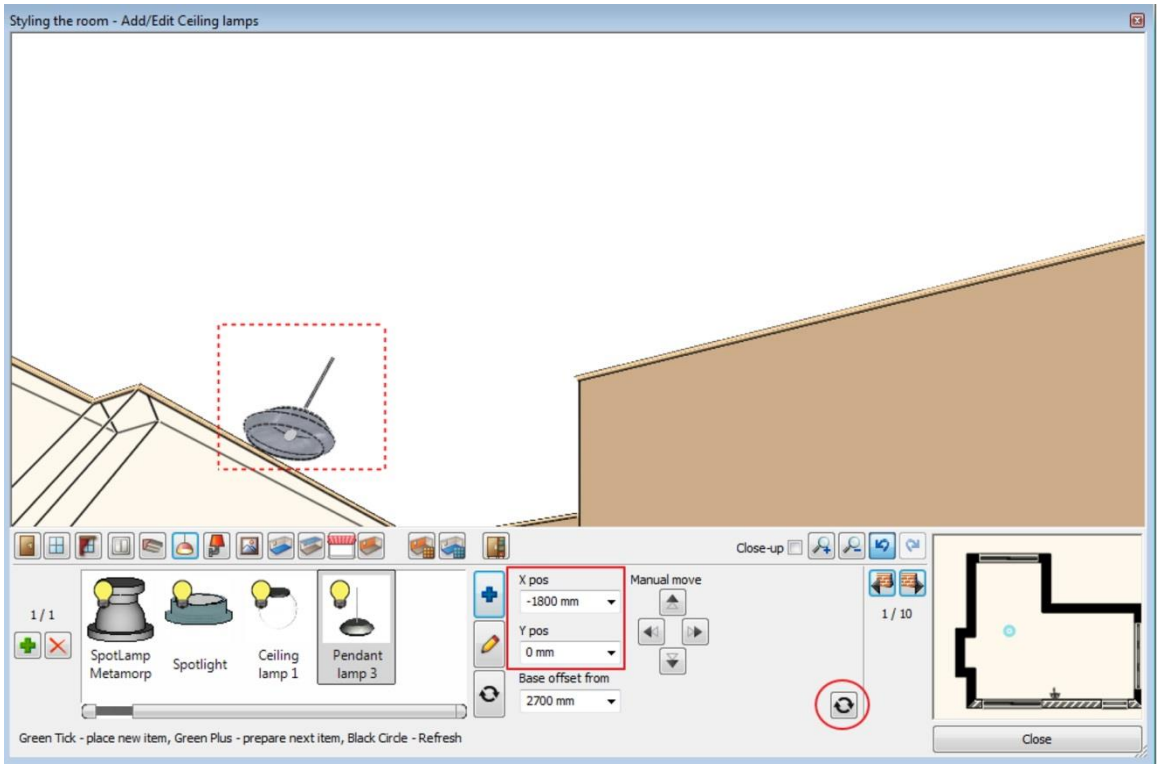
- Press on the Toolbar the Ceiling lamps icon (1).
- The Pendant lamp 3 (4) is missing from the favourites so must find it with pressing the Other button (3).
- Click on Green tick (5) – it will place the lamp on the ceiling.



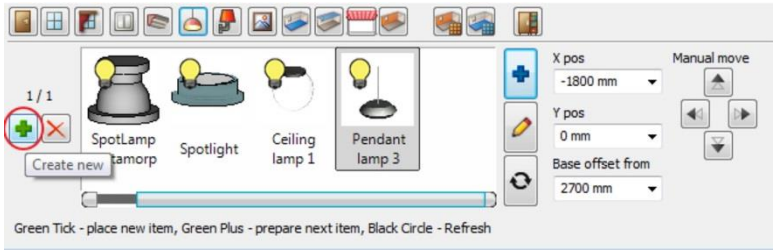
- Search in the object library**: Objects/ Lighting/ Ceiling Lamps (1)** and Pendant lamp 3 (2) than click on OK (3)



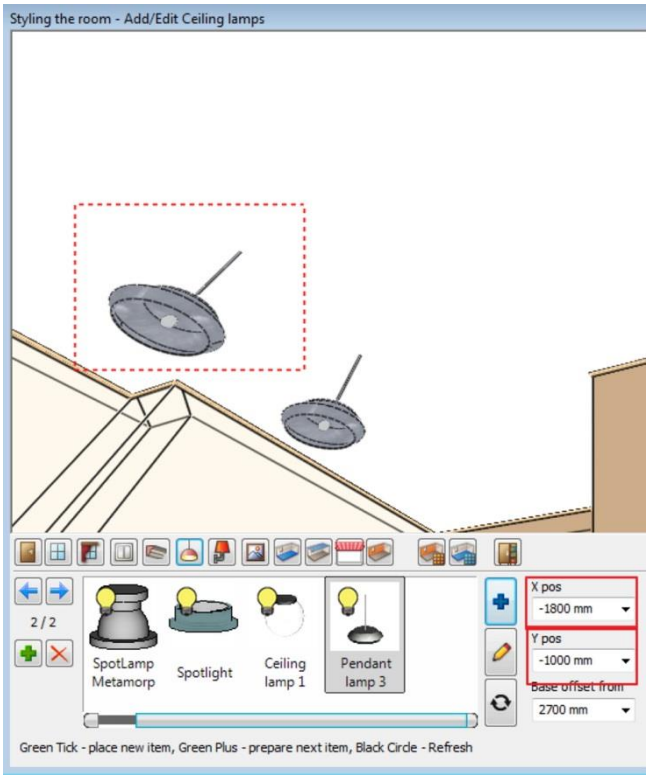
- Change the lamp X position: -1800mm, Y position: 0 mm.
- Click on Refresh button – it will relocate the lamp on the ceiling.



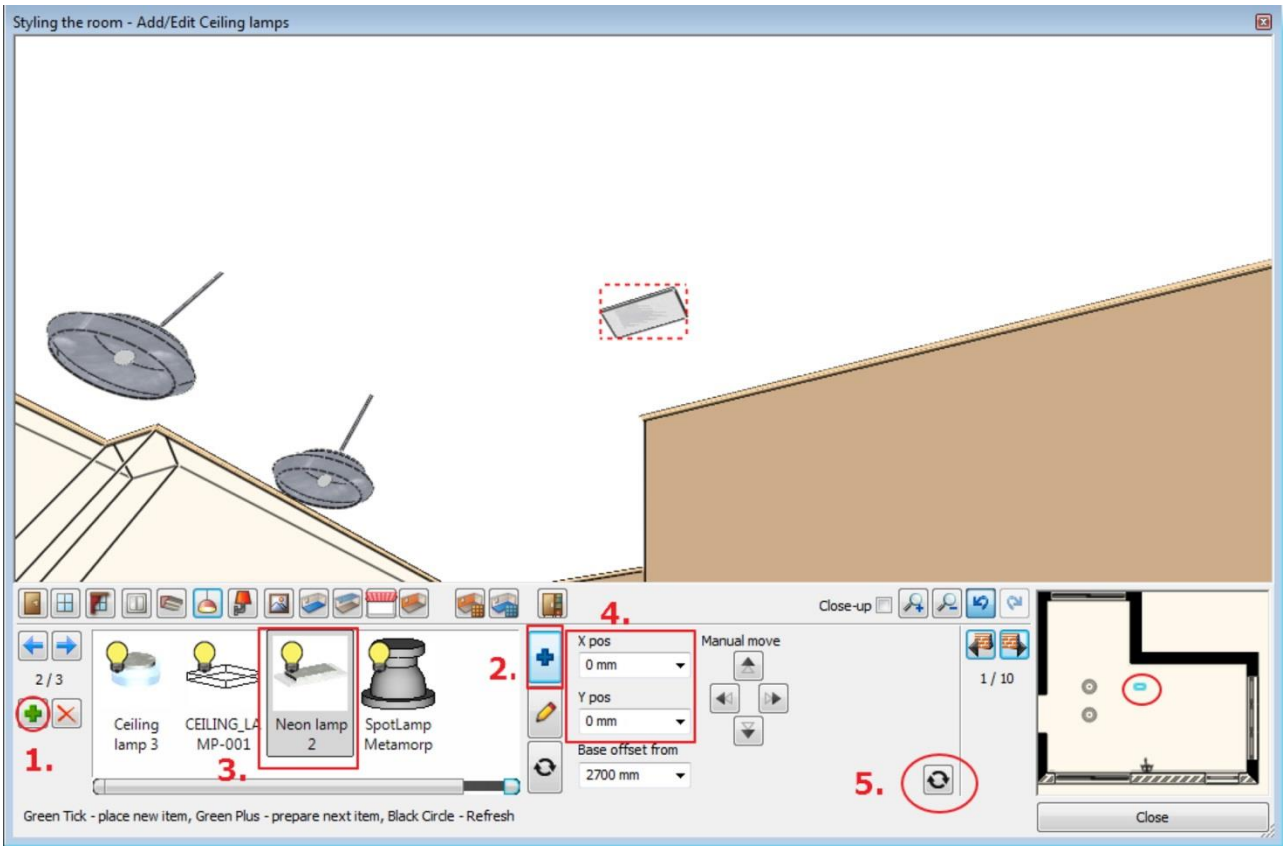
- Add another lamp: Press the Green Plus to prepare the next lamp:



- X position: -1800mm, Y position: -1000mm (1),
- Click on Green tick (2) – it will place the second lamp on the ceiling.



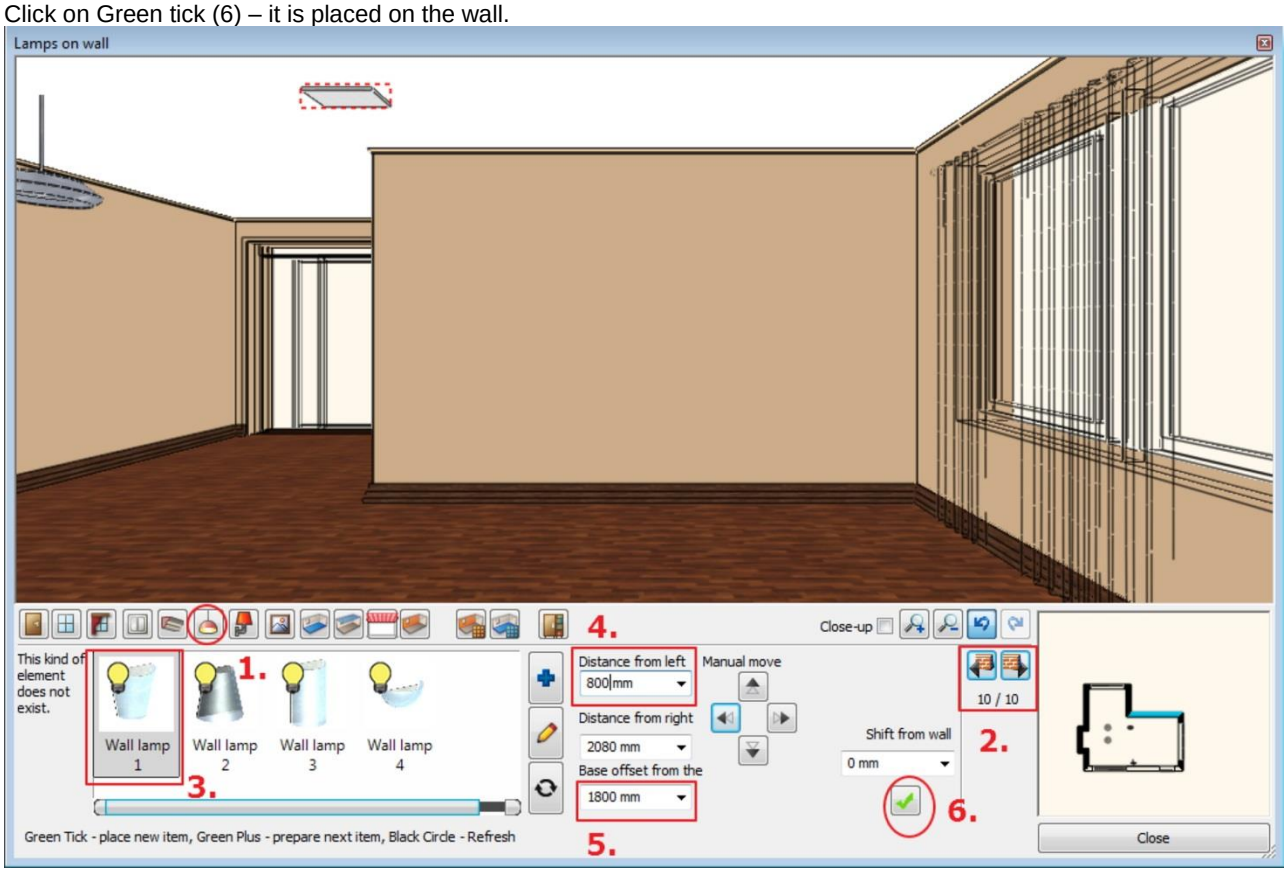
- Add a Spot lamp: To add another one just click on the "Insert new" button Press the Green Plus (1)
- Choose the Spot-5000-10000 (2) from the favourite (3).
- Set the position: 0mm, 0mm (4) and
- Click on Green tick (5) – it is placed in centre of the ceiling.



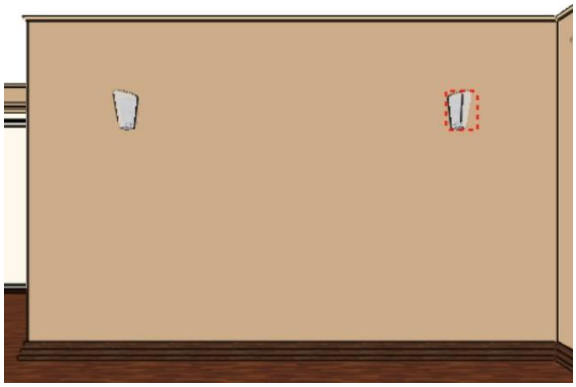
1.4.10. Add Wall lamps

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 2” (3) from the favourites and change properties: Distance from left: 800mm (4), Distance from floor: 1800mm (5)
- Click on Green tick (6) – it is placed on the wall.



- Press the Green Plus to prepare the next light: Distance from right: 800mm,
- 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. (1)

Import a painting or browse an existing one and select it.

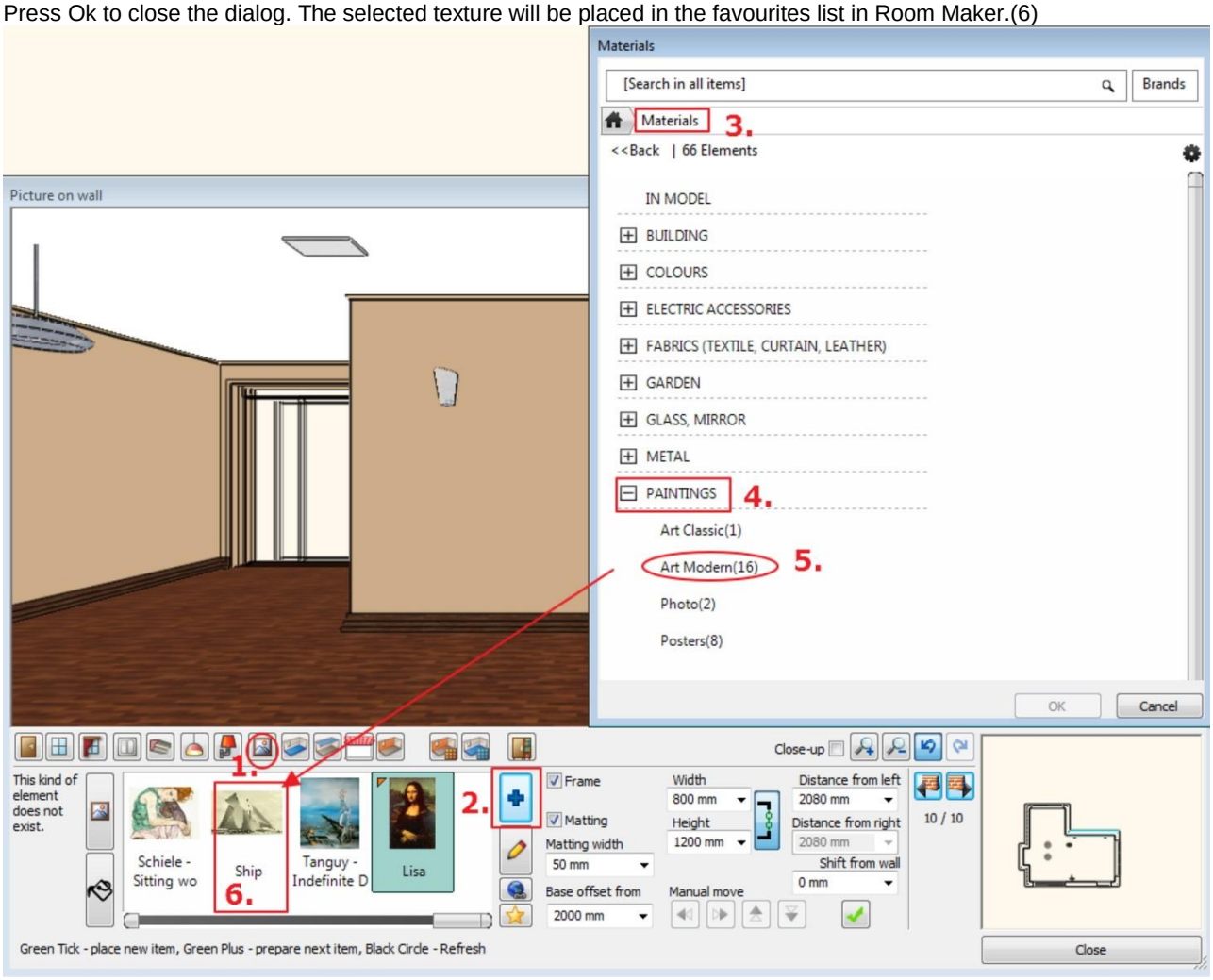
1st Picture:

- Choose ” Ship” (6) from the favourites

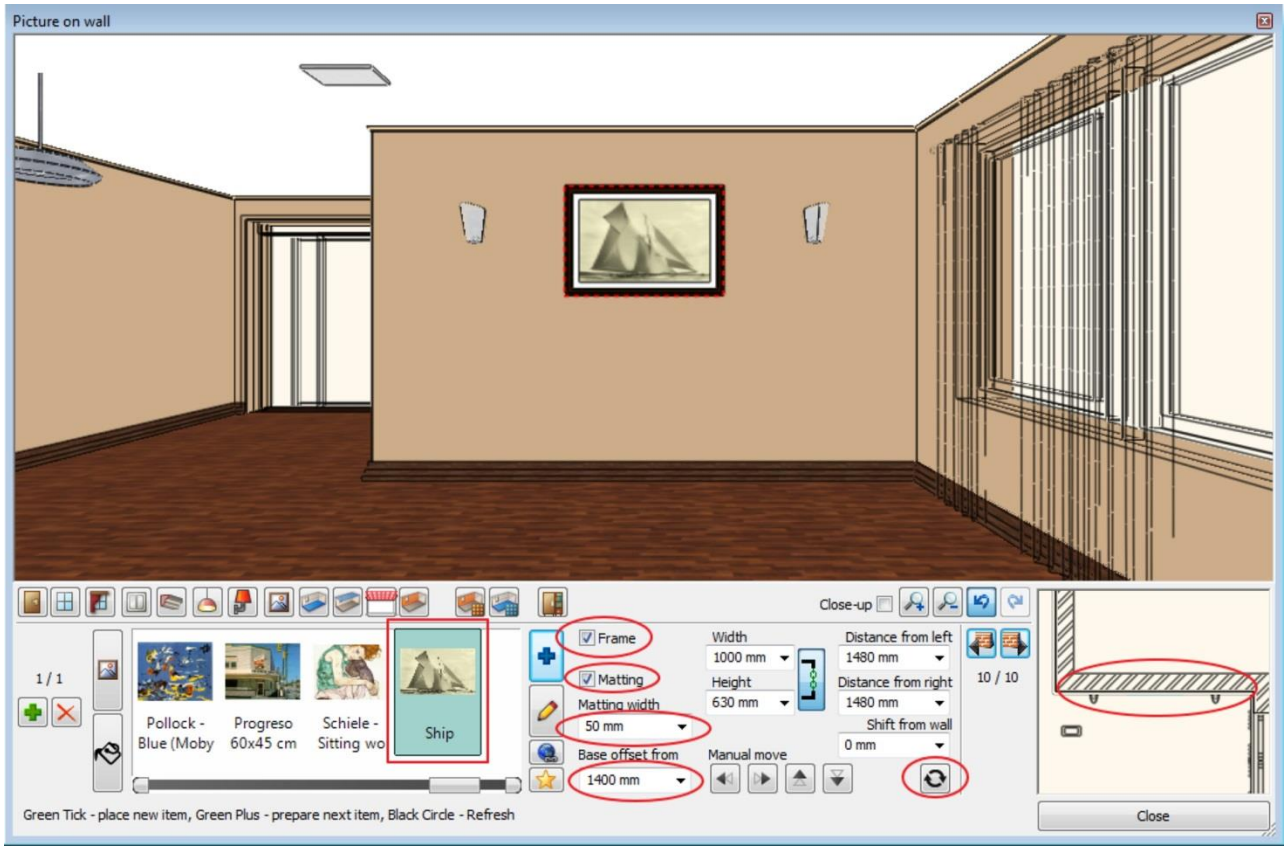
Very probably the Ship is missing from the favourites.

- 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)



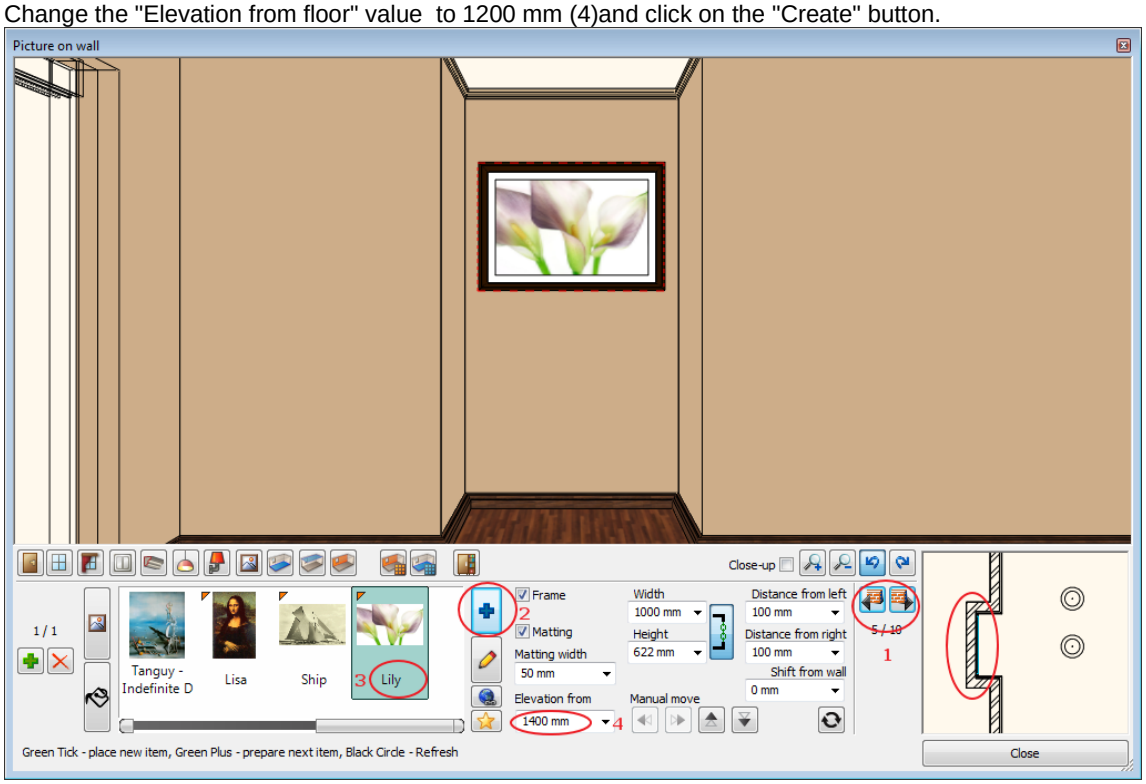
- Change properties:
  Frame: ON, Matting: ON, Matting width 50 mm
- Change the "Elevation from floor" value to 1400mm and click on the "Create" button.



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

2nd Picture:

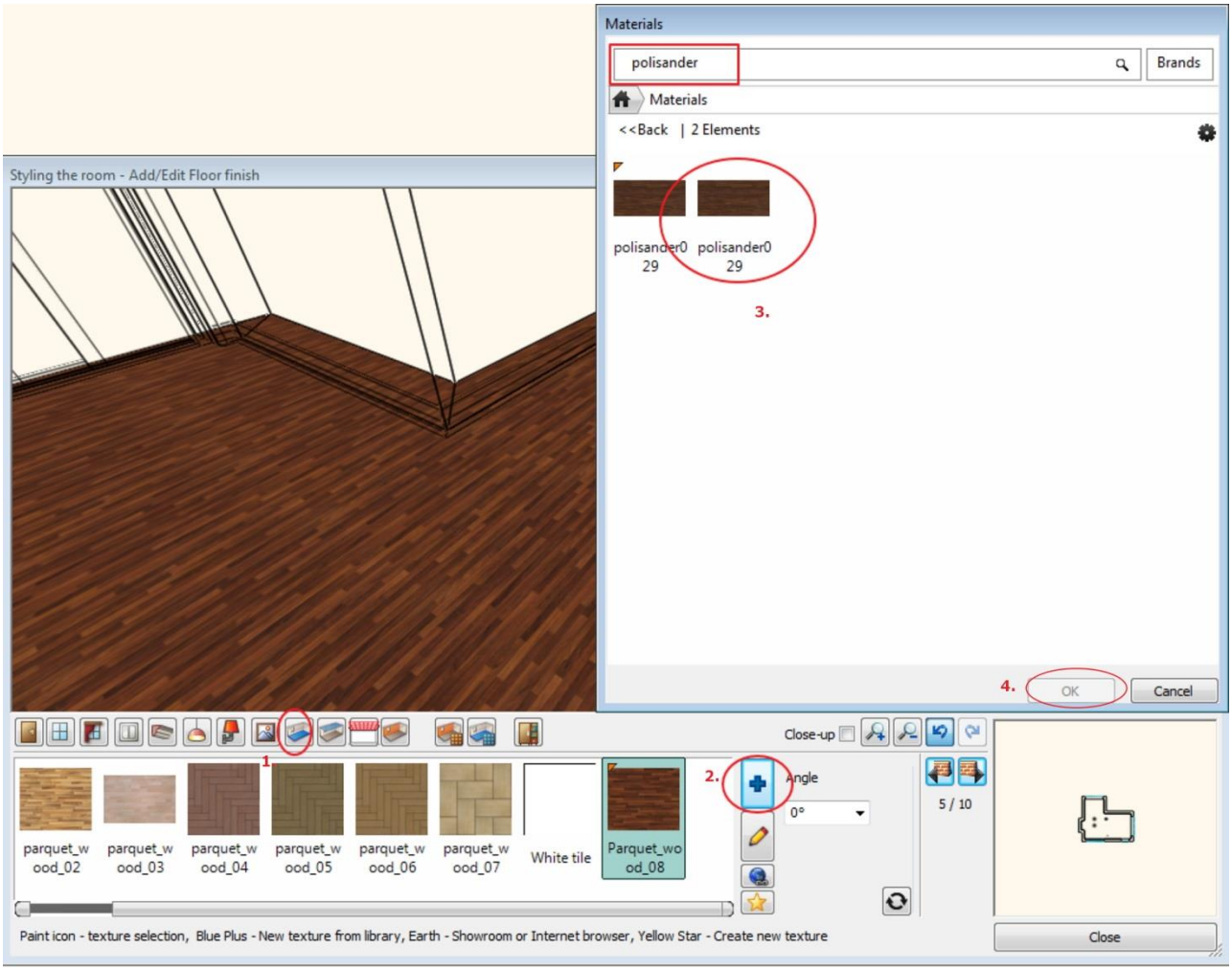
- Place another painting on the wall with the length 1400 mm. Select this wall with clicking on the Wall finder button (1).
- Choose “Lily” (3) from the library (2) and change properties:
- Change the "Elevation from floor" value to 1200 mm (4)and click on the "Create" button.



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.

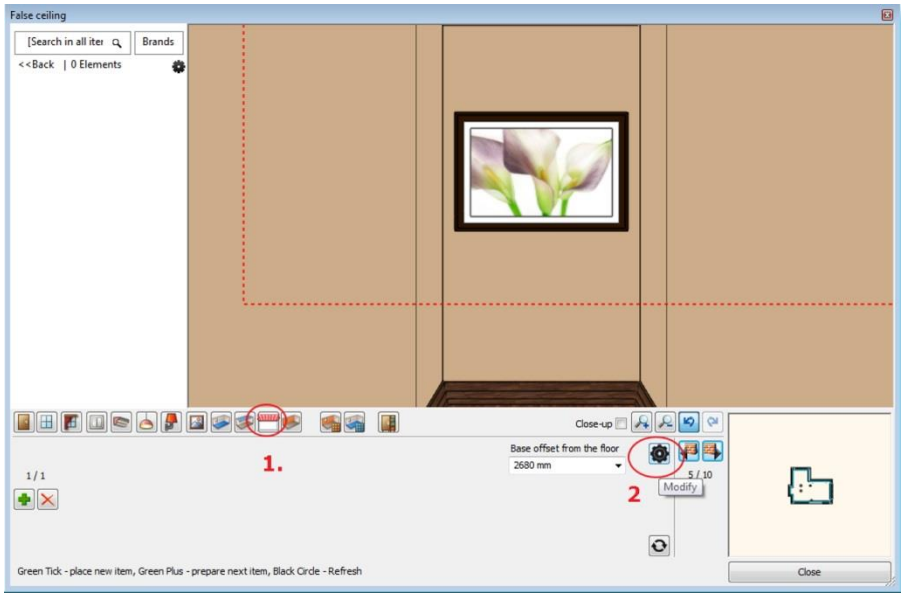
- Press on the Toolbar the Floor Material icon (1).
- Choose “polisander029” (2) from the library. It will apply the selected material on the floor.
-

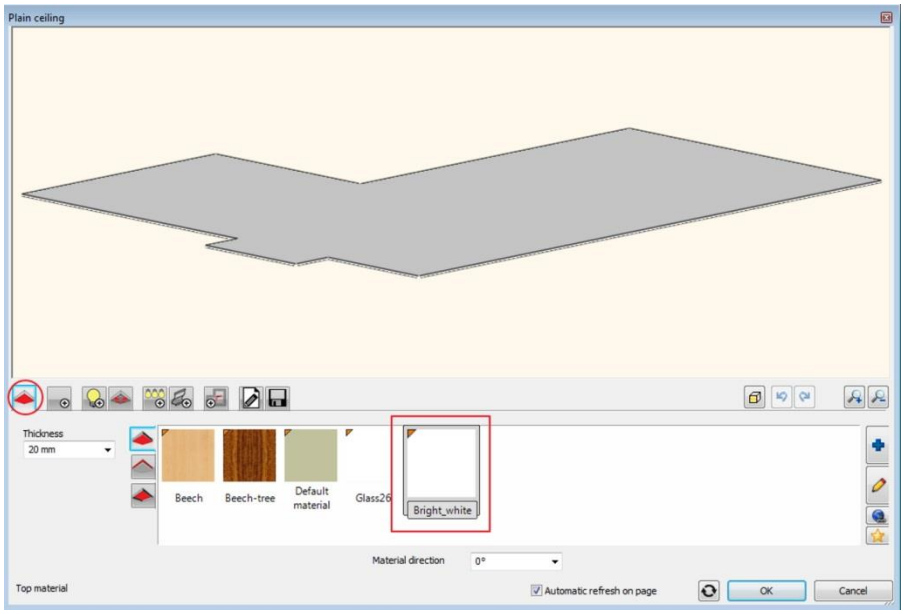


1.4.13. Finishing Touches – Ceiling

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 (1).
- Click on the Modify command (2) .



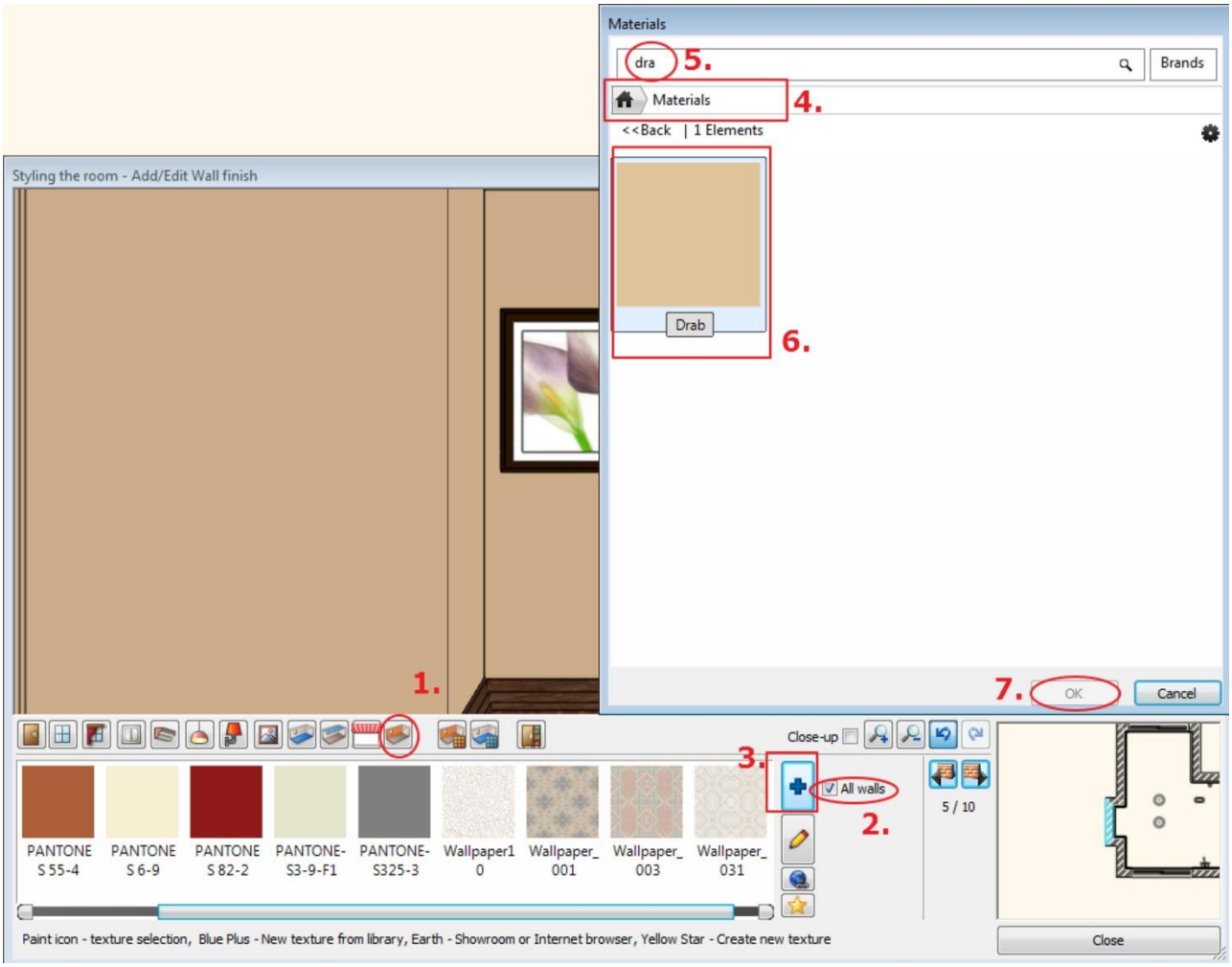


It will apply the selected material on the ceiling

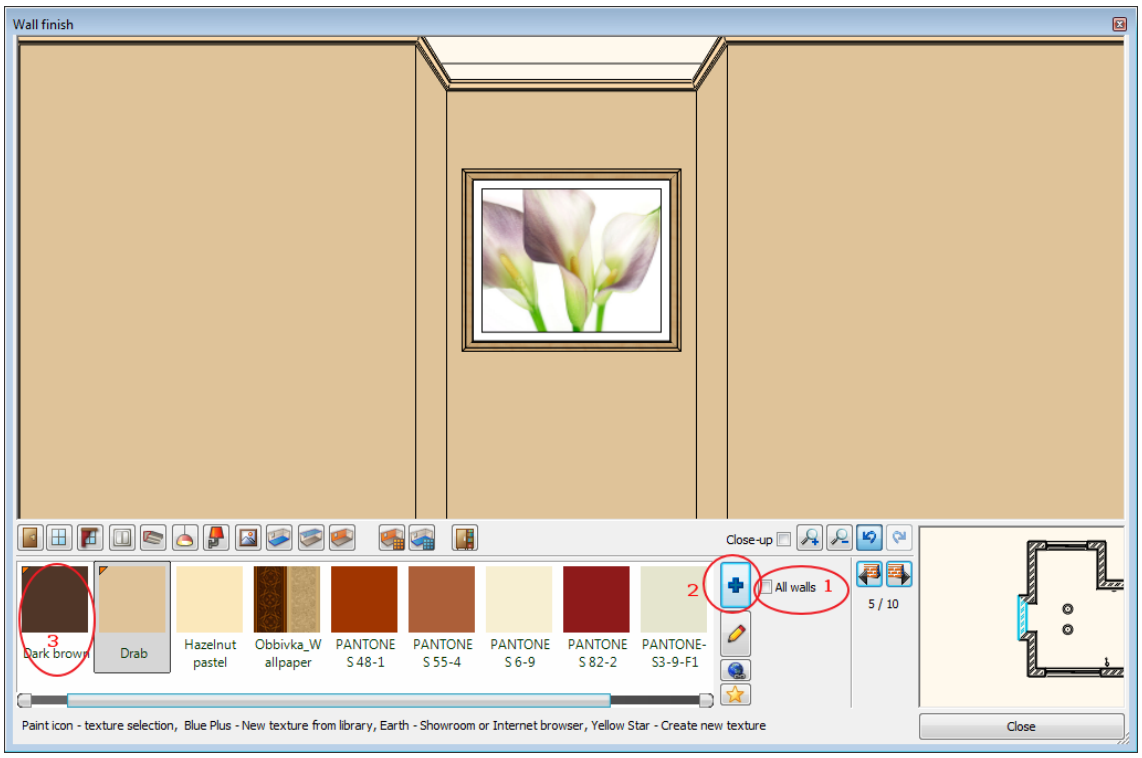
1.4.14. Finishing Touches – Walls

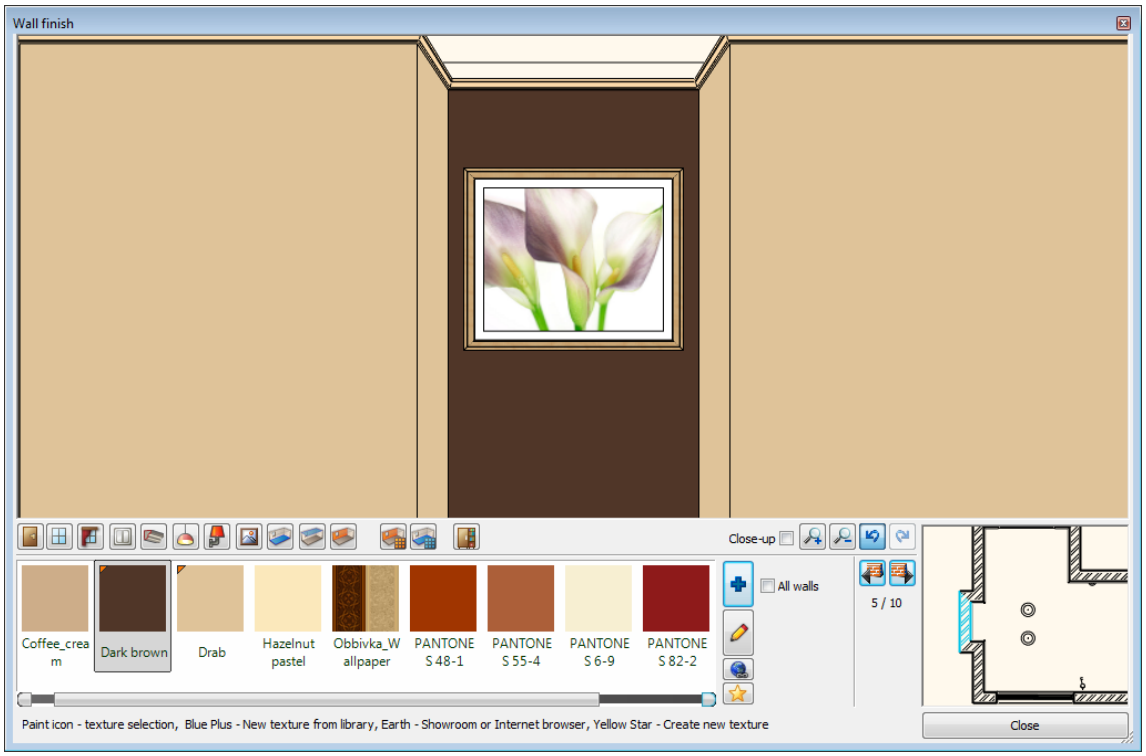
Walls can be changed one by one or all at the same time.
We are going to set Drab colour for all walls after that set Dark brown colour for the wall with the painting of the Lily.

- Press on the Toolbar/Wall Material icon (1).
- Enable the "All walls" option (2).
- Select a colour that is probably missing from favourites. Click on the Other 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 the wall with Lily painting clicking on the Wall finder button.
- Select a colour that is probably missing from favourites. Click on the Other 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.



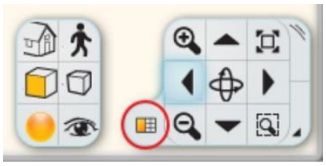


- Close the Room Maker to finish the work.
- Now you have a detailed 2D drawing and the 3D model of it.

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.



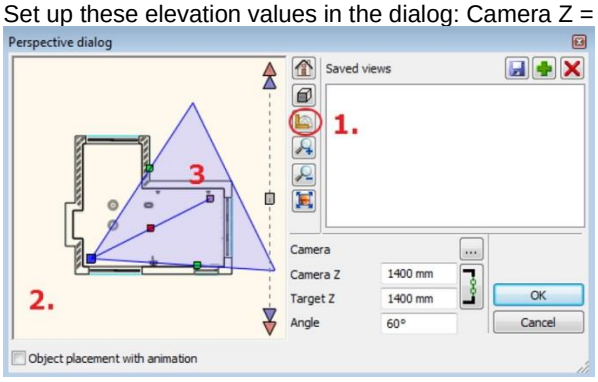
- Similar to the 2D content you can pan and zoom the 3D content as well.
- To orbit around the 3D model click on the "Rotate" button of the Navigation bar.

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

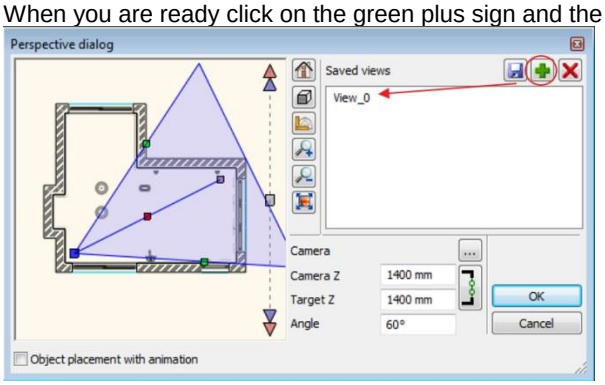
- Click on the Navibar Perspective view icon. Define and save 2 views in the upcoming dialog.

Perspective view dialog

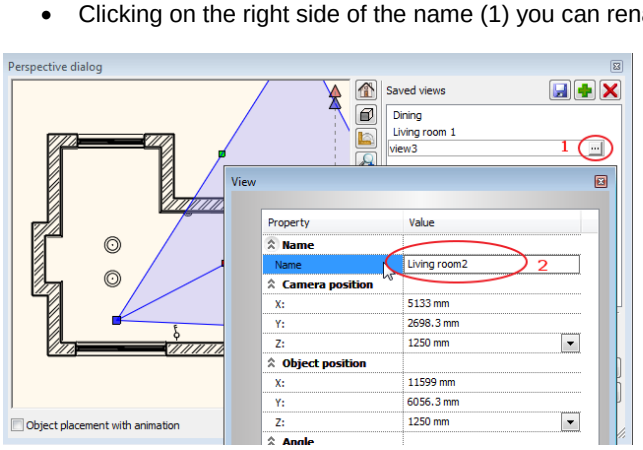
- Click on the floor plan icon (1) below.
- Then click on the camera point (2) and drag it near to the room bottom left corner.
- Now click on the target point (3) and drag it near to the opposite corner.
- Set up these elevation values in the dialog: Camera Z = 1400 mm (4) and Target Z= 1400mm (5).



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



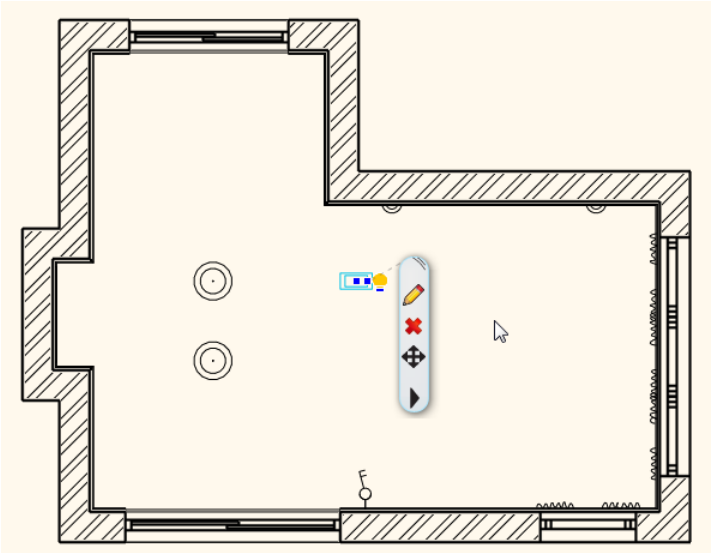
- Repeat it once again to define other perspective view. Save it again with green plus.
- Clicking on the right side of the name (1) you can rename the view (2). Press Ok to close the dialog.



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

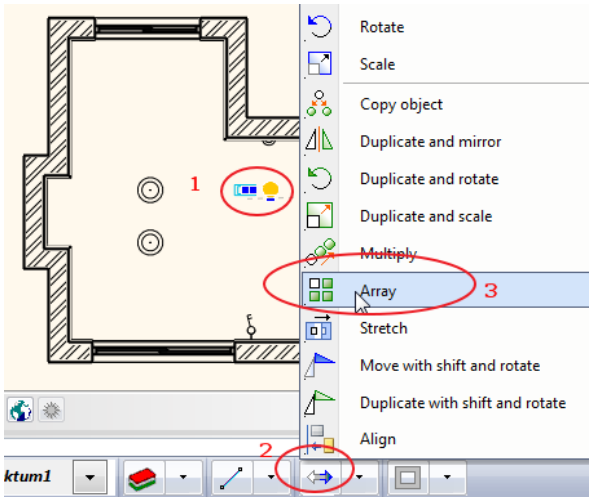
1.6. Lights editing - create copy

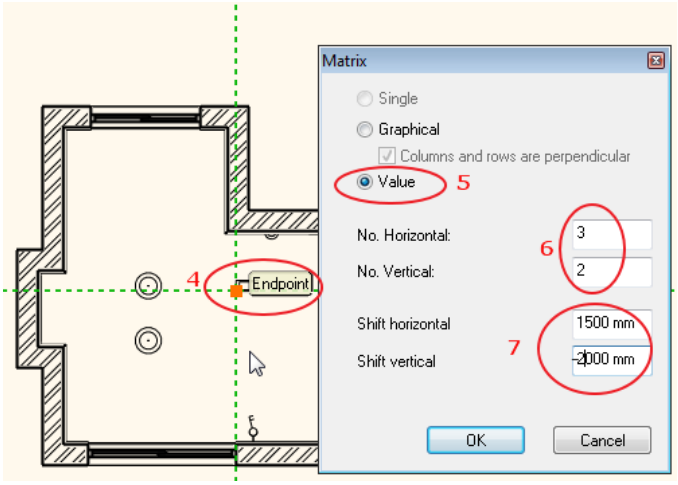
Activate and enlarge the 2D drawing when you would like to work on it.
When you click on any drawing item (a wall or a lamp for example) it will be selected.
Selected items are represented with different colour and you can see the floating menu bar and a few makers around them. If you click on a node 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.



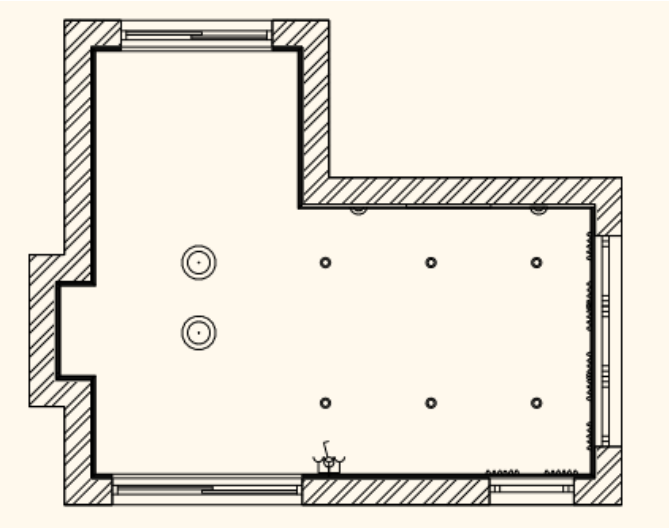
We will create the 5 copy of the Spot lamp in one step:

- When the Spot lamp is selected (1) click on the Move menu (2) and choose the Array (3) command
- Click on the endpoint of the lamp (4). This point will be the base point of the displacement.
- In the dialog choose the Value option (5).
- Set the No. horizontal: 3, and No. of vertical: 2
- The distance between the lamps 1500mm and -2000mm. OK.





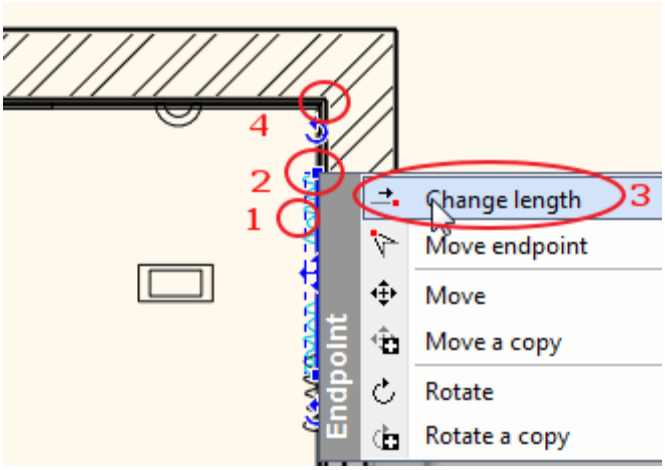
- Move the cursor to the right to define the horizontal direction.
Other 5 lamps will be placed.



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.

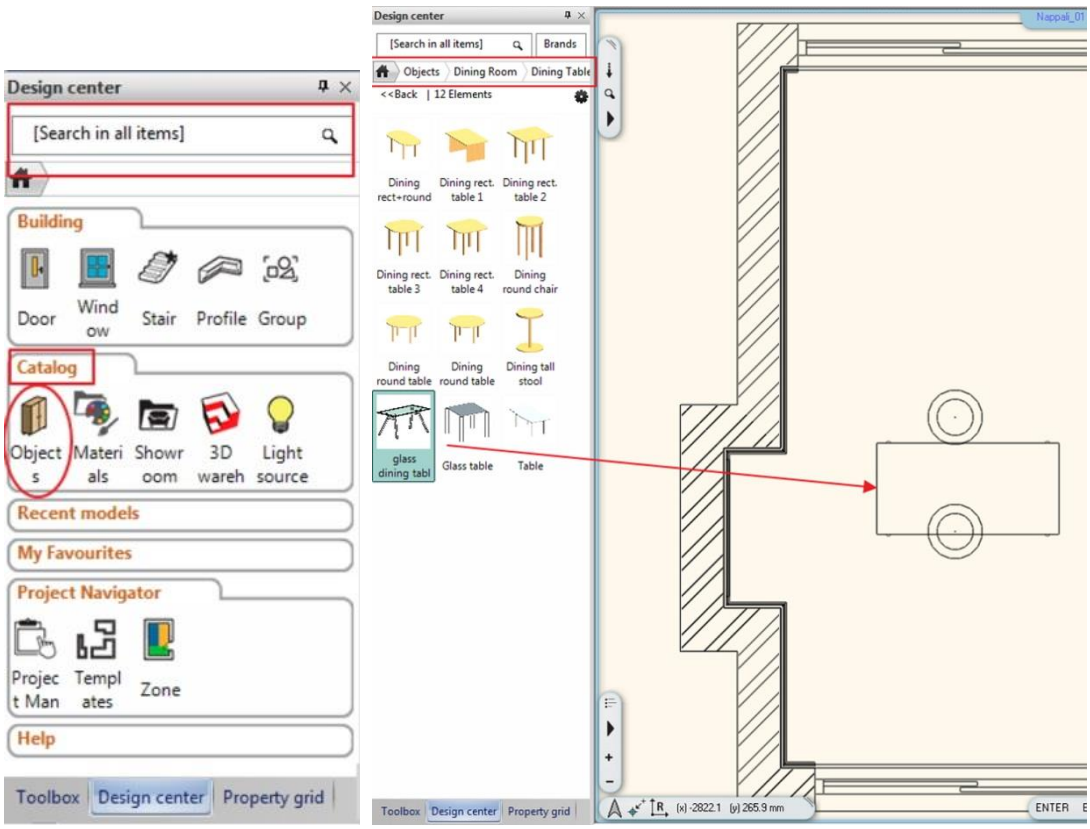
- Zoom in the floor plan focusing on the curtains and click on the first curtain (1).
- The curtain is highlighted now. Click on the blue dot marker on the top (2). Select the "**Change length"** command from the upcoming menu (3).
- Extend the curtain till the wall corner (4).
- Repeat the command for 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 - right under the Toolbox - 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, Chair 03, Coffee table 05, Glass eating table, Sofa 06, Sofa 05, TV stand, Vase01, Reading Lamp, Pillow, Flower in Vase 02, Candle, Bamboo

Place Furniture:

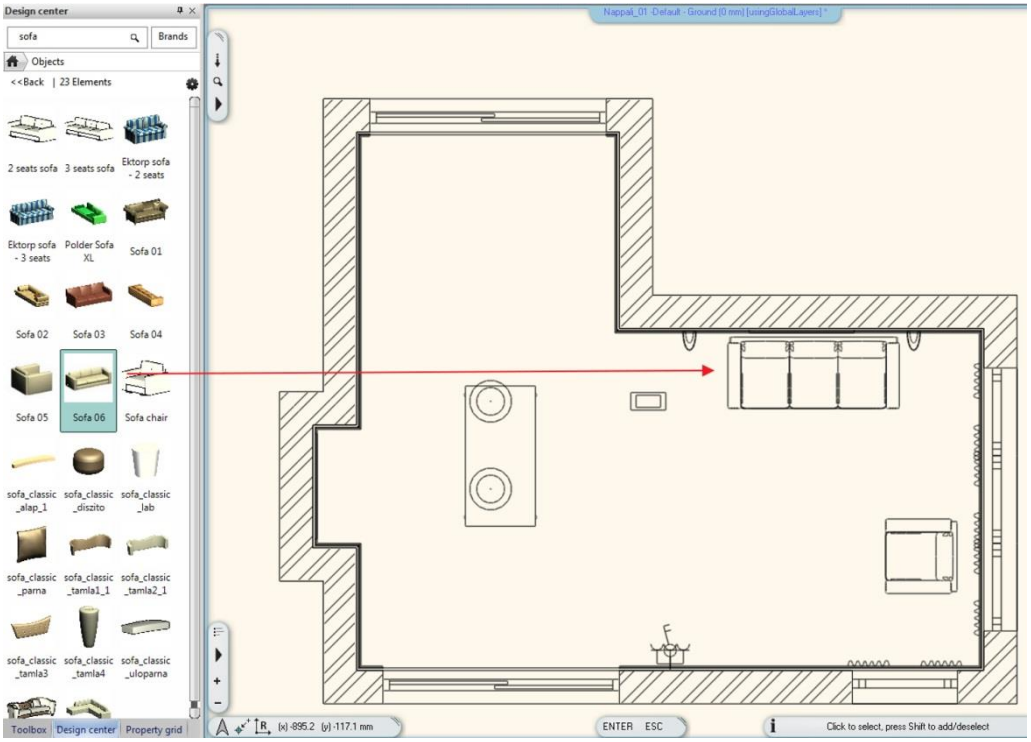
We will place furniture from the Object library of Design Center to the floor plan using the drag and drop method.

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.

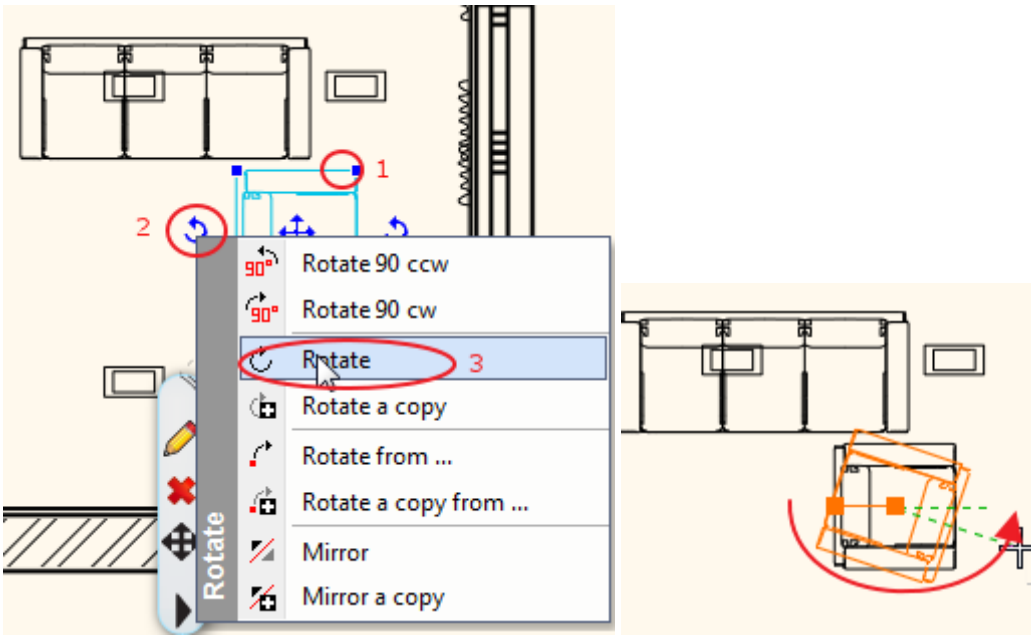
Find and drag and drop other items on your drawing.

Editing furniture

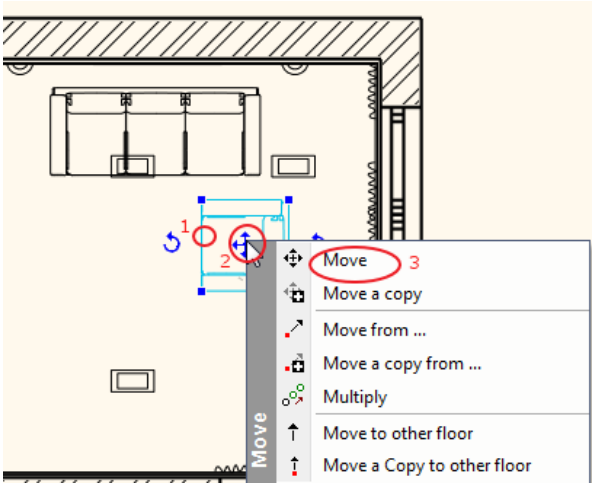
Now, we will rotate and move the furniture to the appropriate place on the floor plan.

We will rotate the armchair by 180 degrees:

- Click on the armchair (1). The armchair is highlighted now. Click on the rotation marker (2). Select the *Rotate* command (3) from the upcoming menu.
- Rotate it graphically by 180 degrees.
- The armchair will be rotated.

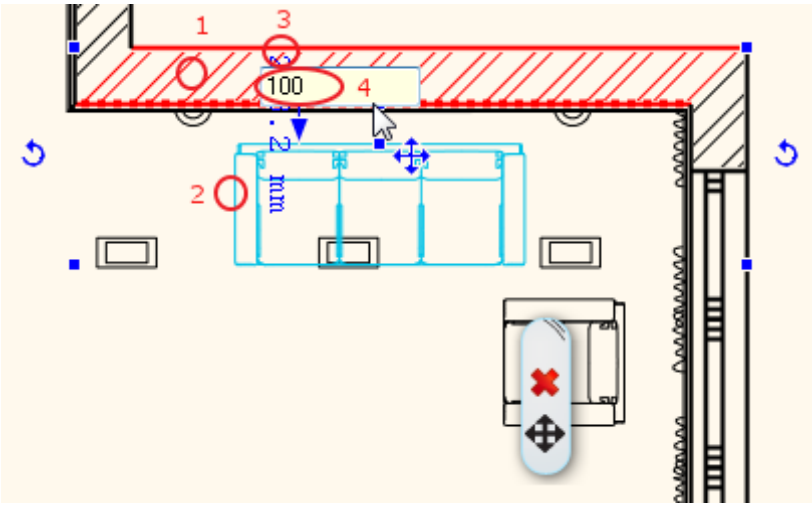


- Click again on the armchair(1).
- Click on the *Move marker* (2).
- Choose the *Move* (3) command and move it on the right place near to the wall.

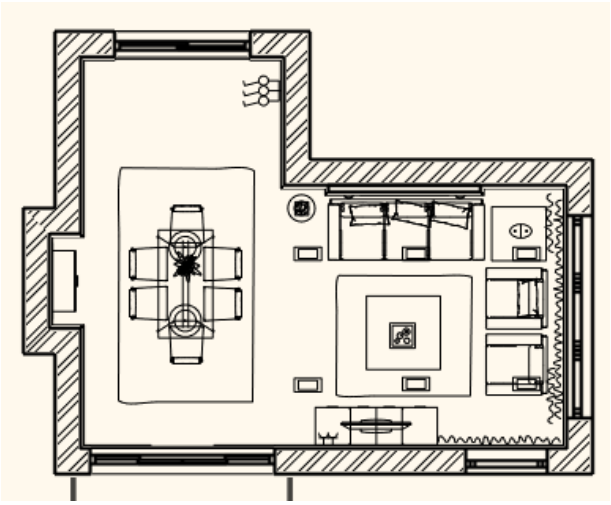


Now we are going to move the sofa 100 mm from the wall:

- Click on the wall (1)
- Press the CTRL key, hold it and click on the sofa (2). 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 (3) and
- Type 100mm (4). Enter.



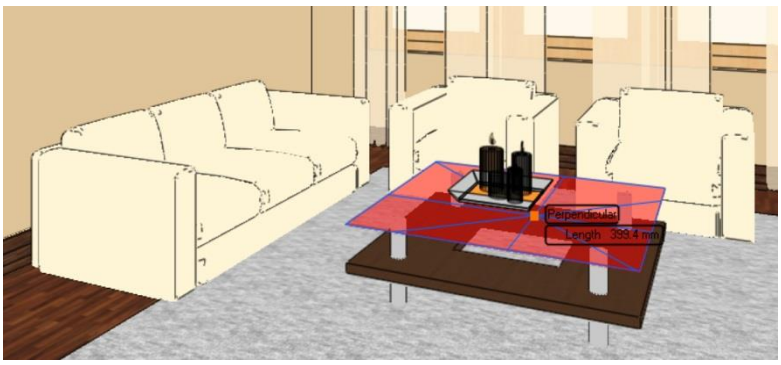
- Continue the previous method for other furniture to place them to the right place.
Your screen should look as follows:



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

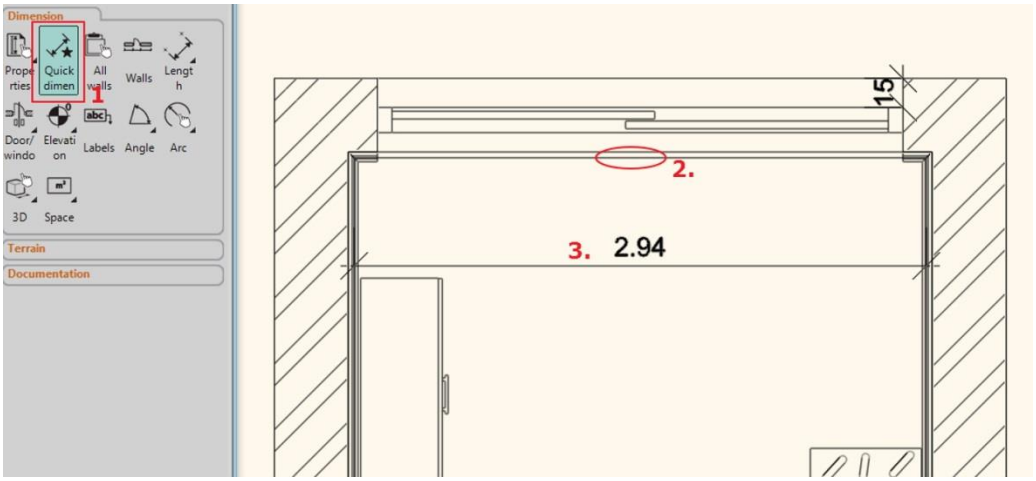
So far, we prepared the (2D) floor plan and the 3D model of our furnished room.
We continue our design with the documentation.
For this we will need the dimensioned floor plan and wall elevation views, or a textured floor plan.

1.9.1. Dimension

Quick Dimensions:

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

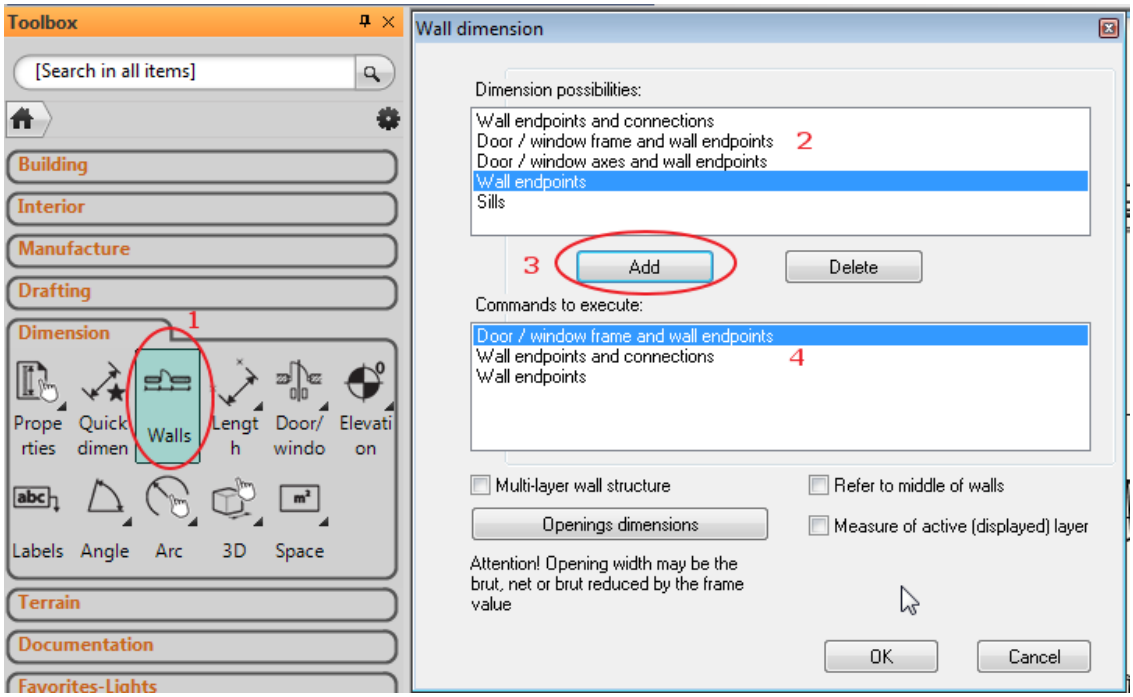
- Choose the Toolbox/ Dimension/ Quick Dimension command (1)
- First click on the element (2) and place the dimension line.(3)



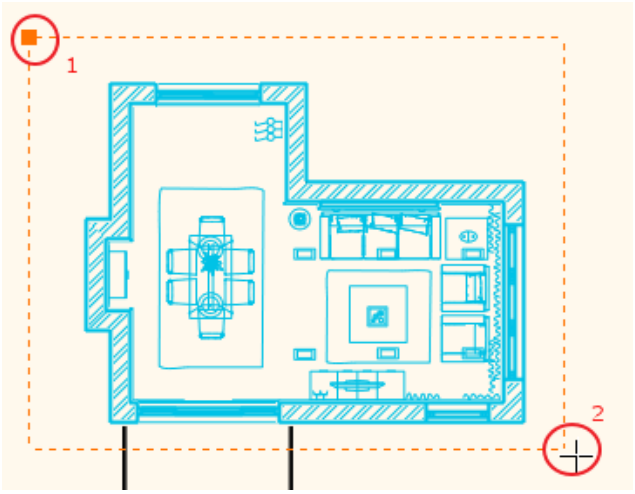
Wall dimension

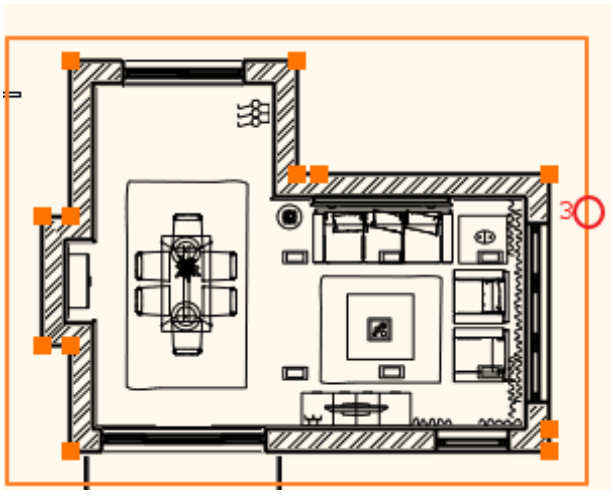
Now we create all walls and openings dimension in one step.

- Open in the Toolbox the Dimension menu and choose “All Walls” command.
  Start the "Wall dimension" tool and select the dimensions (2) that you would like to create (3)

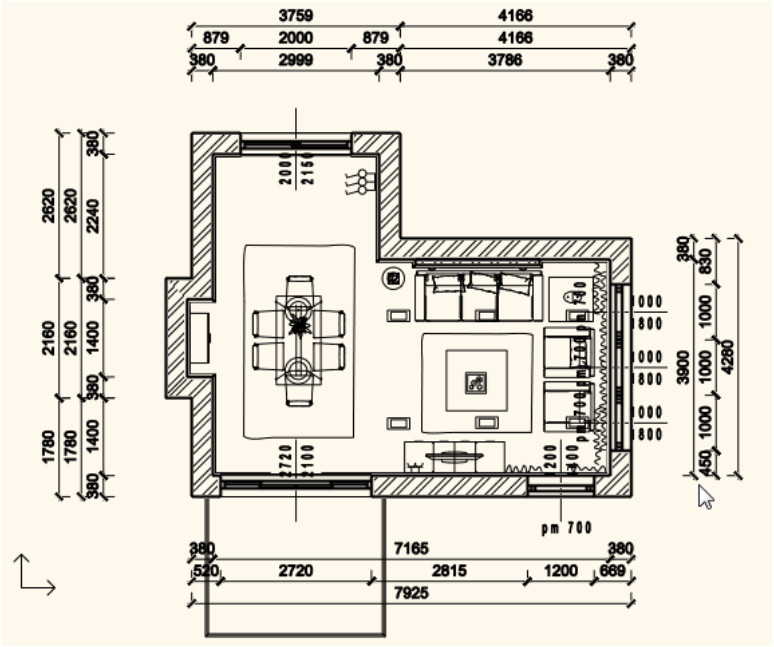


- Add them to the list and click OK.
- Zoom in the floor plan focusing on the room and select all items with two clicks that forms an enclosing box around all (1,2).
- Press ENTER
- Now move your mouse to position the first dimension string and click again. (3)





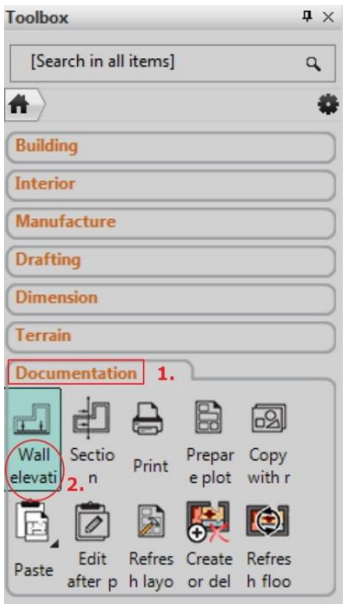
- Your screen should look as follows:

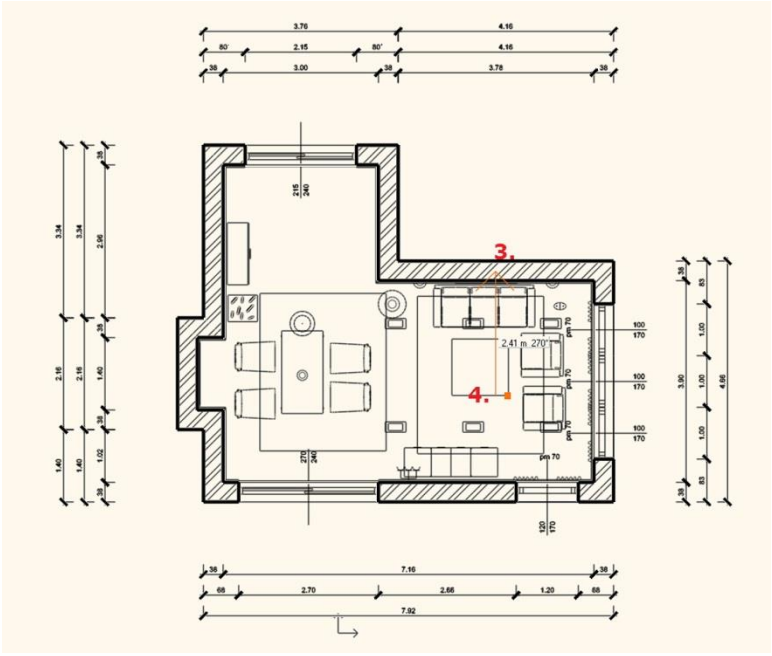


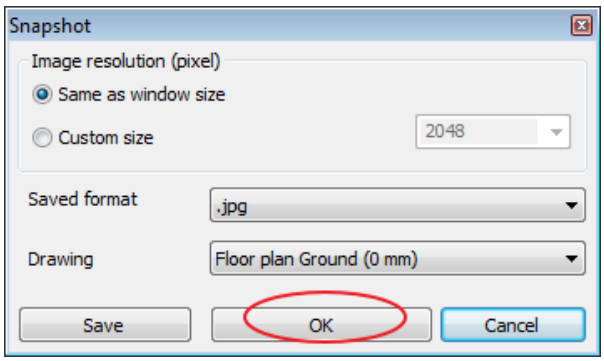
1.9.2. Wall elevation view

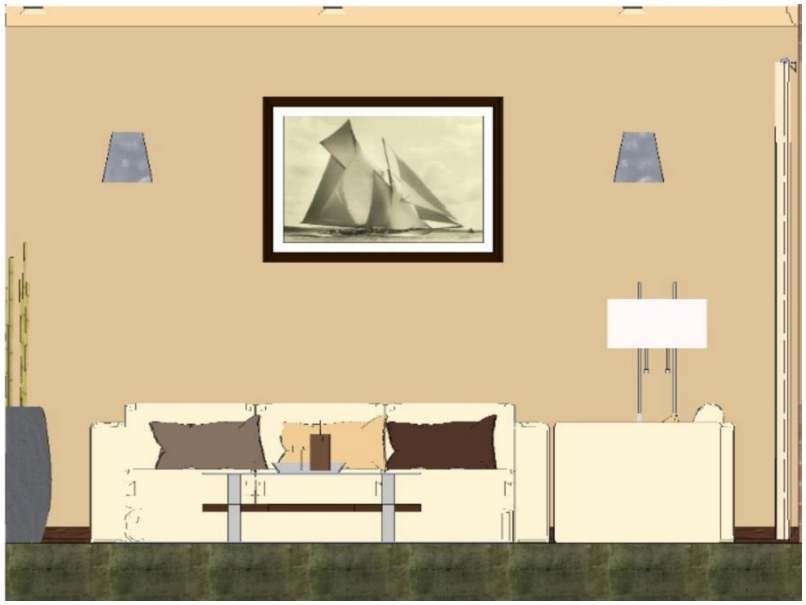
We are going to create coloured visualization of the wall elevation view.

- Click on the **Toolbox/Documentation/ Wall elevation view** command (1 and 2).
- Click on the internal part of the wall (3).
- Move the orange arrow and click on the desired point (4). 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.



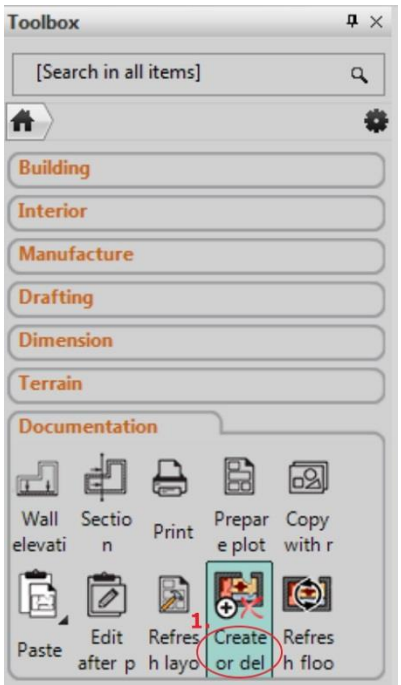


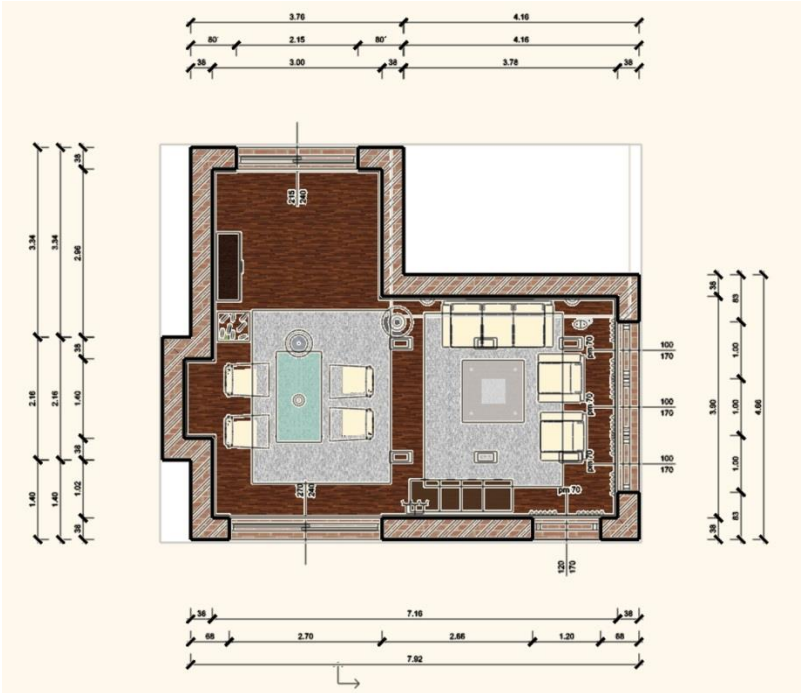




To visualize the floorplan with texture choose the "**Create floor snapshot"** command from the “Documentation tool”.

- Click on the **Toolbox/Documentation/ Create or delete floor snapshot** command (1).
- Click inside your floorplan (2).
- Than you will visualize the floorplan with texture



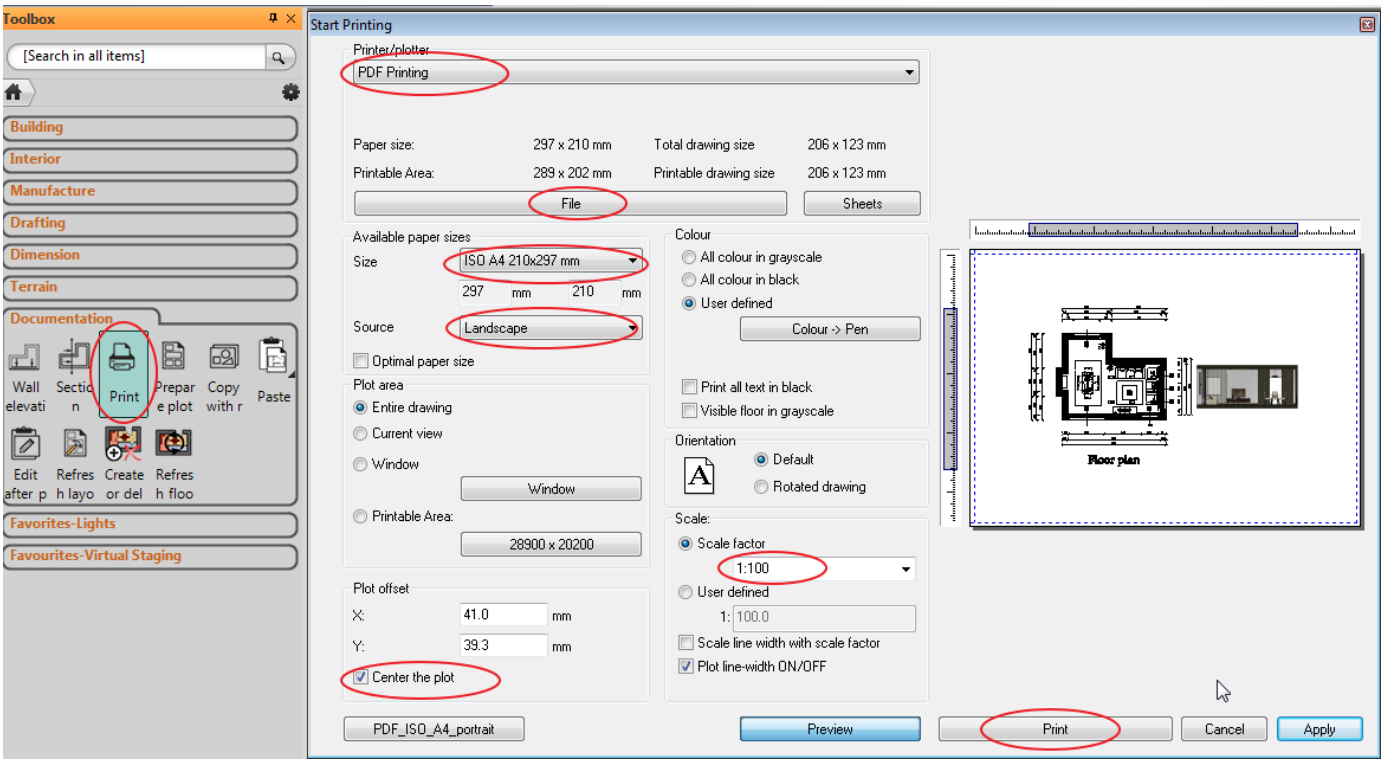


1.10. Printing

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

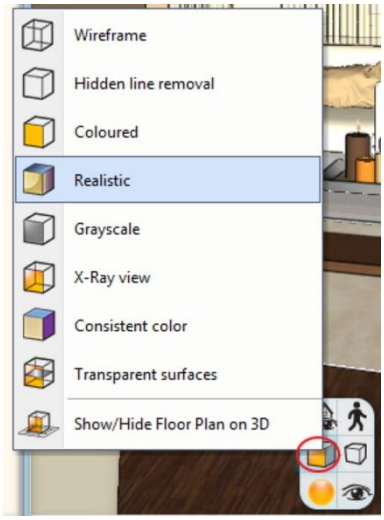
- Choose the Print icon from the Toolbox – Documentation.
- Choose the PDF printing option.
- Click on the File button to define the path and the name of the pdf file.
- Set the paper size and the orientation.
- You can define the scale factor and align the content to the center of the page.

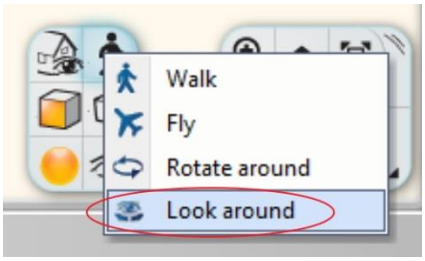
You can also print the perspective views or elevation views you create.



1.11. Visualization

In the 3D window there is a 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.



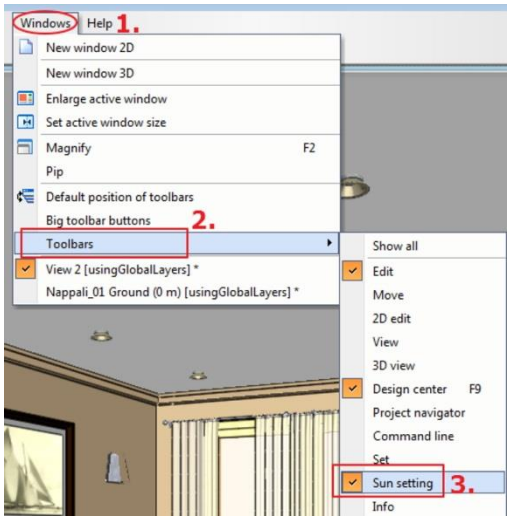


- Now we define a “Centre view” in the Perspective dialog.
- Set the perspective view: the camera is in the middle of the room and look around.

1.11.1. Shadows

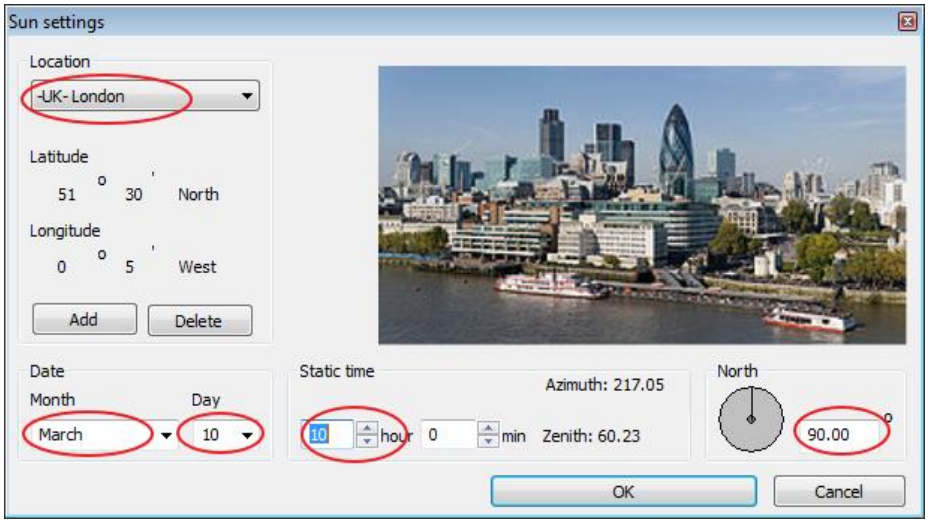
You can visualize the 3D model with shadow effects

- Activate the Sun setting tool from the Window menu (1) – Toolbox.(2)



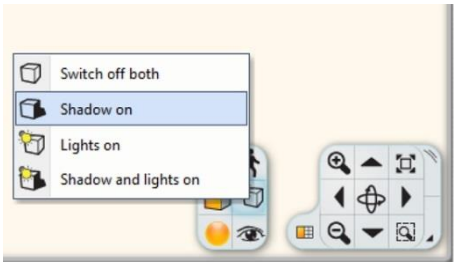
The exact shadow calculations will be given after setting the location, the date, the time and the north direction.

- Click on the Sun position icon in the Sun setting tool. (3)
- Set the date: 10 March
- Set the time: around 10am
- Set the north direction: 90. Ok.



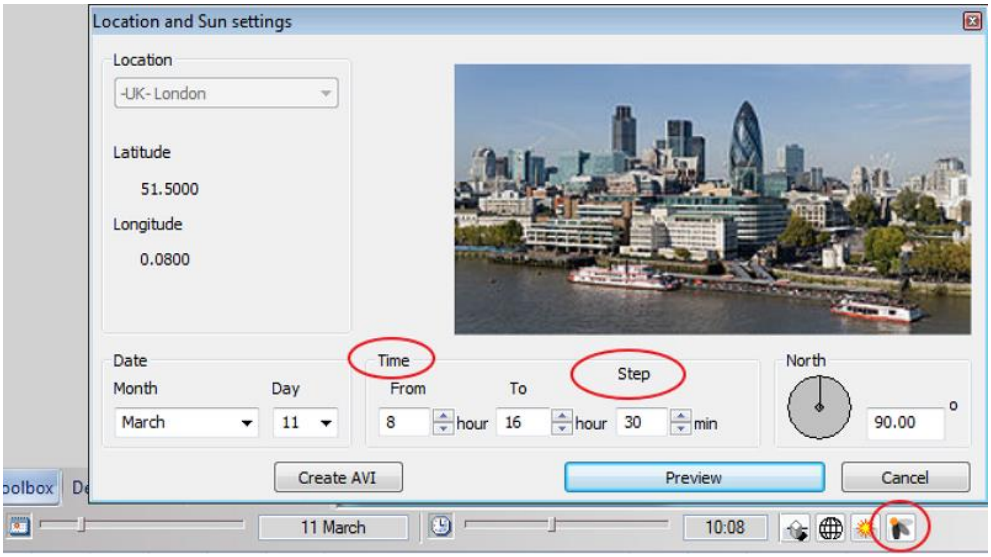
Choose the appropriate perspective view clicking on the blue arrows:

- 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”.



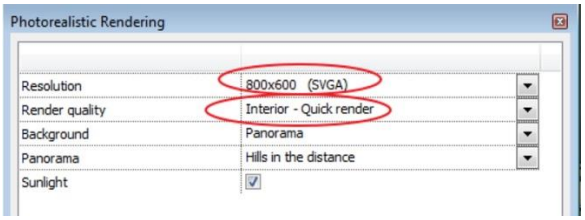
You can also visualize the light effect in the 3D model:

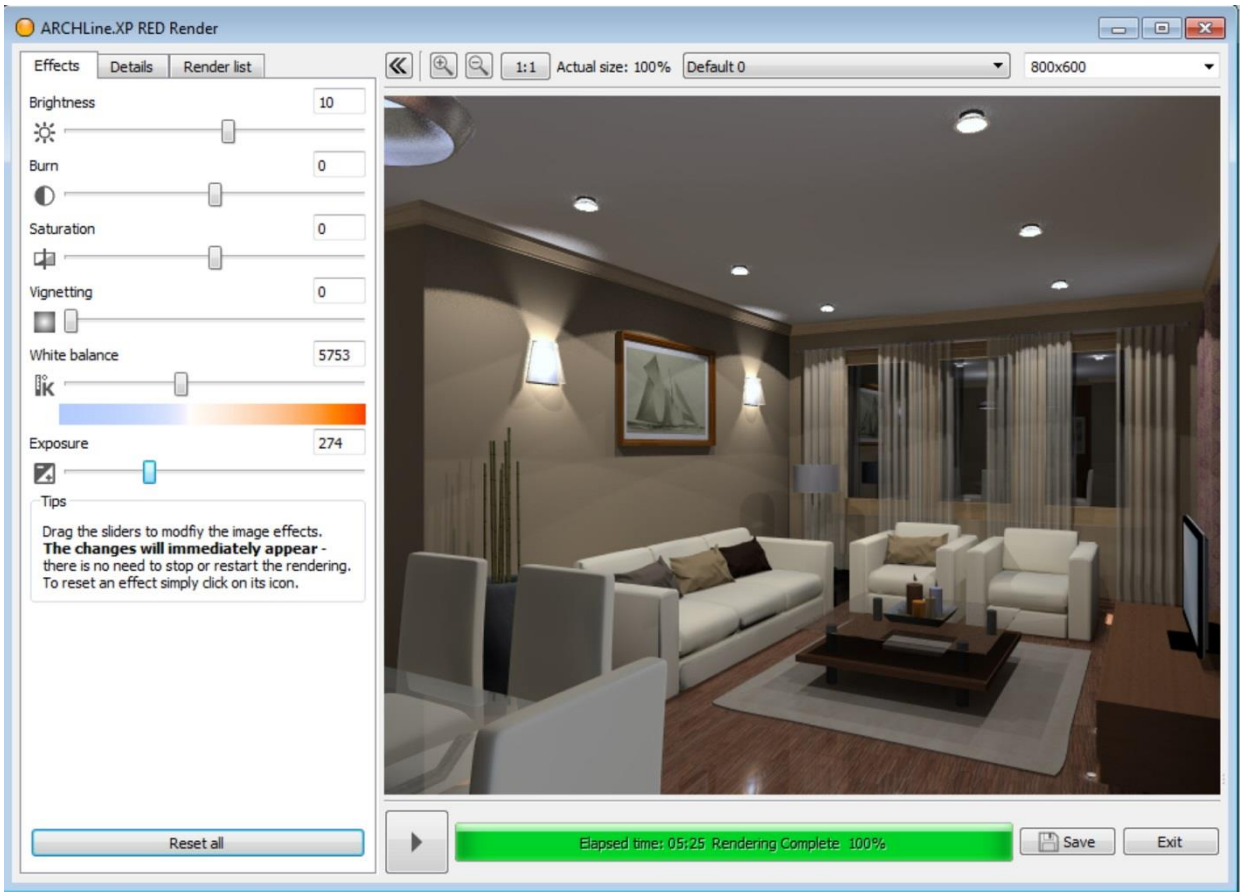
- Click on the Light on icon on the Navibar.

1.11.2. Rendering

Finally we create the 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.

Lesson 2: Foundation

2. Lesson: 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

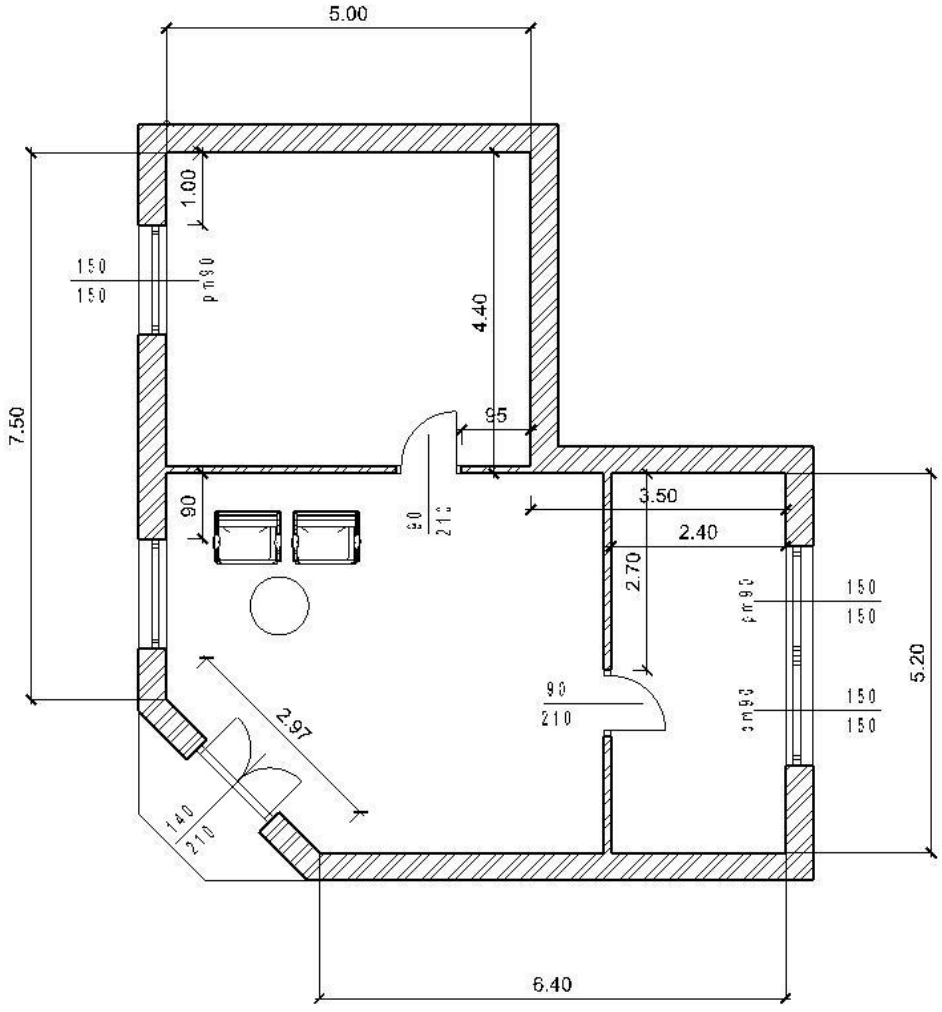
ARCHLine.XP® is compatible with Windows operating system and it is using the terminology of it when talking about menus and icons and other interface elements.

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.

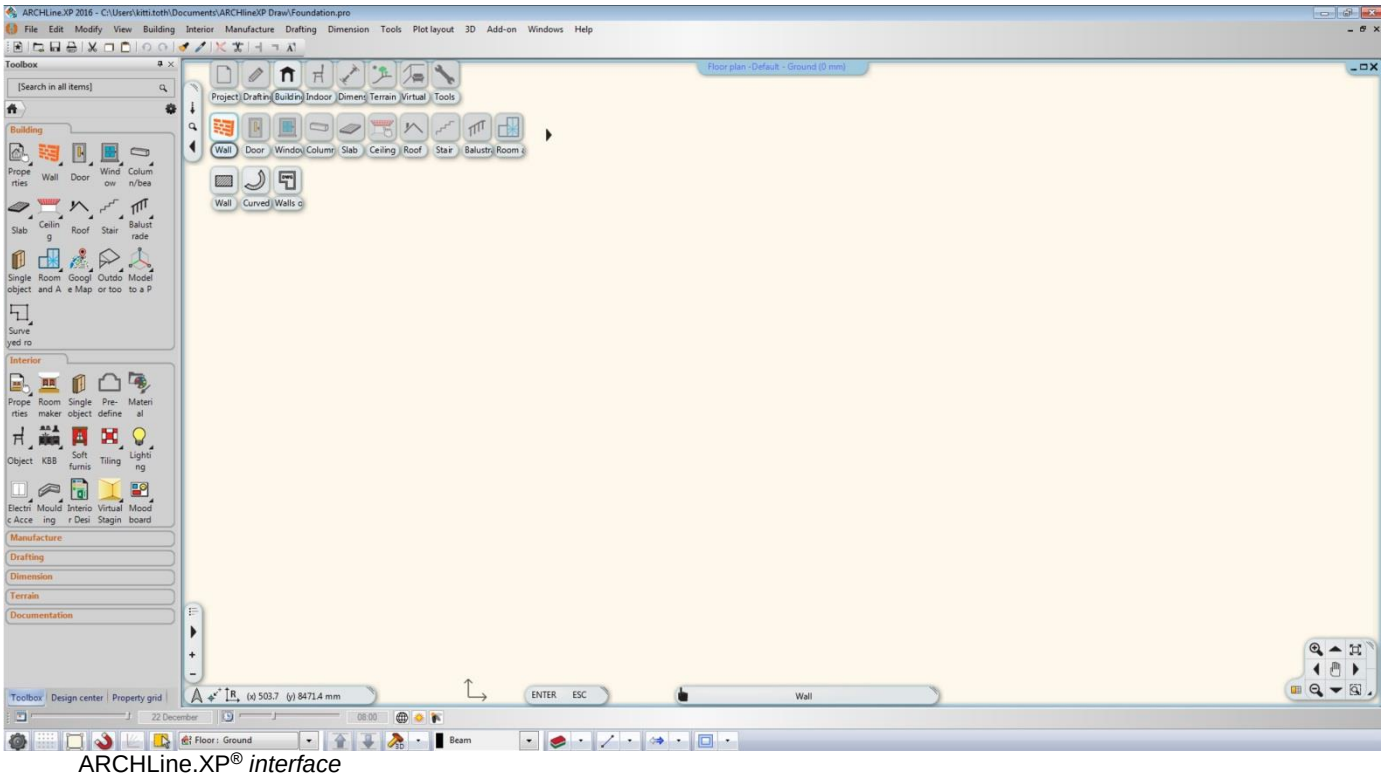
The Welcome Dialog

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

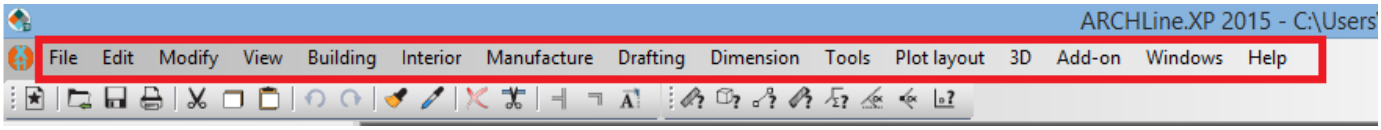
2.1.2. Interface

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.

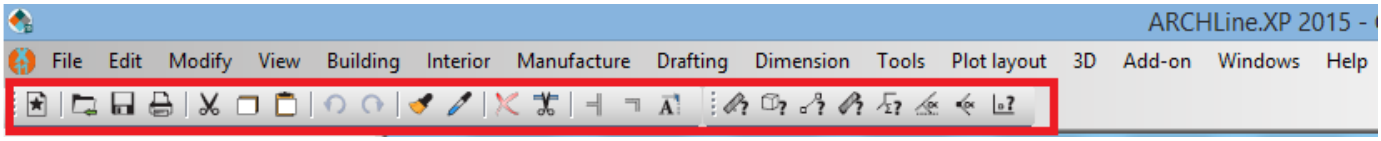


ARCHLine.XP® *interface*

The ARCHLine.XP® interface has the following different main parts: Menu bar, Toolbars, Toolbox and Drawing area.



Menu bar



Toolbar

The Toolbox

Toolbox is a comprehensive catalogue of commands using to create objects. They are arranged in groups. The content is corresponding with the groups in the Menu bar significantly.

Main features:

- The submenu displays within the main menu and remains open after the command selection. It requires less click to start the next command.
- The order of command groups are changeable.
- Search field to browse commands by name.
- Favourites menu.
- Optional menu for user defined command groups.
- Mouse right click menu.
- Listing or icon style representation.
- Info tooltip: Kind of on-the-spot "mini online help". It makes easier to understand the command.

Using the Toolbox

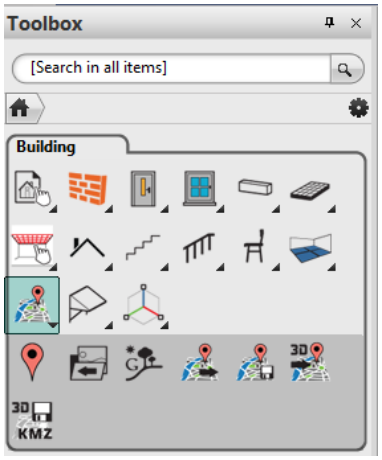
Toolbox is present on the screen when you activate the Window menu – Toolbar – Toolbox option.

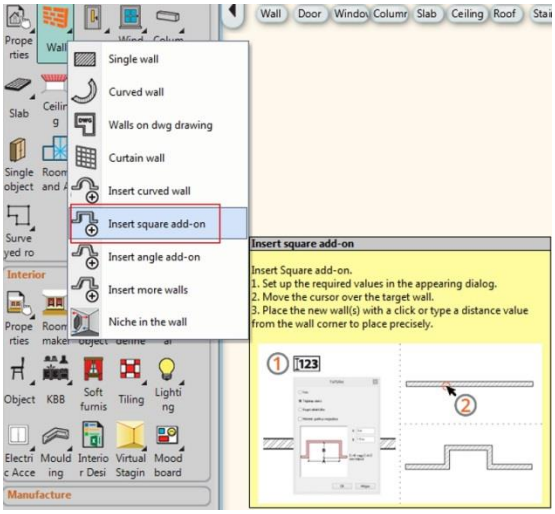
To make the Toolbox close automatically

Click on the Toolbox header and select Auto Hide.

To make the Toolbox remain open

Click on the Toolbox header and clear Auto Hide.

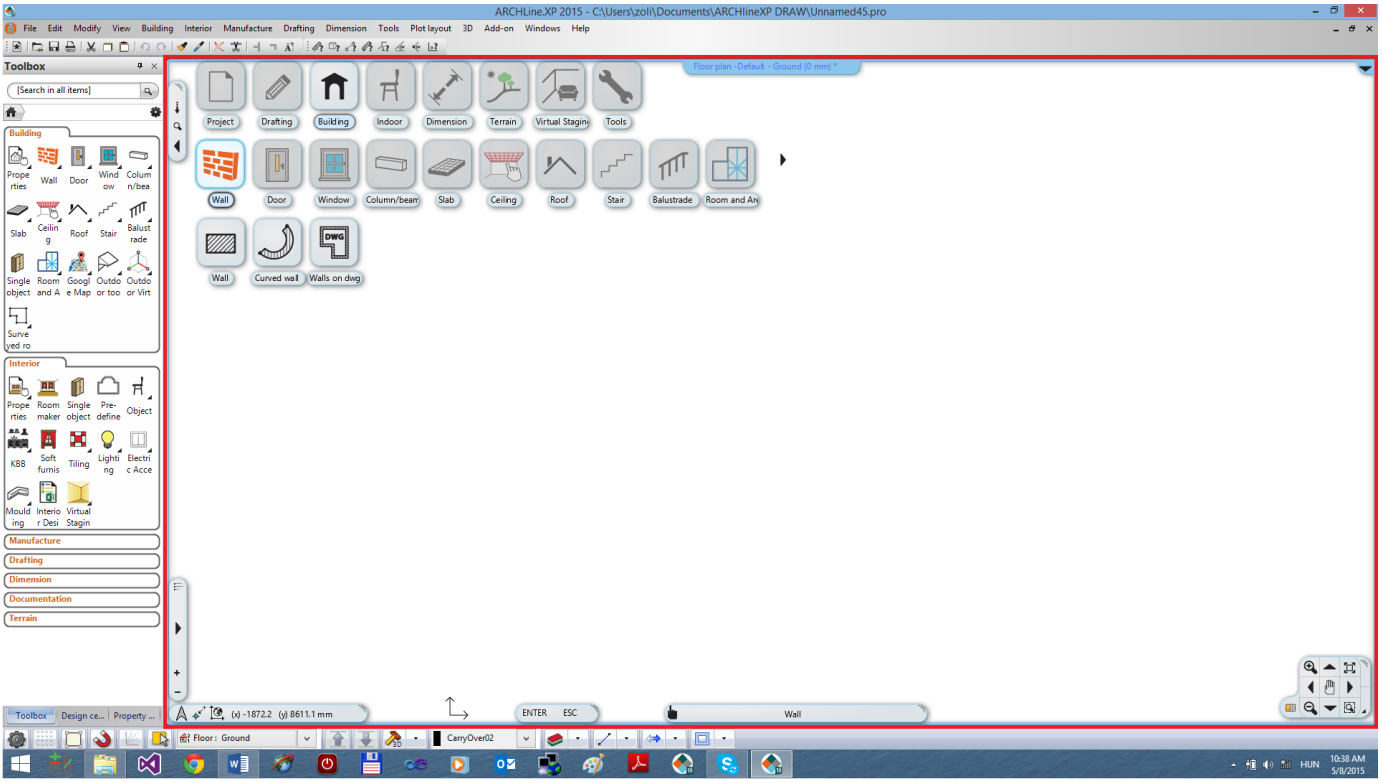




For your convenience we suggest you to work with the default layout of ARCHLine.XP®. In this layout you will see the following tabs on the bottom of the Toolbox: Toolbox, Property Grid, and Design Center.

If you see any interface other than the default layout, please use the “Menu bar / Windows / Default position of toolbars” command.

By default the left side Toolbox is visible. For your convenience of following this tutorial, we recommend you to pin it if it is in hidden state. To pin the left side Toolbox please move your mouse over the “Toolbox” word on the left hand side and click on the “pin” icon of the Toolbox on the right top corner of it.



Work area

During your work with ARCHLine.XP® you will mainly use the Toolbox and the Work area.

The Toolbox on the left side contains frequently used tools organized into categories like Building, Interior, Drafting, etc.

Tutorial

2.2. Basic Drafting tools

2.2.1. Drawing in ARCHLine.XP®: *Click & Release*

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 **

In the following we will create two drawing elements using the Line tool (Toolbox / Drafting / Line).

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.

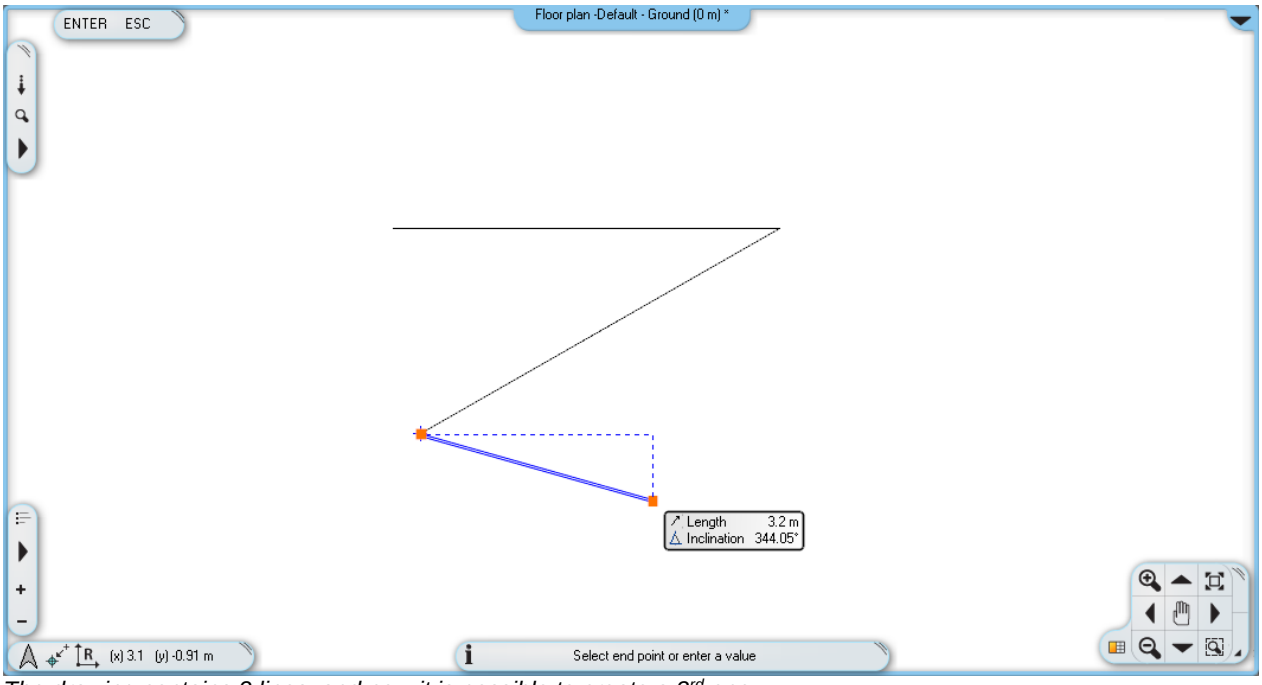
Drafting lines:

- Click on the Line tool in the Toolbox / 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.

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”.)



The drawing contains 2 lines, and now it is possible to create a 3rd one

Exit the tool you are currently using

- 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 disappears.

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 in the bottom right corner of the drawing window. Click on the plus sign to zoom in, or use the minus sign to zoom out the drawing on the screen.

The Navibar

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 +/-** 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**

The zoom and pan operations can be used together.

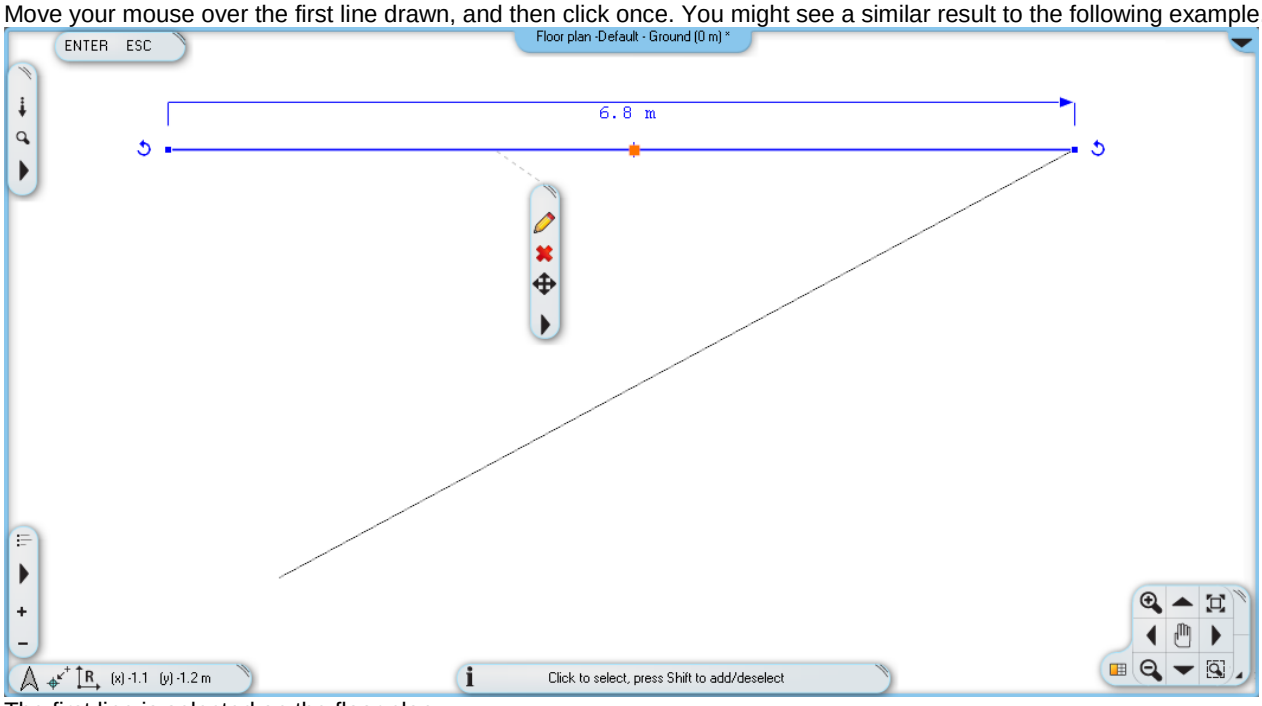
2.2.5. Simple selection and delete

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

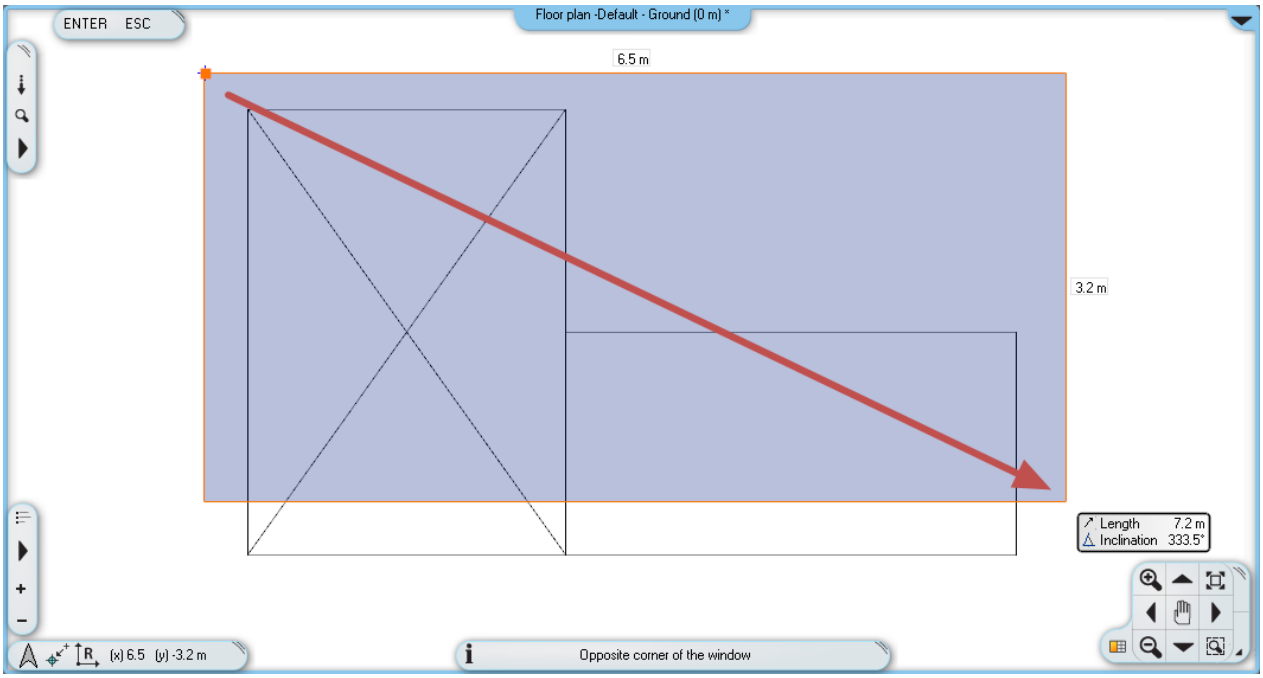
- Delete the selected lines using the delete icon ✖. The drawing is now empty.

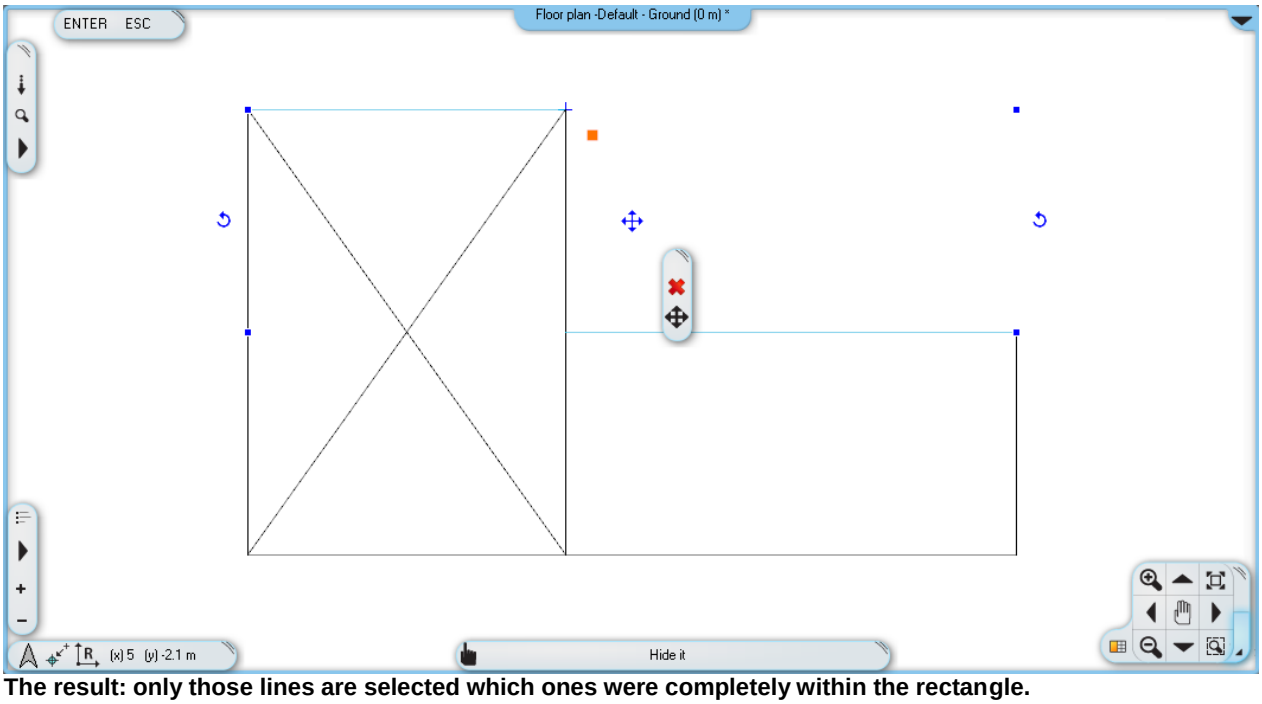
2.2.7. Selection by rectangle

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.

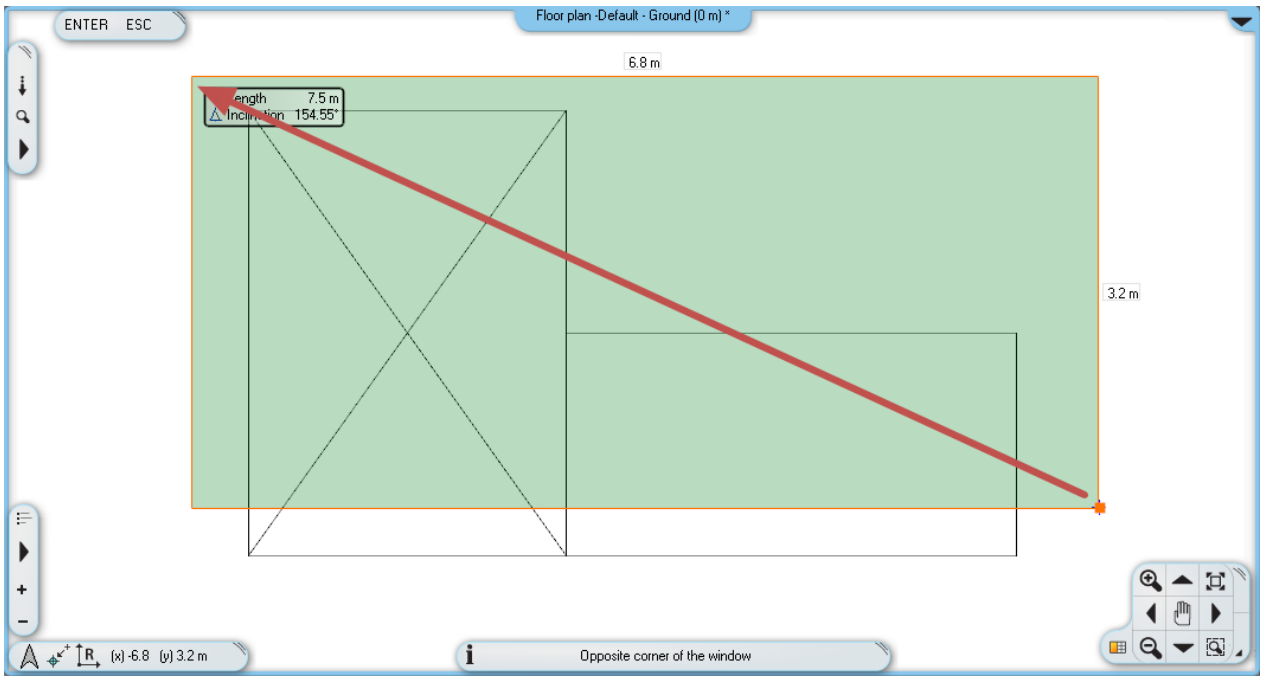


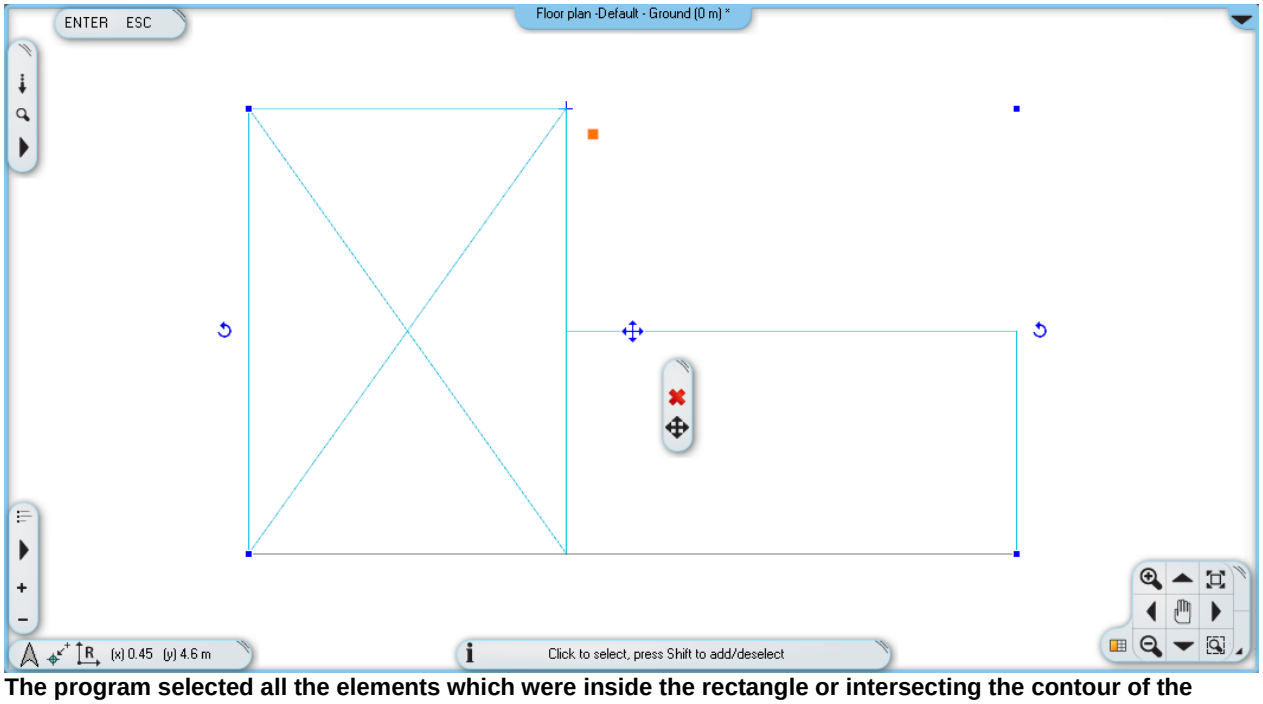


The result: only those lines are selected which ones were completely within the rectangle.

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:

- Press down and hold the CTRL key on the keyboard.
- Move your mouse over an item type in the Toolbox and click on it. All items of the selected type become selected.
- Release the CTRL key.

Exercise:

Select all the lines on the drawing:

- Press down and hold the CTRL key on the keyboard.
- Move your mouse over the Line tool in the Toolbox and click on it.
- Release the CTRL key.

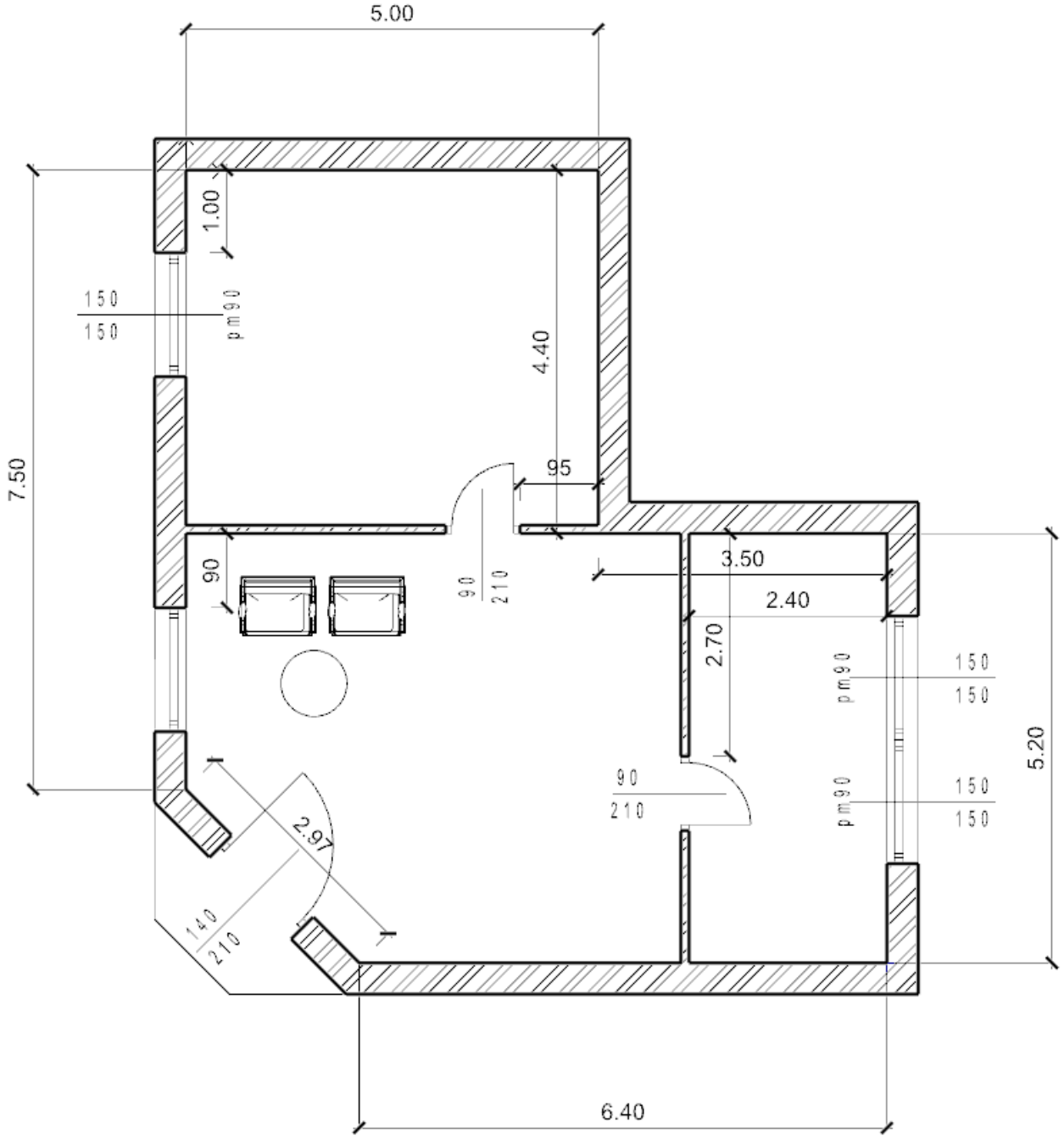
Now all the lines on the drawing are selected.

- 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:

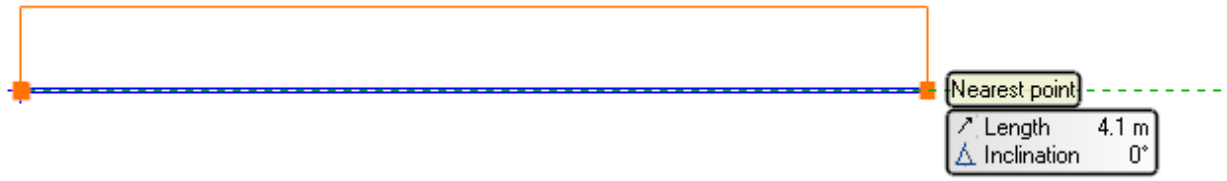


Start your work by drawing the main walls. The first wall is 5m long, lying horizontally on the drawing, determined by its internal size.

Creating wall by a known length

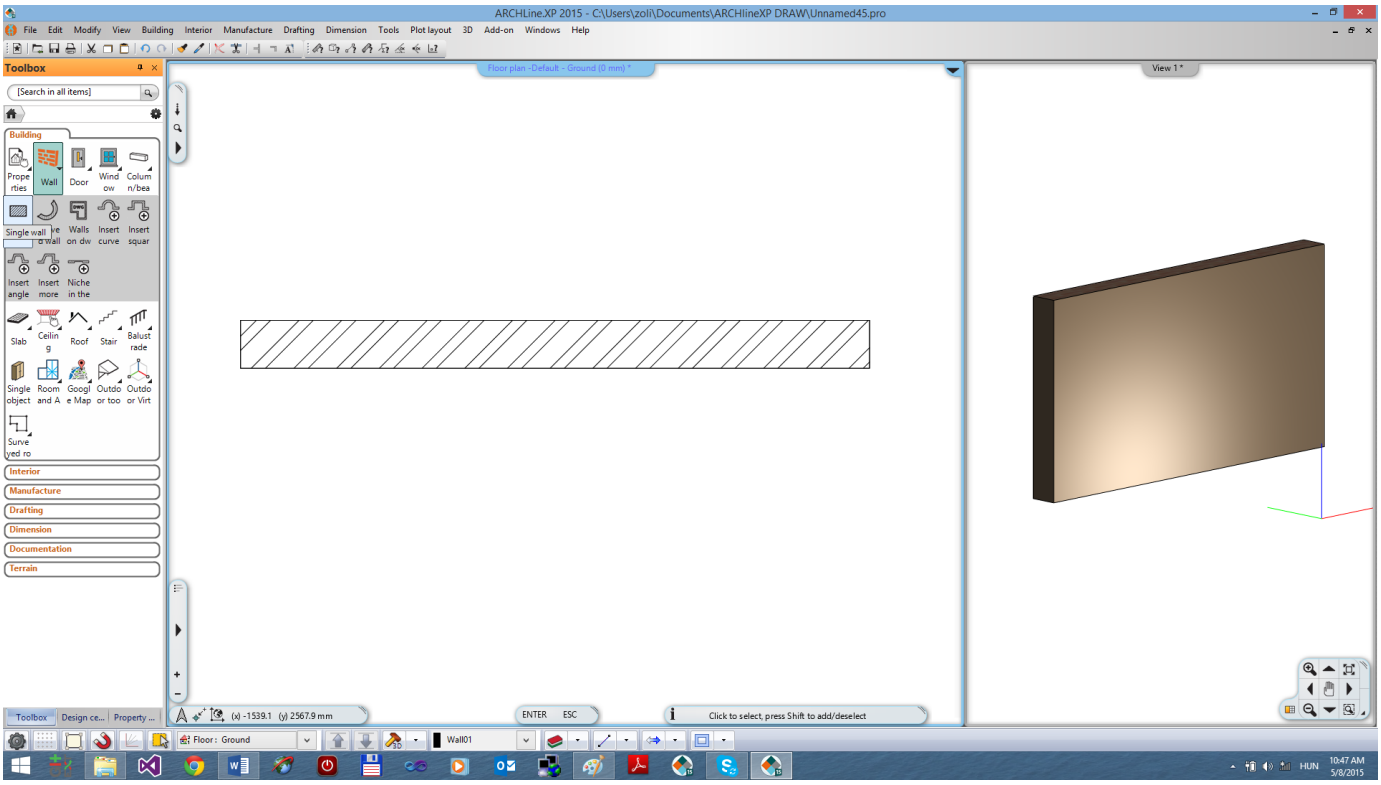
You can create walls clicking the **Toolbox – Building - Wall tool**.

- 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 horizontally to the right.



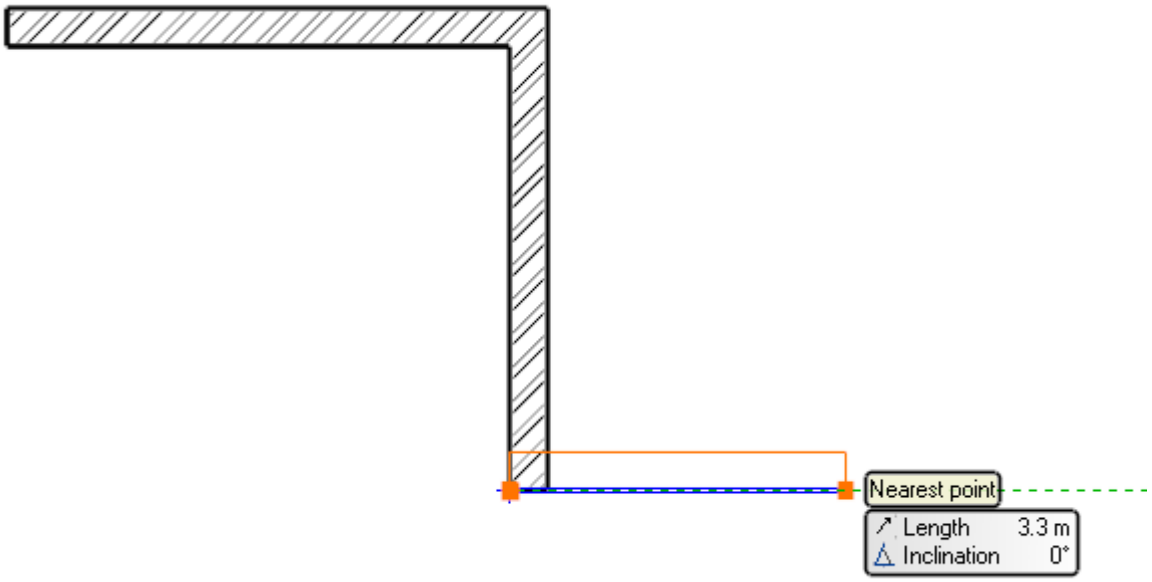
- The blue line is the reference line of the wall, while the orange line represents the thickness of it. The length can always be defined along the blue line.
- The wall will be 5 m long, so press the 5 on the keyboard.
- Press the Enter key on the keyboard in order to accept the entered value

  The 5 m long horizontal 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.



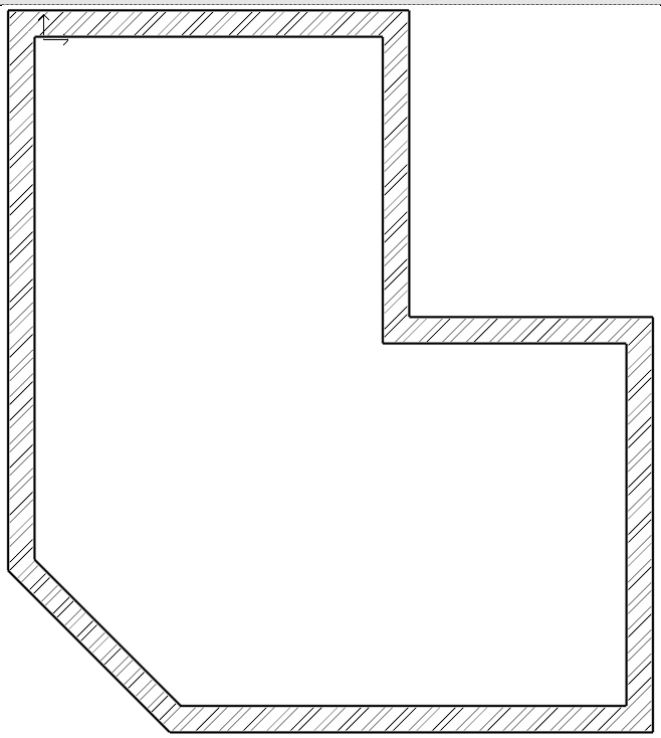
- Move the mouse vertically down and type 4.4, and then press Enter on your keyboard.
- Use the Optimal zoom or the zoom out and zoom in tools to see a similar content to the following example. This way you can make some space for the remaining part of the plan.

2.3.2. Continue creating walls



- Move the mouse horizontally to the right and type 3.5 and press Enter. When the Enter key is pressed the third wall is created.
- Move the mouse vertically downwards and type 5.2 and press the Enter key on your keyboard.
- Move the mouse left and type 6.4. Press the Enter on your keyboard.
- Move the mouse to the left and upward at an angle of approximately 45 degrees and type 2.97. Press the Enter 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 forget that you can zoom in / out and pan drawing at any time during drawing.



The room is ready

2.3.3. Active window

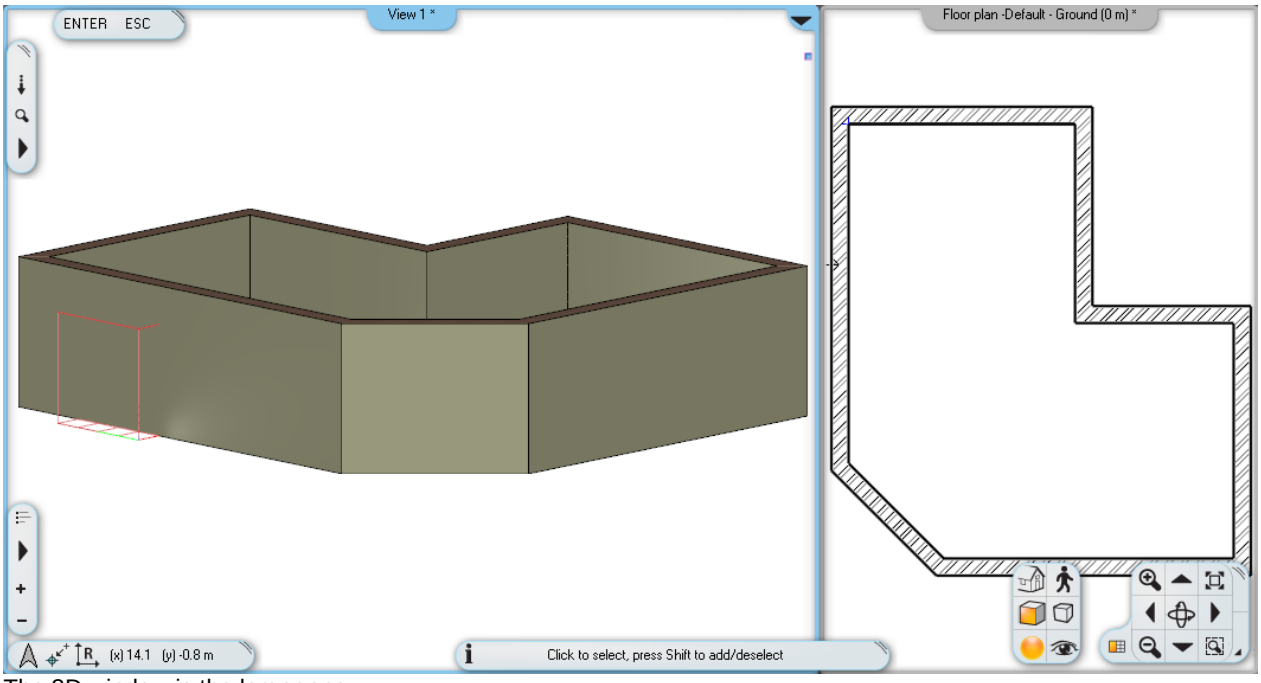
As you might already noticed at the first time drawing a wall, the 3D model was automatically created in a second window. The advantage of this split layout is that all the changes in the floor plan can be seen in the 3D model too.

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 left corner on the “Enlarge active 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 “Enlarge active 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 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 Presentation settings 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:

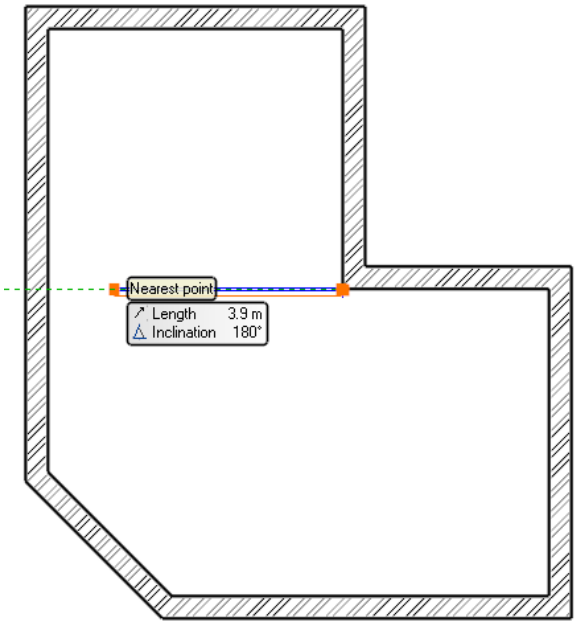
- Click on the “Toolbox / Building / Properties / Wall” command. This will bring up a dialog box called Wall Properties
- Please change the wall thickness from 0.38 m to 0.1 m and click on the OK at the bottom part of the dialog.

In the drawing, nothing has changed, but from now on when you will create a new wall it will have a thickness of 10 cm. To draw partition walls please follow these steps:

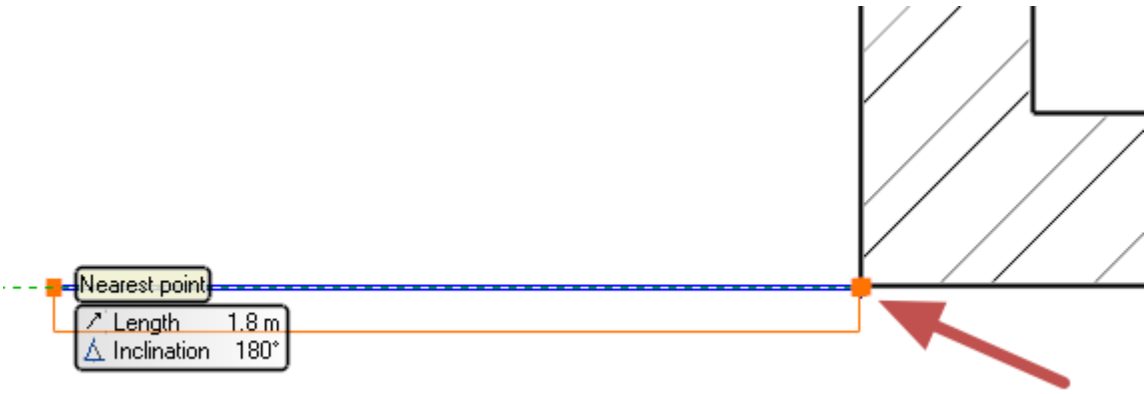
Partition wall

- To create walls click on the **Toolbox – 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.



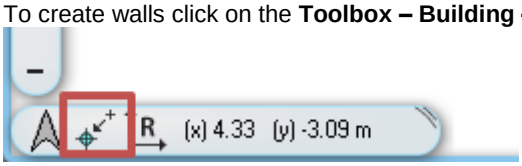
For now, we need the wall thickness to be above the blue reference line, so that the partition wall and the neighbouring main wall will share the same line.

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

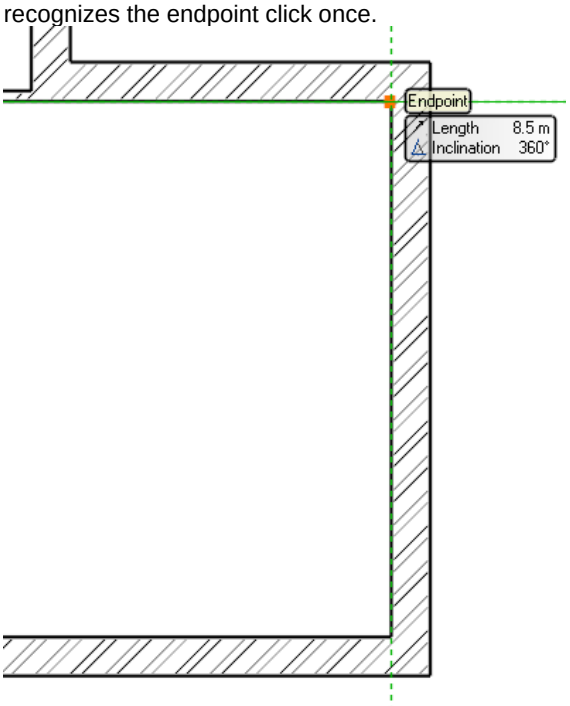
- Now click on the “Right side” command then move the mouse back to the drawing area.
- Now, the reference line of the wall is on the other side of the wall thickness.
- Place the endpoint of the wall on the inner side of the opposite wall perpendicularly.
- Press the Enter on the keyboard. Now you can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



- Select the “New reference point” 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.



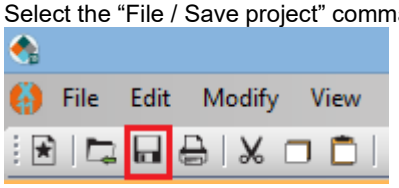
- Move the mouse horizontally to the left and type 2.4, and press Enter. The program now measured the distance of 2.4m horizontally to the left from the previously defined reference point, and placed the starting point of the wall.
- Move the mouse vertically downwards and when the perpendicular point 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

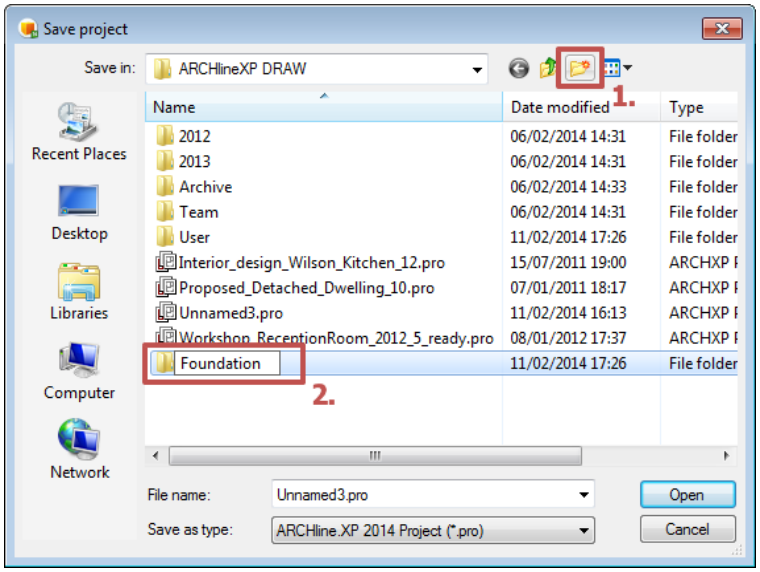
- Select the “File / Save project” command.



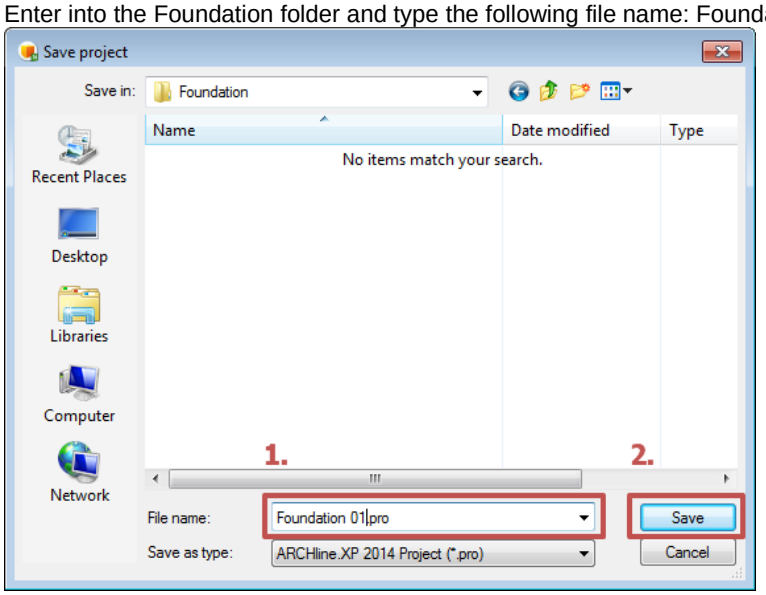
The “Save project” command on the interface

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 My 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.pro



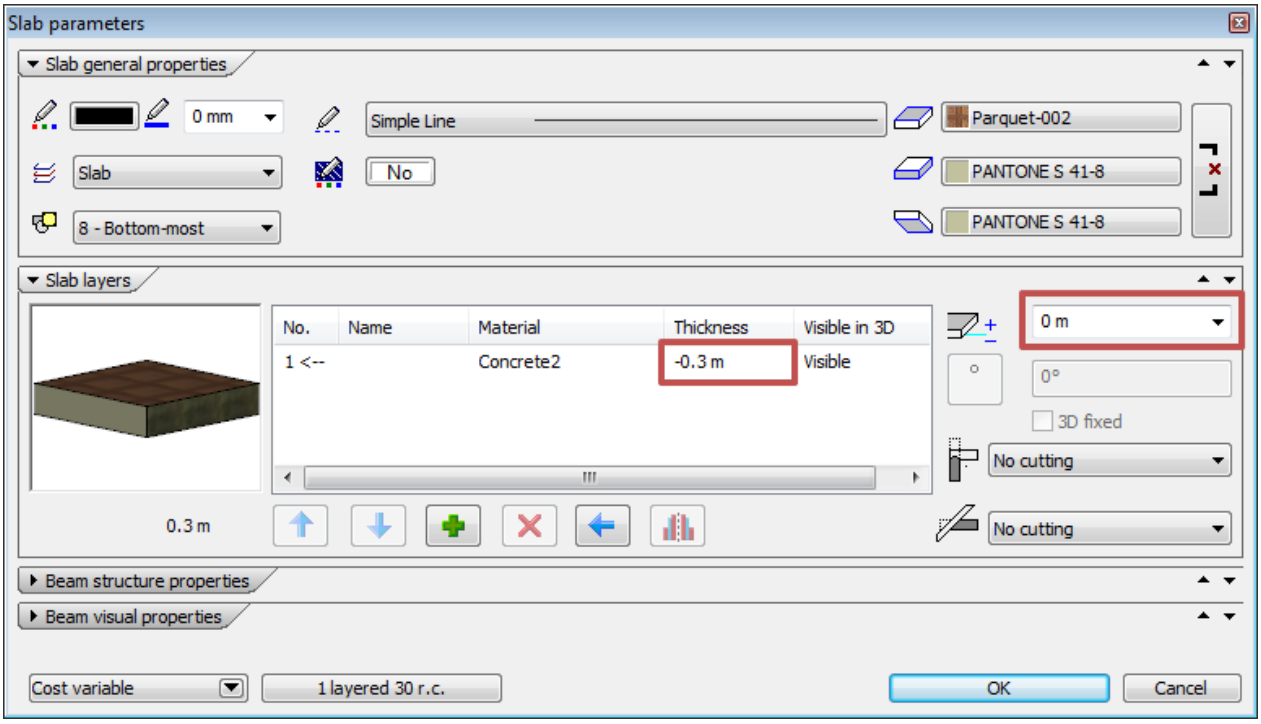
- Click on the Save button.
We suggest you to save your projects quite frequently (e.g. every 10 -15 minutes).

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.

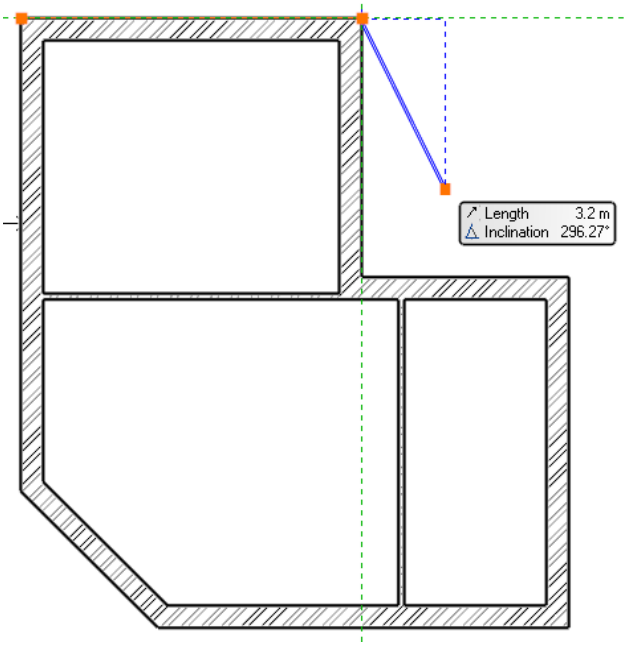
2.3.8. The Slab tool – Create a Floor

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

- Select the “Toolbox / Building / Properties / Slab” command. The Slab Properties dialog window appears.
- Check the following properties of the slab: Relative height: 0 m; Slab thickness -0.3m, finally click on the OK button (right bottom corner of the dialog).



- Select the Toolbox / Building / Slab / Slab by polygon tool.
- Move the cursor to the upper left part of the floor plan to the outer corner point of the main walls and when you see the Endpoint, please click.
- Move the mouse cursor over the following outer corner point, and click again to place the second corner point.



- Place the remaining 6 corners points too. The last corner point is the one which you placed first.

When you click on the last corner point of the slab the program will create the ceiling. The result can be seen in the 3D window.

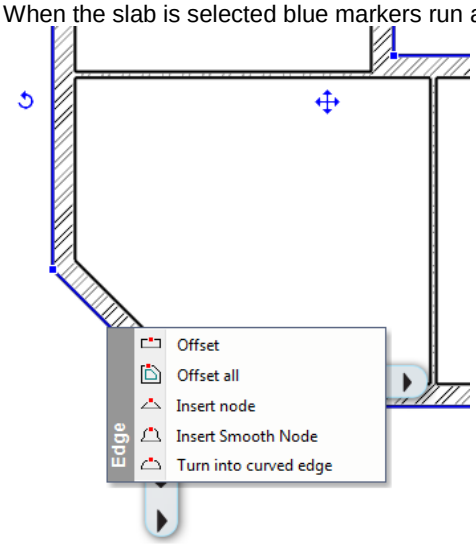
The 45 degree angle wall will have an entrance door in it. In addition, it is necessary to place a stair there, which now we will achieve by changing the contour of the slab.

Modify the contour of the slab

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

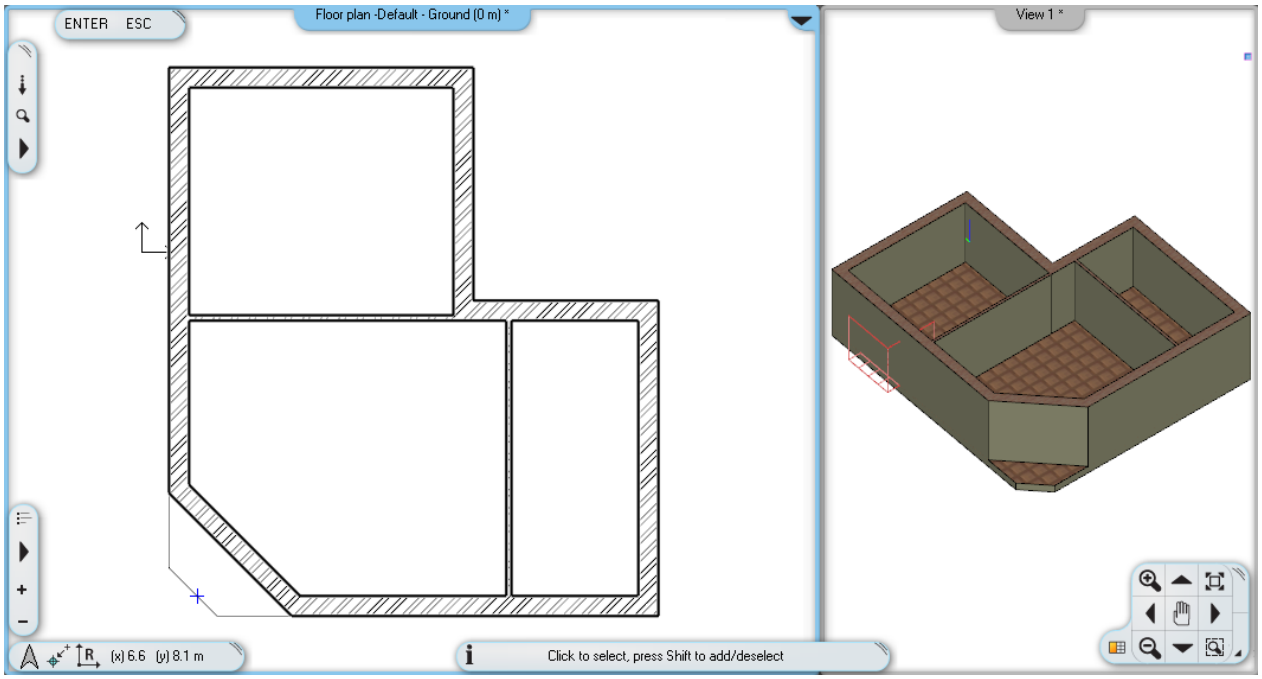
  At very early stages of a drawing process some parts of the project will become already crowded with the 2D symbols of certain items. If there is more than one item at the point where you have clicked, the Quick selection panel will appear at the right side of the floating icon menu, to help you choose 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 1, 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.



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:

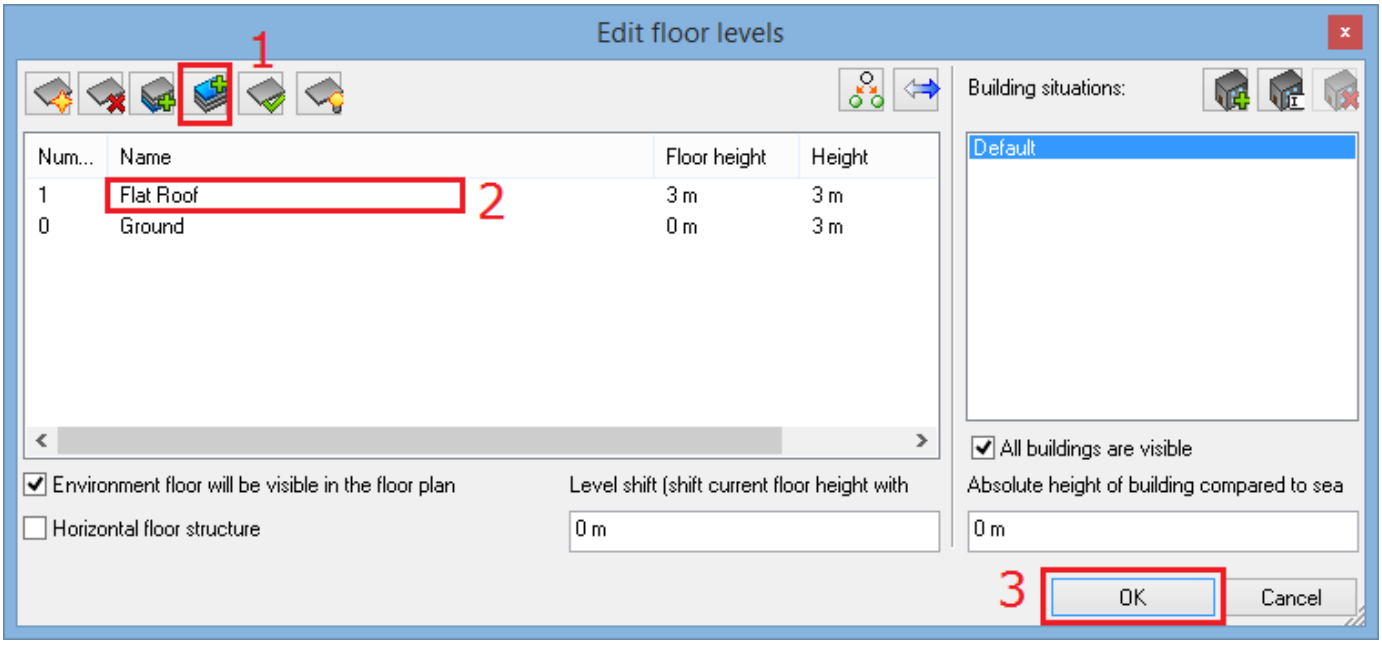
- The symbols of the elements on the different levels should appear on different drawings corresponding to the proper floor of the item. The layout of the ground floor, the first floor, loft, etc. should be represented on their own respective drawings separately.
- On the other hand it is also easier 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 “Floor: Ground” button. The “Edit floor levels” dialog will appear.

  In the list there is only the Ground floor now. This floor is created by the software by default every time when you start a new project.
- Click on the Add above button. The software will create a new floor above the existing one named as Level 1.
- To rename Level 1 click on the name of it. Type the following: **Flat roof**
- Click OK.

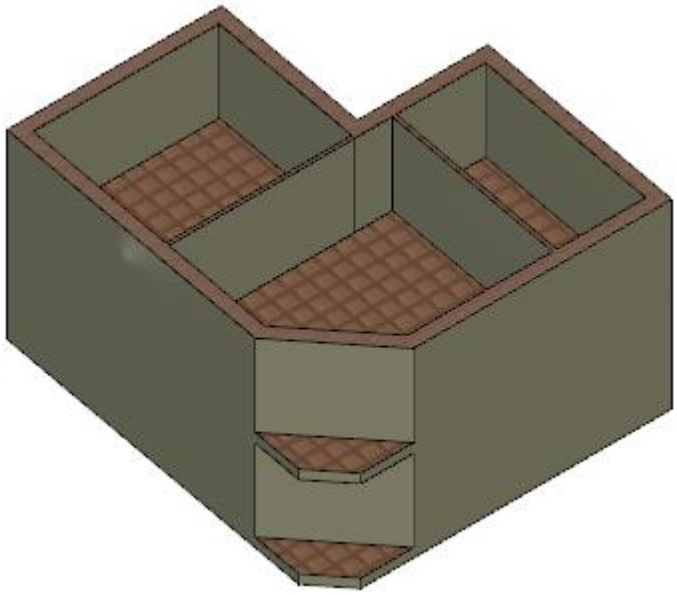


- The project now has two floors, and the content of the Ground floor is visible. The building of the current exercise has a flat roof. We will be copy walls and slab of the Ground floor to the flat roof level. Now do the following:

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 other 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 2.7 m.
- Click on the property in the “Property grid” on the left side and change the wall height to 1 m, 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 1 m 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 1 m 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 1 m. 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 1m.

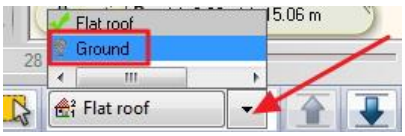
- Hold down the CTRL key on the keyboard.
- Click on the Wall tool in the Toolbox.
- Release the CTRL key.
- Change the height of the walls to 1m using the Property grid on the left side and press Enter.

All the walls on the Flat roof floor are now changed to 1m 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.

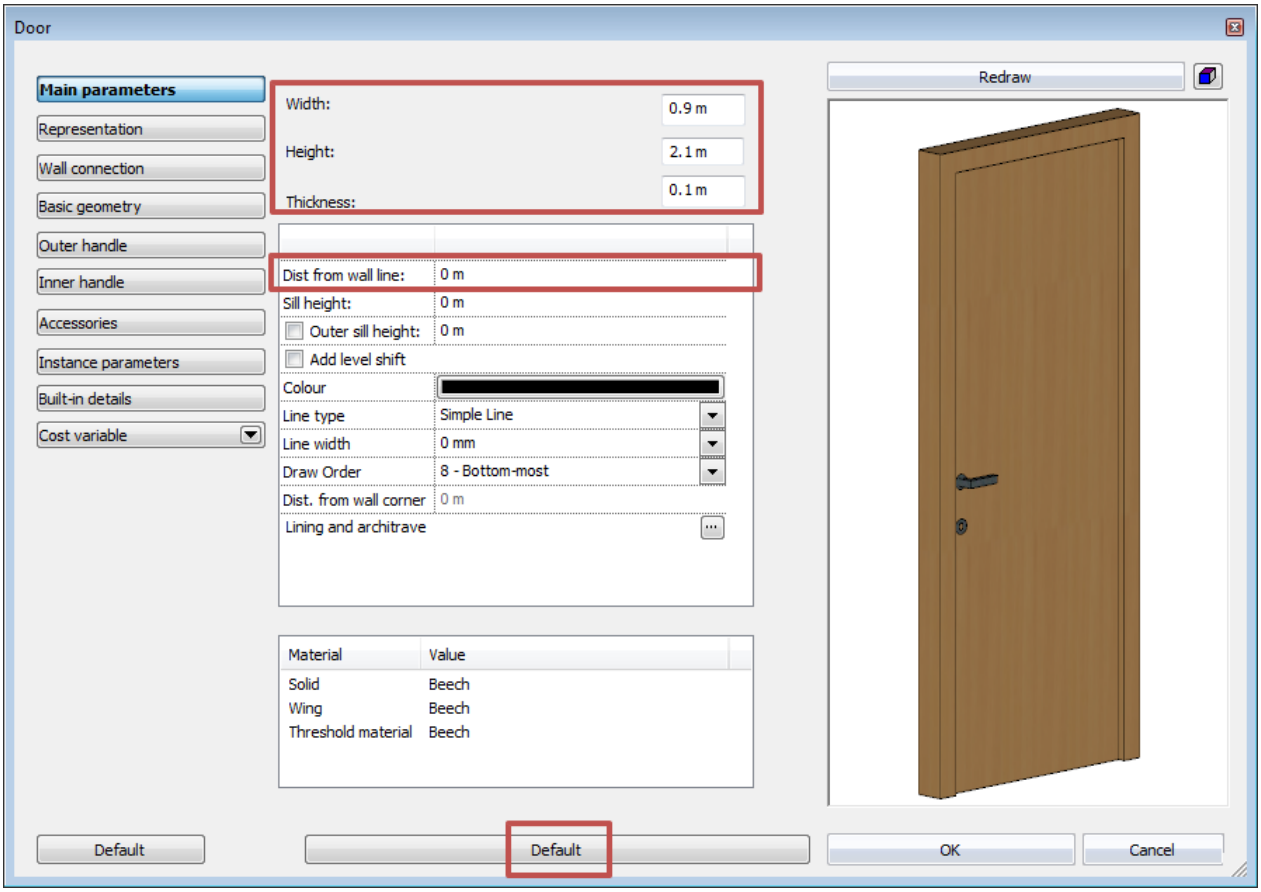


To switch between floors you can also use the Page Up and Page Down keys on the computer keyboard. Pressing these keys you can jump one level up or one level below in the floor list.

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:

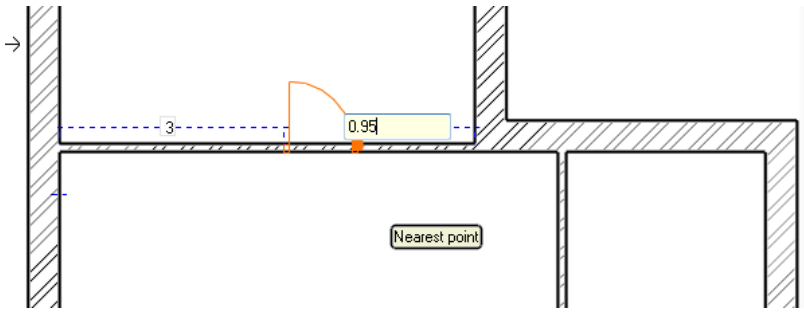
- Select the menu item "**Properties / Door"** in the category "**Building"** of the Toolbox. Now the dialog box "**Door properties"** appears.
- Name of door: Simple; Width: 0.90 m; Height: 2.10 m, Distance from the wall line: 0.0 m.



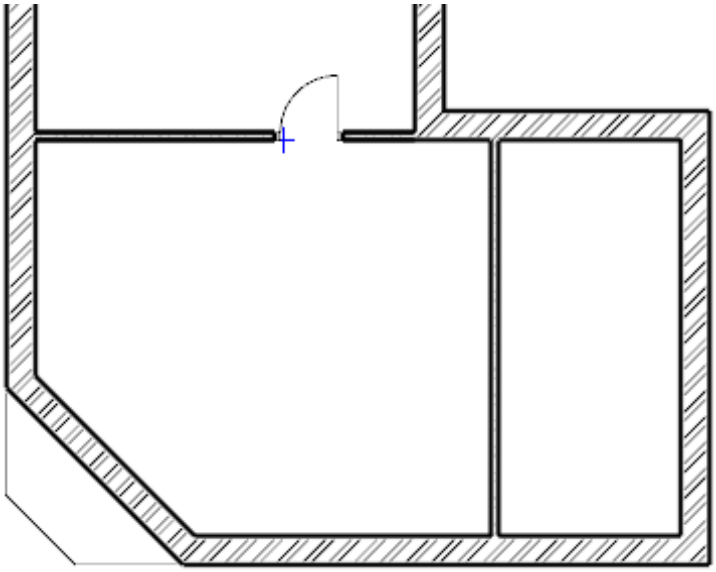
- Click on the button OK.

Placing the first door

- Select the tool **Door** in the category **Building** of the Toolbox.
- 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.



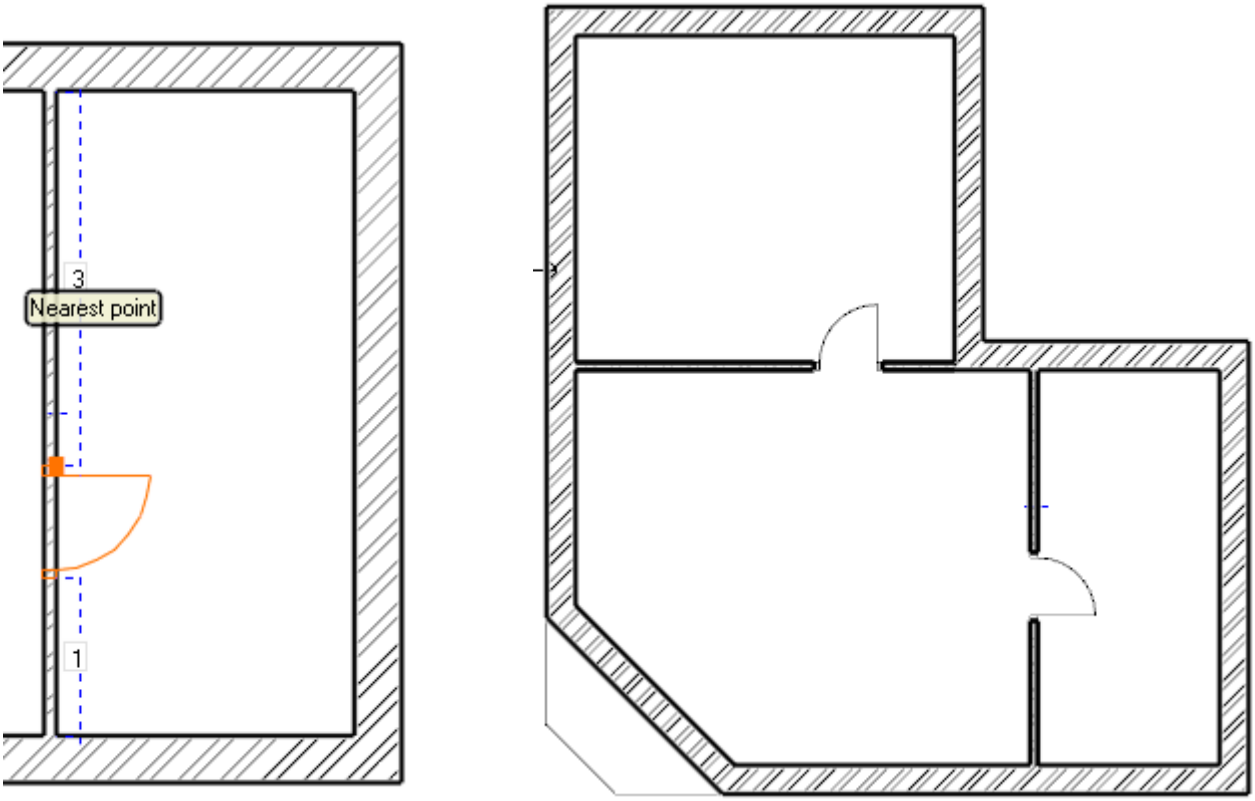
- Type in the value 0.95, then press the key Enter. By this operation, you have specified the distance between the orange reference point and the nearest wall corner, which is 95 cm according to the original drawing.
- Move the cursor around the placed door symbol. Observe that the opening direction 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 2.70, 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.

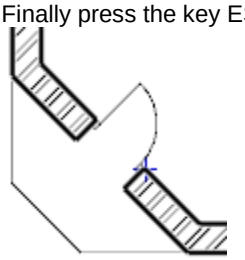


2.3.11. Modifying the property of an existing item

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.

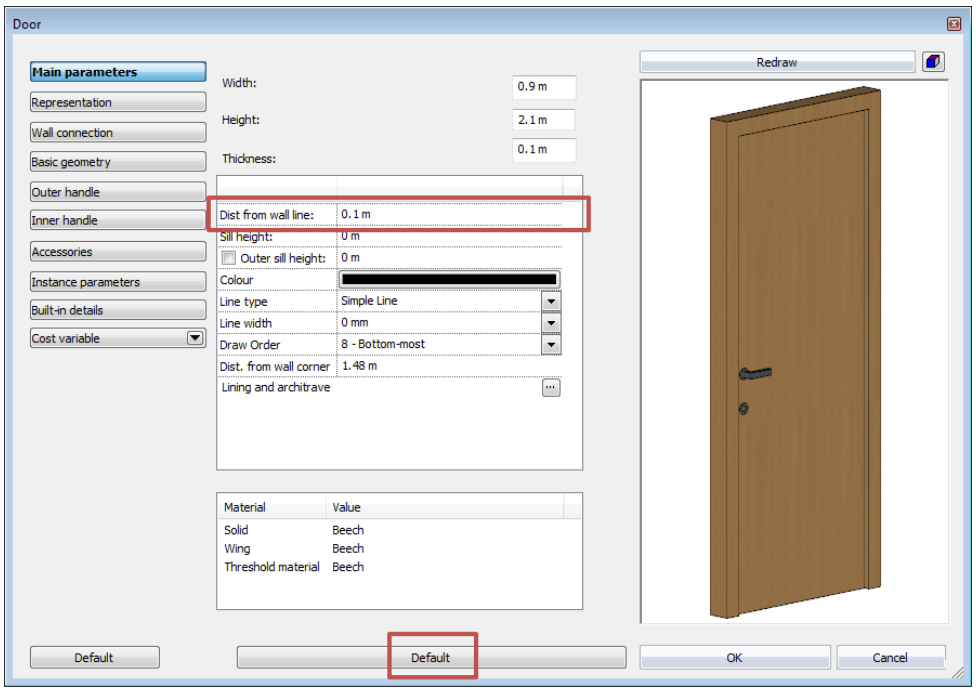
- Select the Door tool again in the Building category of the Toolbox.
- Move the cursor over the main wall shown in inclined position in the drawing, at the side of the wall facing the room. Notice that the orange reference point appears at the lower half of the door cursor.
- Select the instruction "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.



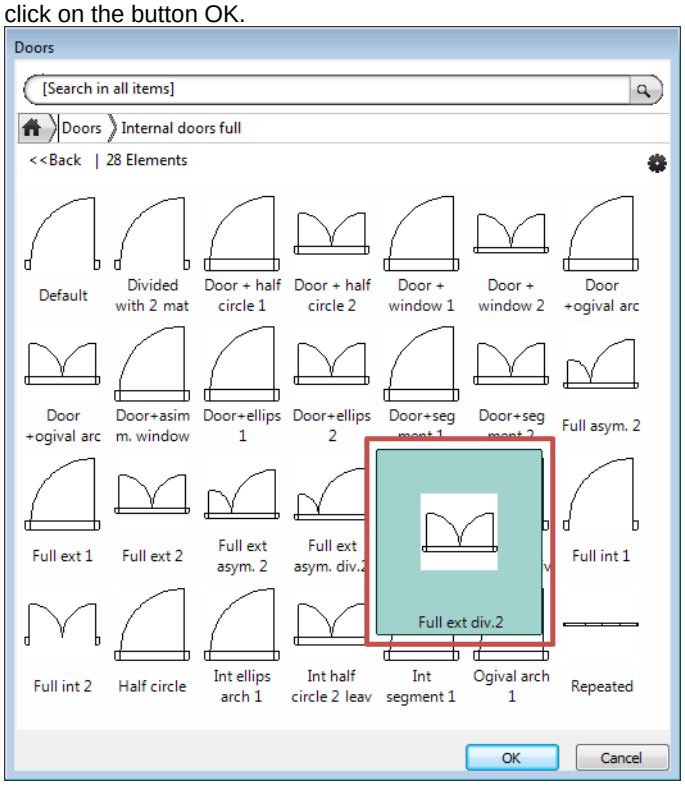
The type of the entrance door, and its alignment in the wall do not corresponding to those shown in the floor plan for the time being. Therefore, it has to be modified. Proceed as follows:

Modification of properties

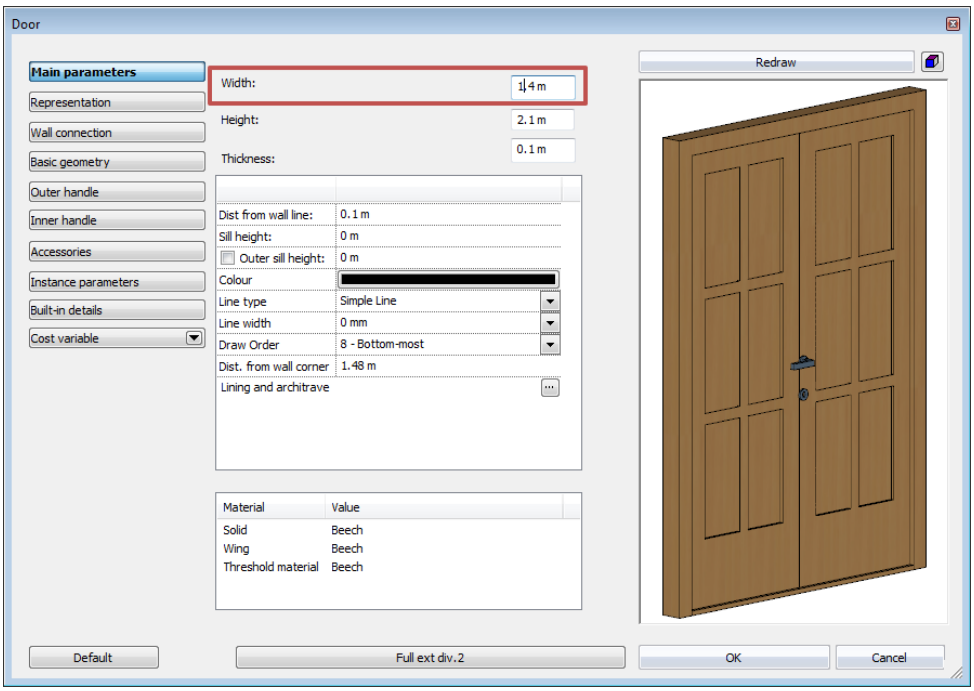
- Select the entrance door in the floor plan.
- The floating menu appears as a result of the selection, the first icon looks like a pencil . This is the "**Property icon**". The properties of the selected item can be displayed and modified with the help of this.
- Click on the "**Property icon**" . Now the **"Door Property"** dialog window appears.
- You can see the Distance from the wall at the top right corner. Modify it to 0.10 m.

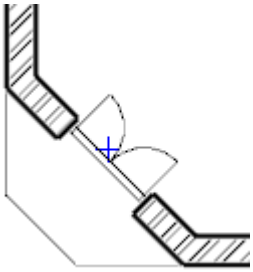


- Click on the button "**Default".** In the appearing dialog click and select the a double-wing door named as “Full ext div.2, and click on the button OK.



- You can see the Width value at the top of the Property screen. Modify it to 1.40 m.
- Click on the button OK. The modification of the door has been done.
- Press the key ESC.



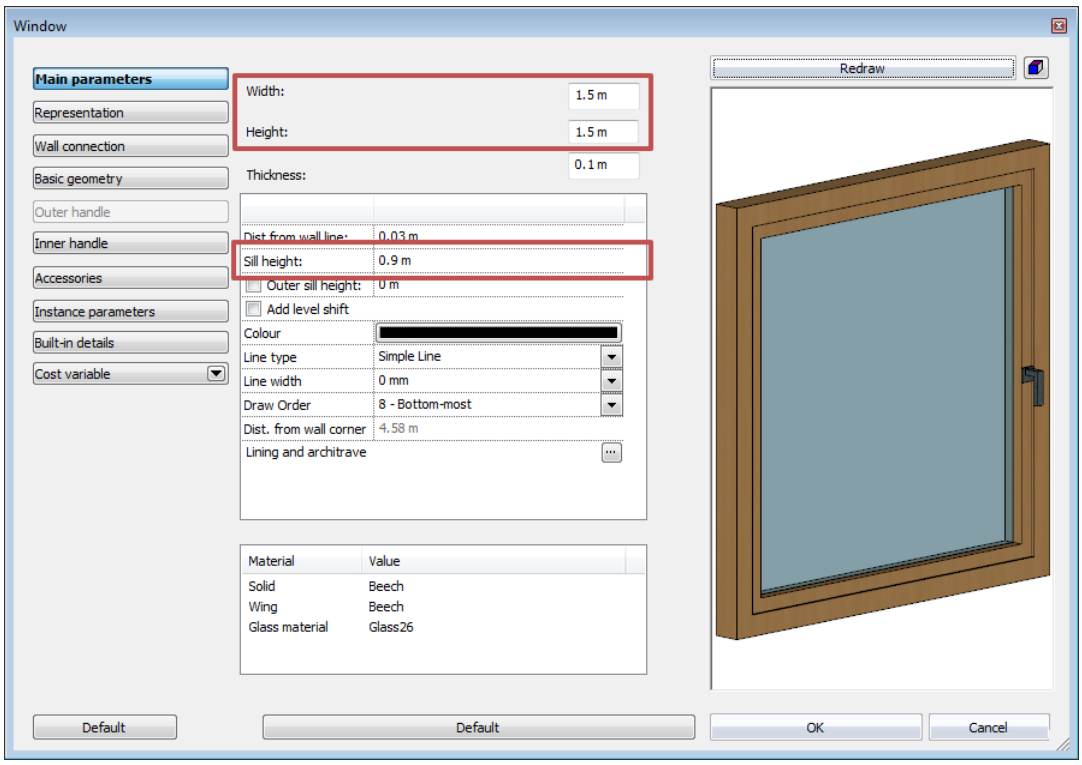


2.3.12. Drafting the windows

Now let's continue working with the windows.

Adjusting the properties

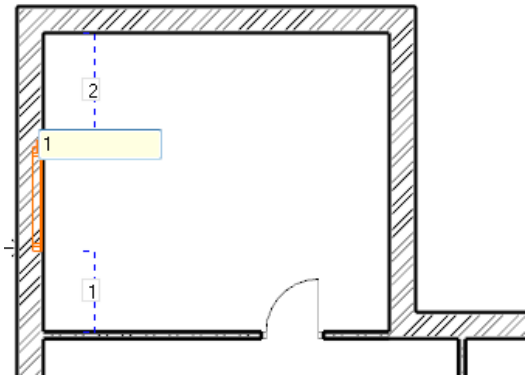
- Click on the menu item Toolbox - Building - Properties - Window.
- In the list at the upper right part of the appearing dialogue screen let the Sill height be: 0.90 m.
- The Width and Height are: 1.50 m and 1.50 m.
- Click on the button OK to accept the settings.



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 "Toolbox".
- 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 1, and press the key Enter. By doing so, you have specified that the distance between the reference point and the nearest corner point is 1 m. The window appears in the wall accordingly.

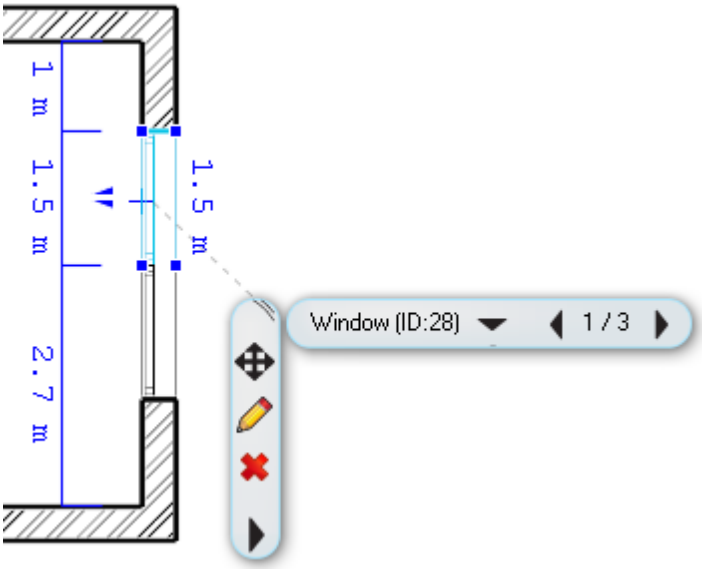


- Now move the cursor to the side of the same main wall facing the room below.
- With the method applied above make sure that the window is properly located in the wall, so that its upper corner point is at a distance of 0.90 m from the corner points at the connection of the main wall and the partition 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

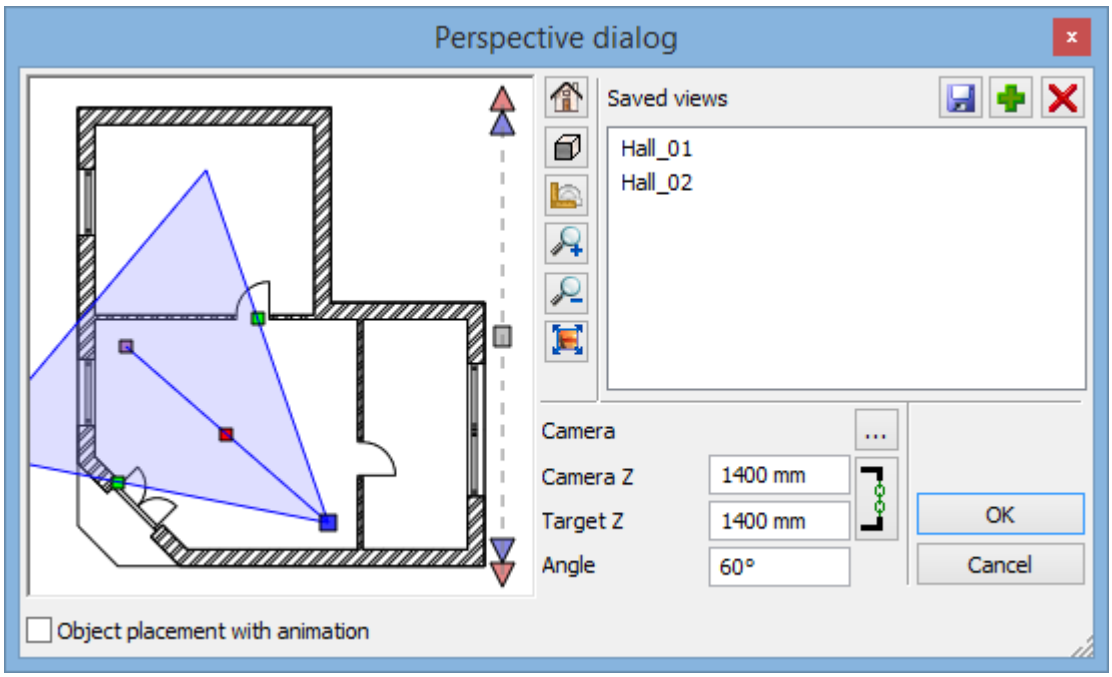
In this chapter we deal with the furnishing of the rooms. Therefore, it is necessary to set up one or more perspectives besides the axonometric view of the model, so that we would be able to see and show how the model looks like from the inside to the customers.

Setting up and saving the perspective views

- Activate and enlarge the 3D screen with the help of the tool Navibar - Enlarge active window.
- Find the eye icon at the bottom right part of Navibar, and click on it.
- The "**Perspective dialog"** appears.
- Click on the button of 2D display, 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"**. 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.
- A modifying button indicated with three dots can be seen right to the name of the newly saved view when you select it. Click 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.

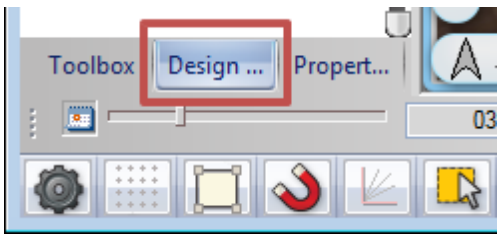
If no internet connection is available at the moment, then you can use
- the limited number of furniture items provided by the installer,
- the furniture items used in the previously opened projects,
- the furniture items downloaded during the former internet connection,
- your own furniture items that 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:

A couple of tabs can be seen just below the Toolbox. 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.

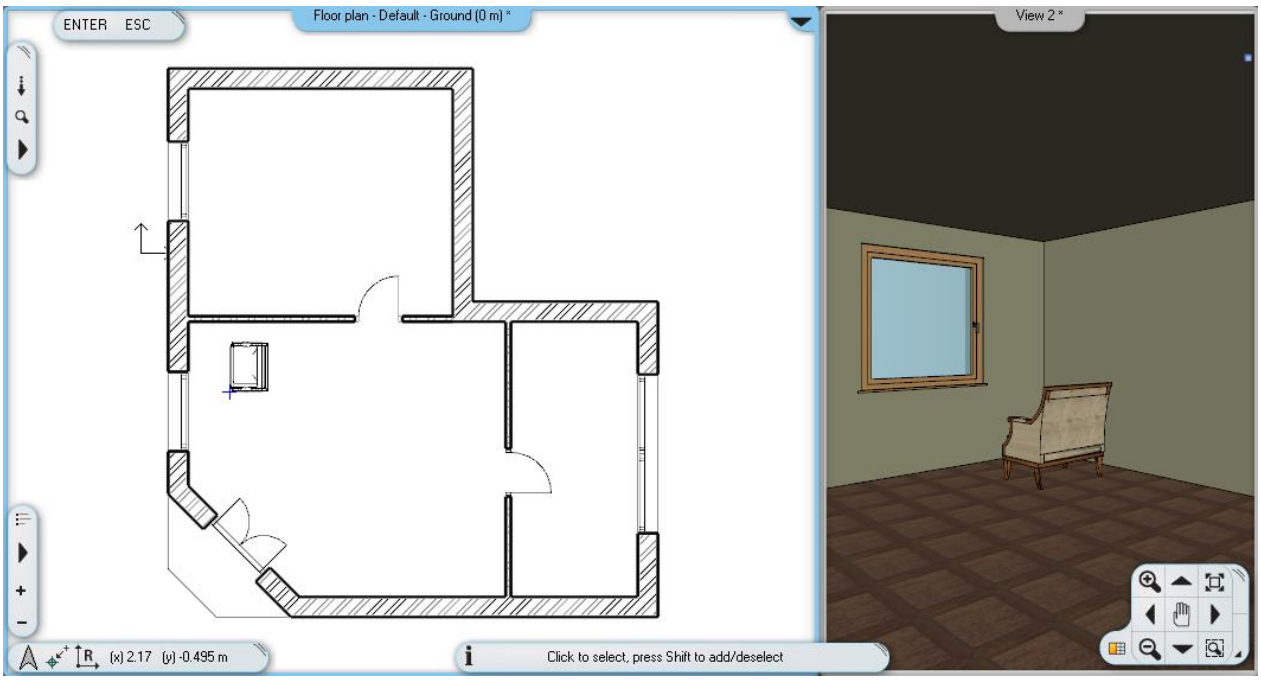
- The program finds and lists all the objects, in the name of which the searched word is included.

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 “Armchair 02”, 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 “Armchair 02” 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.



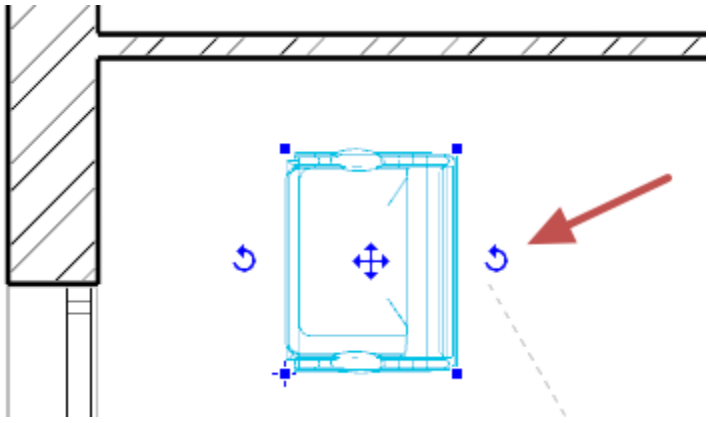
In the perspective screen you can see that the armchair faces the window in the current model. We will now turn the armchair to the appropriate direction with the help of the already know markers.

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.

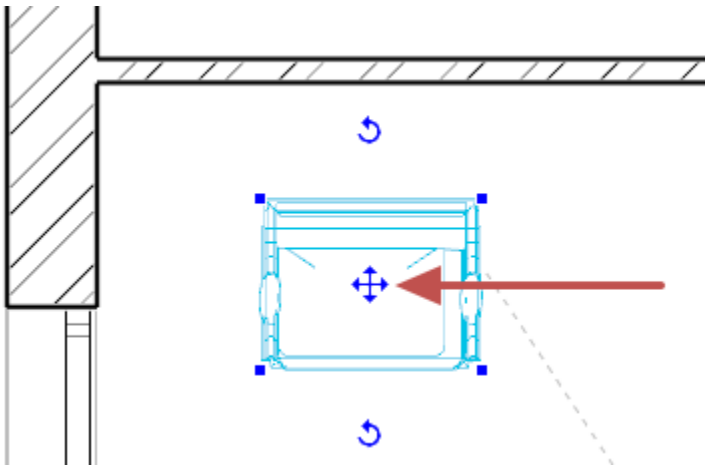
If the rotation marker does not appear during the selection, then the component is too small in the given section of the drawing. In such a case, zoom in to this part of the drawing until the rotation marker appears.



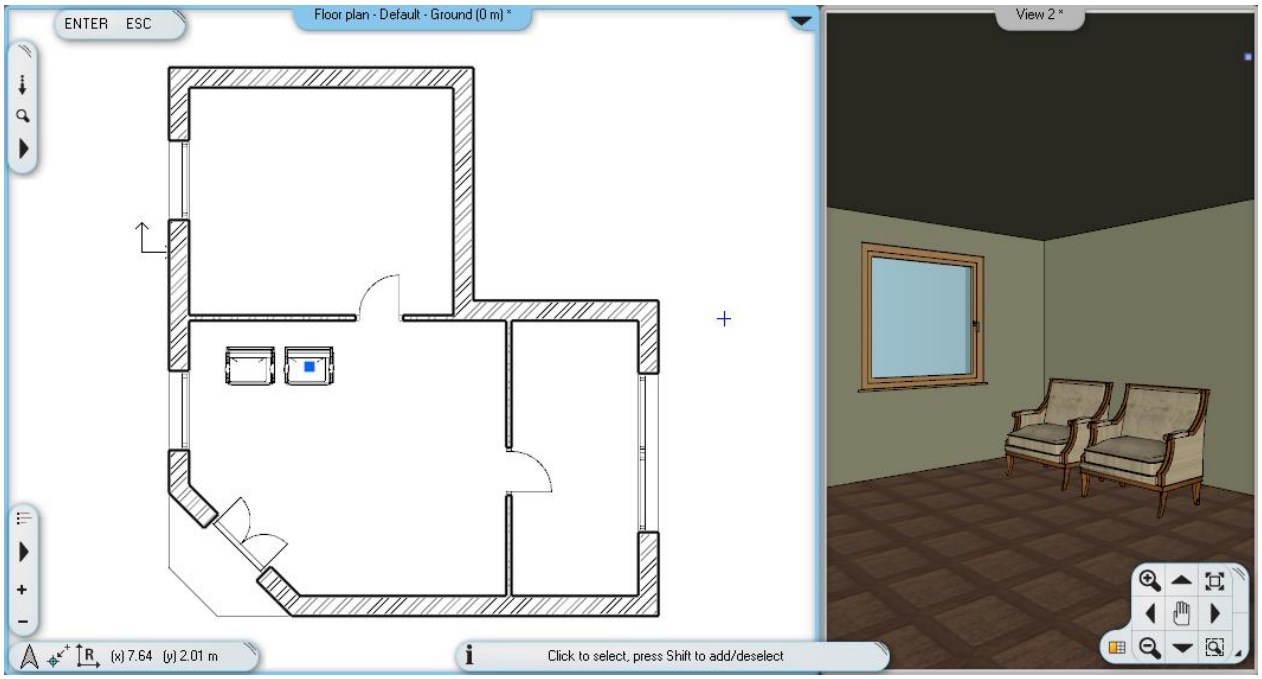
- The Rotation menu appears after you click on the Rotation marker (you can also see this written on the band running at the left side of the menu: "Rotation"). Select the menu item "Rotate 90 ccw". Now the armchair is rotated, so that it faces the entrance door.

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.

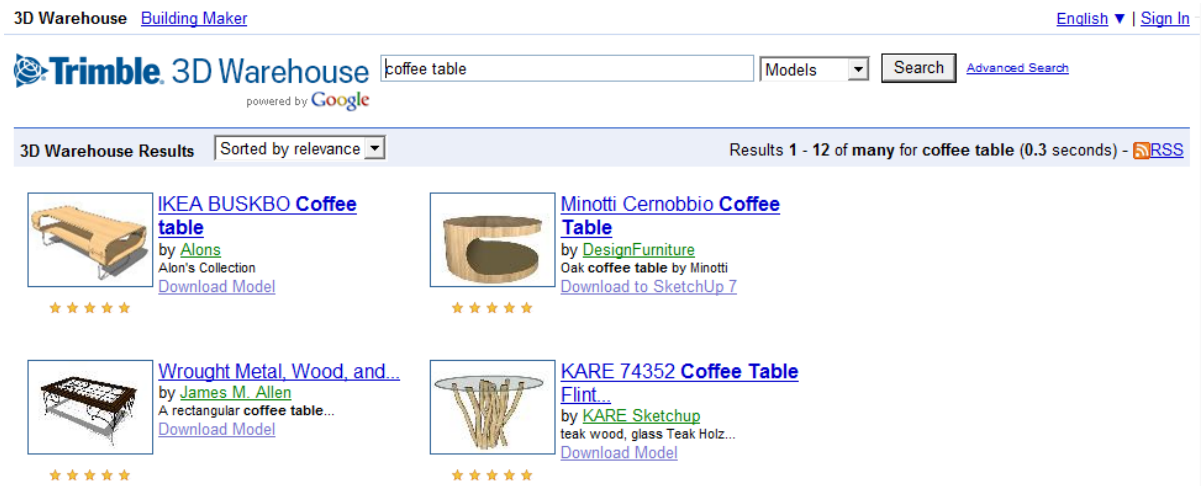
We plan to place a coffee table in front of the two armchairs placed in the hall. Now we search for an actual coffee table using the internet. Please do the following:

- Open the category Furnishing of the Toolbox appearing at the left side. Select Interior and the submenu Objects, and then its menu item Google 3D Warehouse.

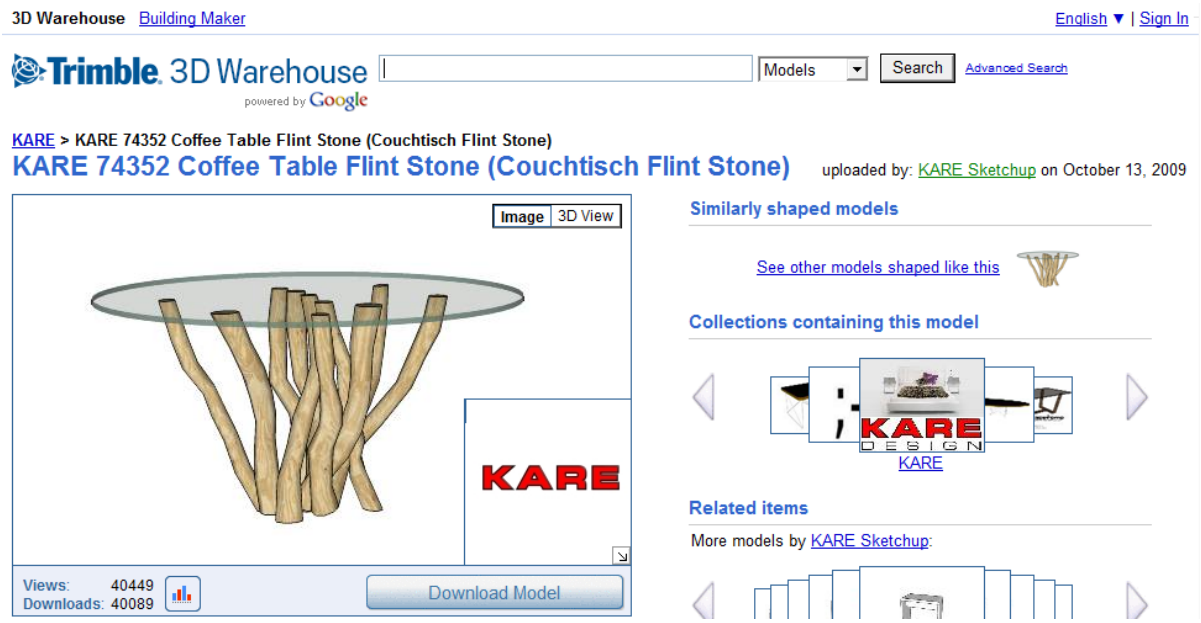
Alternatively, this command can be found also under the menu item File menu / Import / 3D Warehouse.

- 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.

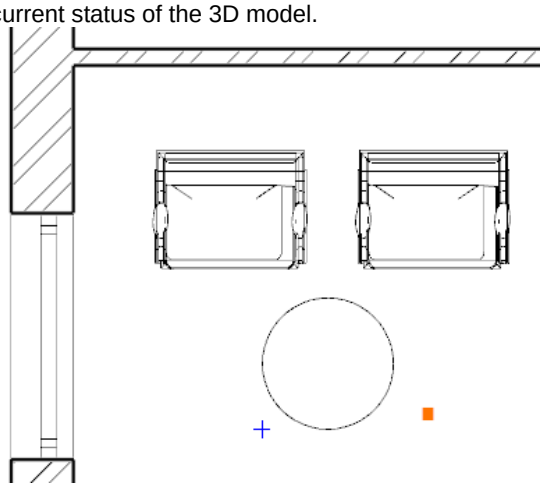
  The browser of 3D Warehouse reviews all the objects in the database very quickly, then sorts and offers the ones for which the given expression "table" is true. The hits can be refined, if the former simple search word is supplemented with another expression.



- 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 button "Download model" located below the image at the middle, 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.

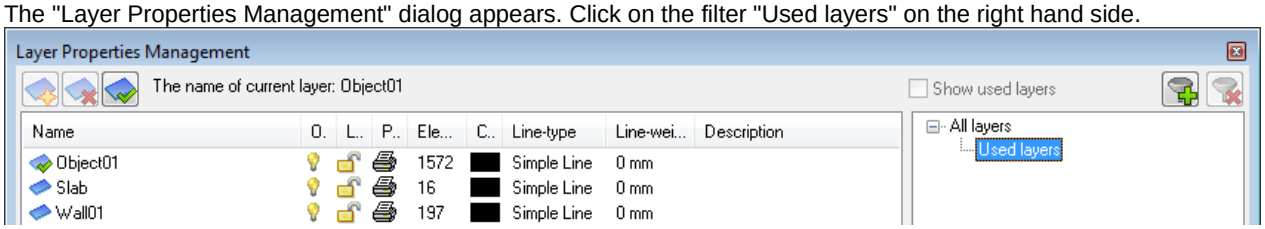
You may also place another tracing paper named „Hall furniture arrangement 2”, and you may develop a second alternative arrangement for the hall, and you can interchange the tracing papers showing the 1st and the 2nd alternatives depending on what you intend to display.

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. Notice in the list that a layer named Object01 is also included. The armchairs and the coffee table placed so far are on this "tracing paper" / layer.

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 Wall01, the floor slabs are on the layer Slab, while the objects are arranged on the layer Object01.

Renaming layers

- Click on the name Object01, which can be renamed now.
- Type in the name „Hall furniture arrangement 1" without quotation mark, then press the Enter key.

Because yet another layer is required (in order to be able to illustrate two different kinds of arrangement in the floor plan), therefore, we will find the existing layer Object02, and we will rename it also.

- Click on the filter "All layers" filter on the right side.
- Find the layer named Object02 in the full list of layers.
- Click on the name of the layer in order to allow renaming.
- Type in the name "Hall furniture arrangement 2" without quotation marks, and then press the key Enter.

- Accept renaming of layers by clicking on the button OK at the bottom right corner of the Layer manager.

After completing the renaming of layers it is necessary to make sure that the present furniture items are located on the layer "Hall furniture arrangement 1". Please do the following:

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".

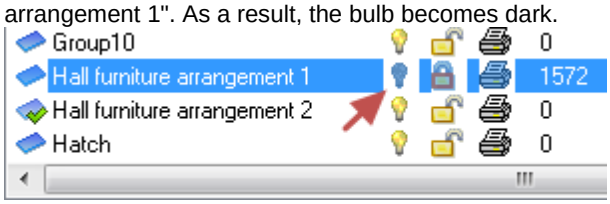
- By means of selecting, make sure that the other two objects are also located on the layer "Hall furniture arrangement 1". Finally, press the key ESC to discontinue the selection.

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 the layer named "Hall furniture arrangement 2" 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.

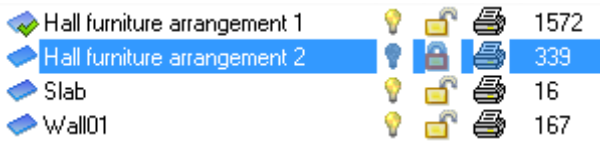
Drafting the second alternative arrangement

- Click on the tab titled as "Design Center" at the bottom of the Toolbox to open the Design Center.
- Use the browser of the Design Center to find the object “Armchair 01”.
- Select the armchair and double click on the image of it.
- At the upper right part of the appearing dialogue box set the Layer property to "Hall furniture arrangement 2". By this operation you made sure, that the program will place the selected object to the selected layer. Press the button OK.
- Place one copy of the object “Armchair 01” 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 "Table classic 1" also in front of the armchair.

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.

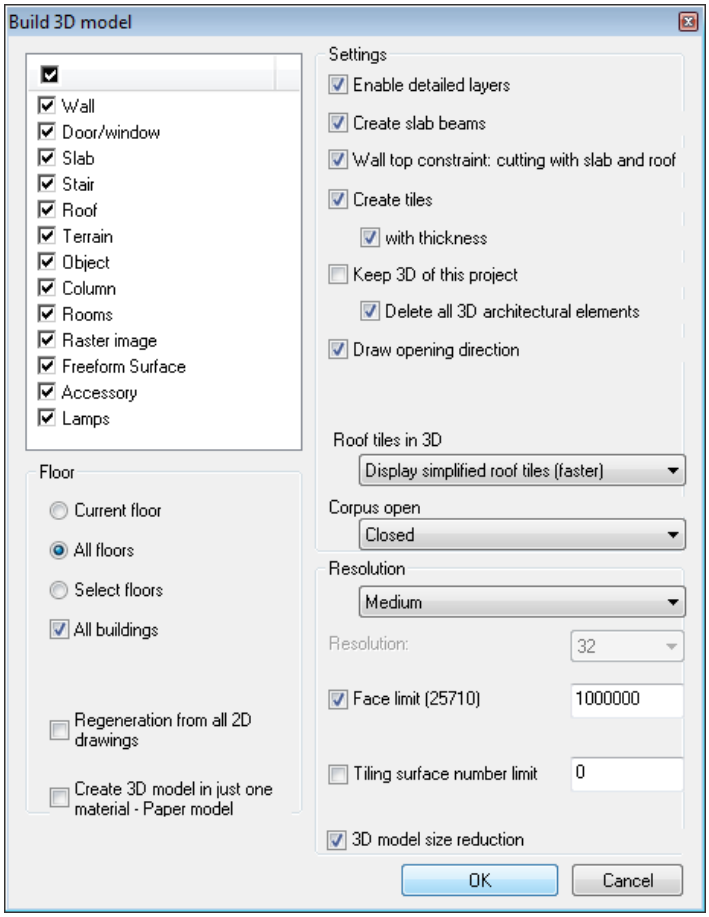
The regular automatic updating of the model, however, might slow down the project in certain cases. In such cases it is recommended to turn off this option: **View menu – Refresh 3D**. We will not turn off this option now, but it is good to know that there is a way to speed up workflow when working with 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. This time the one with yellow handle at the left is required.

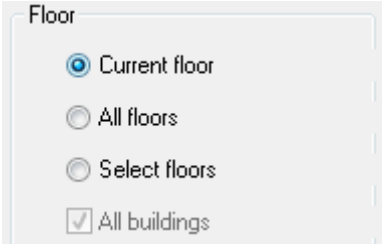
- The Build 3D model dialog box appears. Leave all options on default, and press the button OK at the bottom of the dialog box.



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 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".

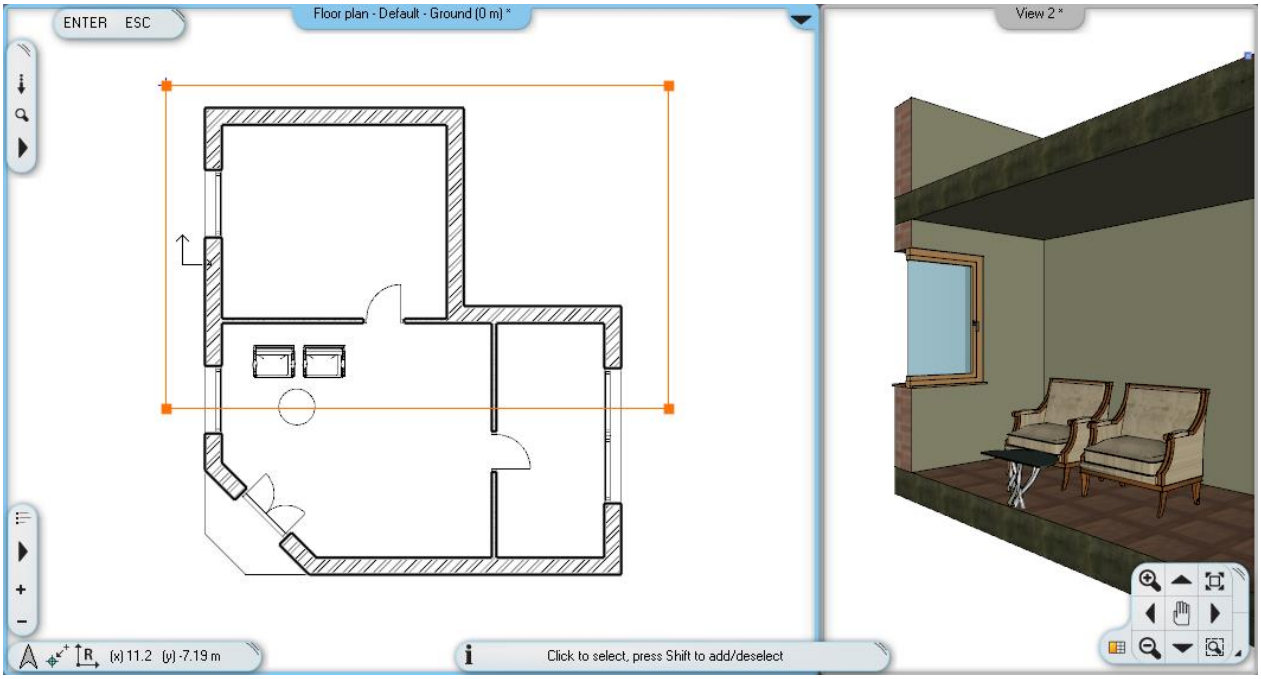
Re(building) the entire 3D model

- 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 half 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 3D hammer (the left side button) which was used first.

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 parts of a complex drawing.

- Rebuild the entire model with the learned procedure.

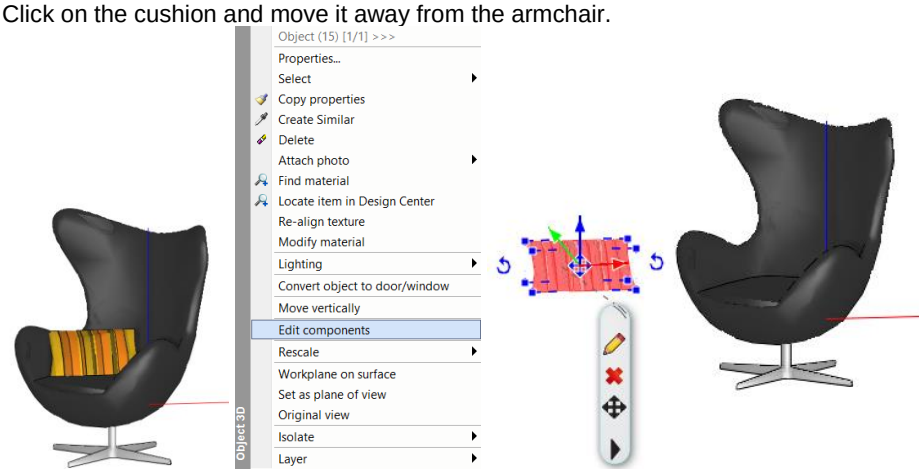
2.4.7. Modifying downloaded objects - Optional

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

There is a smaller cushions on it, so the armchair and the cushion compose one single item. Our aim is to save them one by one in the library. To get this result please follow these steps:

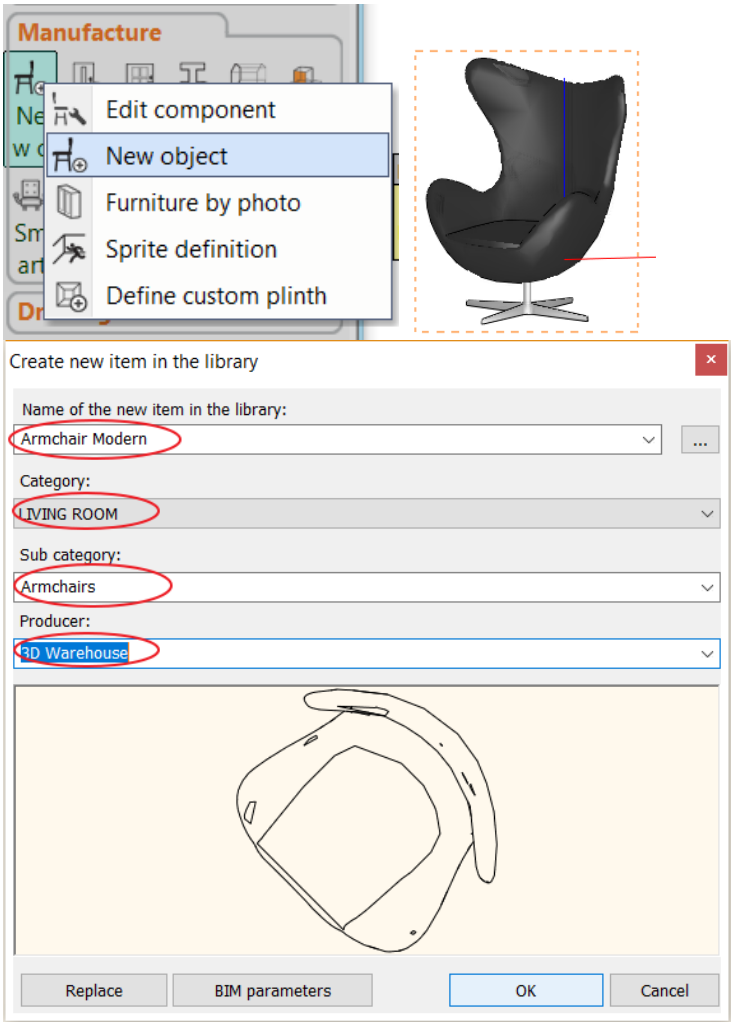
- ❖ Show in 3D only that object you want to edit
- ❖ Separation into components
- ❖ Editing
- ❖ Saving one by one into Design Centre

- Click on the armchair on the floorplan, then Build 3D Model (hammer) icon.
  Now only the selected item will appear in 3D, in this case the armchair with cushion.
- In 3D window click on the armchair, then in the local menu click on **"Edit components"**.
- Pressing "Enter" will close the command.
  This way the object is separated into parts: armchair and cushion.
- Click on the cushion and move it away from the armchair.



Now new armchair and the cushion became 3D solids, those are not saved in the library, therefore we have to do it.

- Go to Manufacture- Manufacture tools and choose New Object- New Object command, then click on armchair.
- Enter will close the selection
- Save the new armchair into the right place: Living room - Armchair
- For this fill the dialog window:



- Repeating the previous method save the cushion into the right Library: Decoration – Pillows.

  Please make sure there is no item selected on the floorplan. Click on “Build 3D Model” icon, then the whole 3D model will be created.

Notes:

Edit components” 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 try 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.pro" 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.

Lesson 3: Bathroom -Tiling

3. Lesson: Bathroom -Tiling

The topic of this tutorial is learning 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 in both 2D and 3D:

- Simple tiling design: Wall and floor tiling, using Room Maker Tool.
- Create tiling Pattern and Tiling style
- Using tiling style from the Template
- Quantity take-off: Calculating the quantity and number of tiles.
- Visuals: Wall views, rendered images.

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

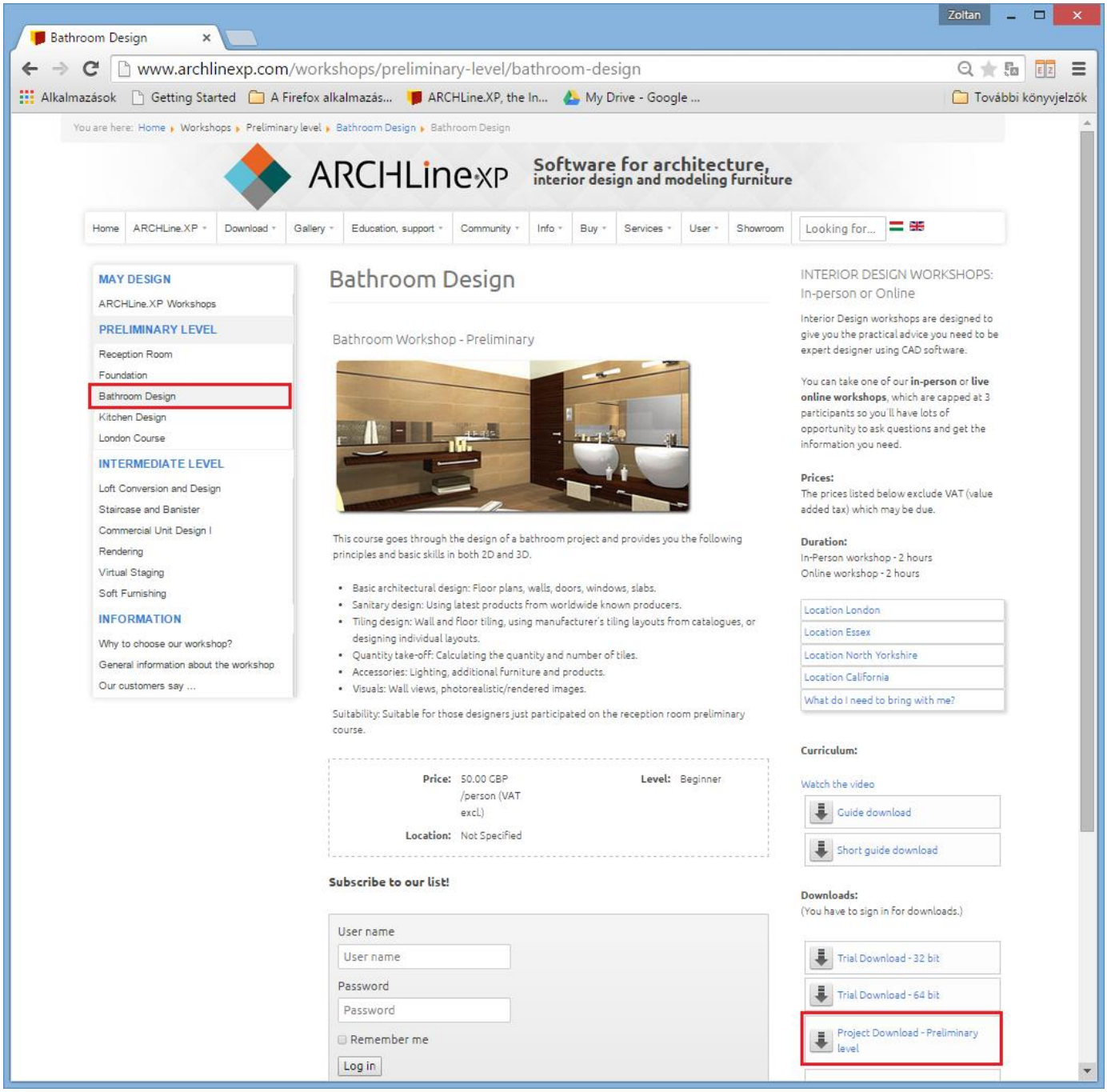
As an example, we use Andrea Nagy's completed bathroom project, which utilizes Grespania tiles.
The goal will be to come up with the same result as shown in the example:

- Please open the following playlist in your browser:
  http://www.archlinexp.com/video-tutorials/workshop/bathroom-workshop
  The video tutorial consists of two parts.

- Your screen should look as follows: Press the ARROW button in the centre to play the video and pause it any time you need with pressing the pause button in the left bottom corner.

3.1. 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.
First of all download the **Workshop - Preliminary level project** from the website and install it. It includes all project for all preliminary workshops.
http://www.archlinexp.com/workshops/preliminary-level/bathroom-design



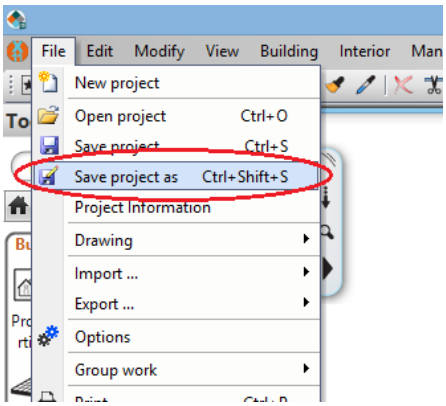
- Start ARCHLine.XP®.
- Click on the Open Project,

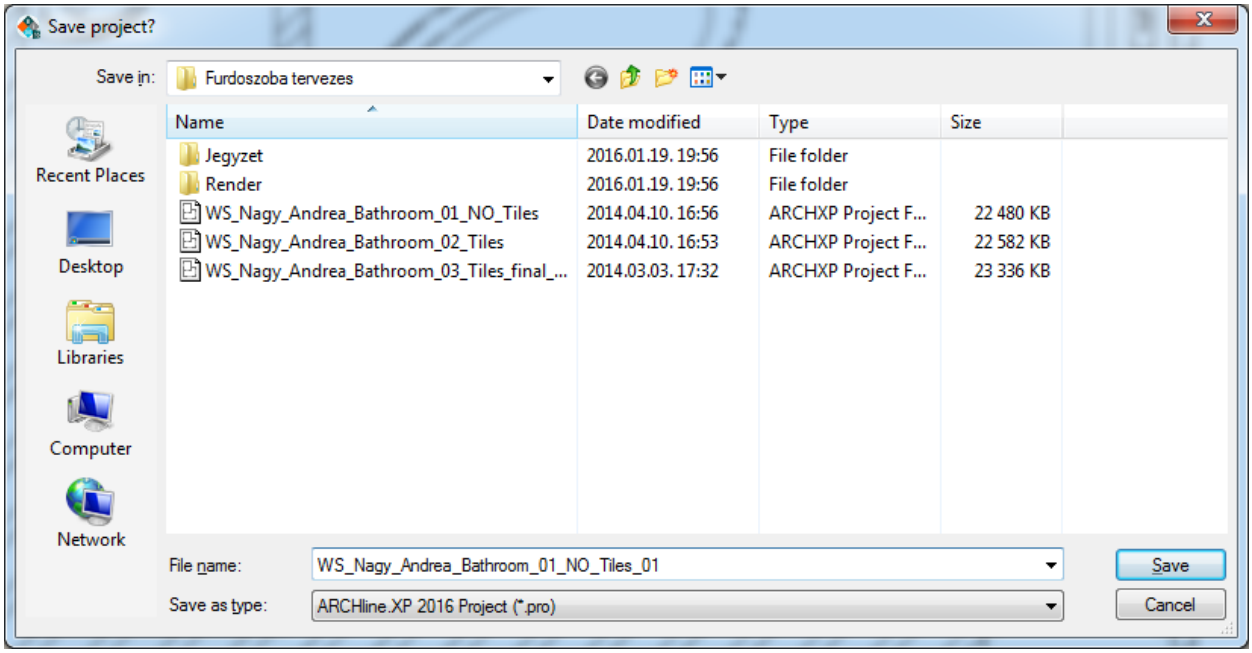
Choose the:
..\Documents\ARCHLine.XP Draw\2016\Workshop – Bathroom\WS_Nagy_Andrea_Bathroom_01_NO_Tiles.pro

Save project as …

Before starting to design it is recommended to save your project with other project name in order to avoid overwriting the original one.

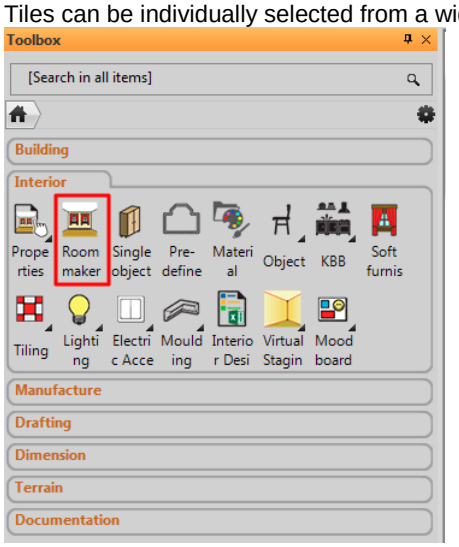
- Clicking on the **File menu/Save project as** command.
- Click on the *Save* button and give other name: *WS_Nagy_Andrea_Bathroom_01_NO_Tiles_1.pro* and Save.





3.2. Tiling using Room Maker

The Room Maker is a great design tool that highly speeds up the placement of bathroom tiles.
Tiles can be individually selected from a wide choice of items and placed quickly on walls and floors.

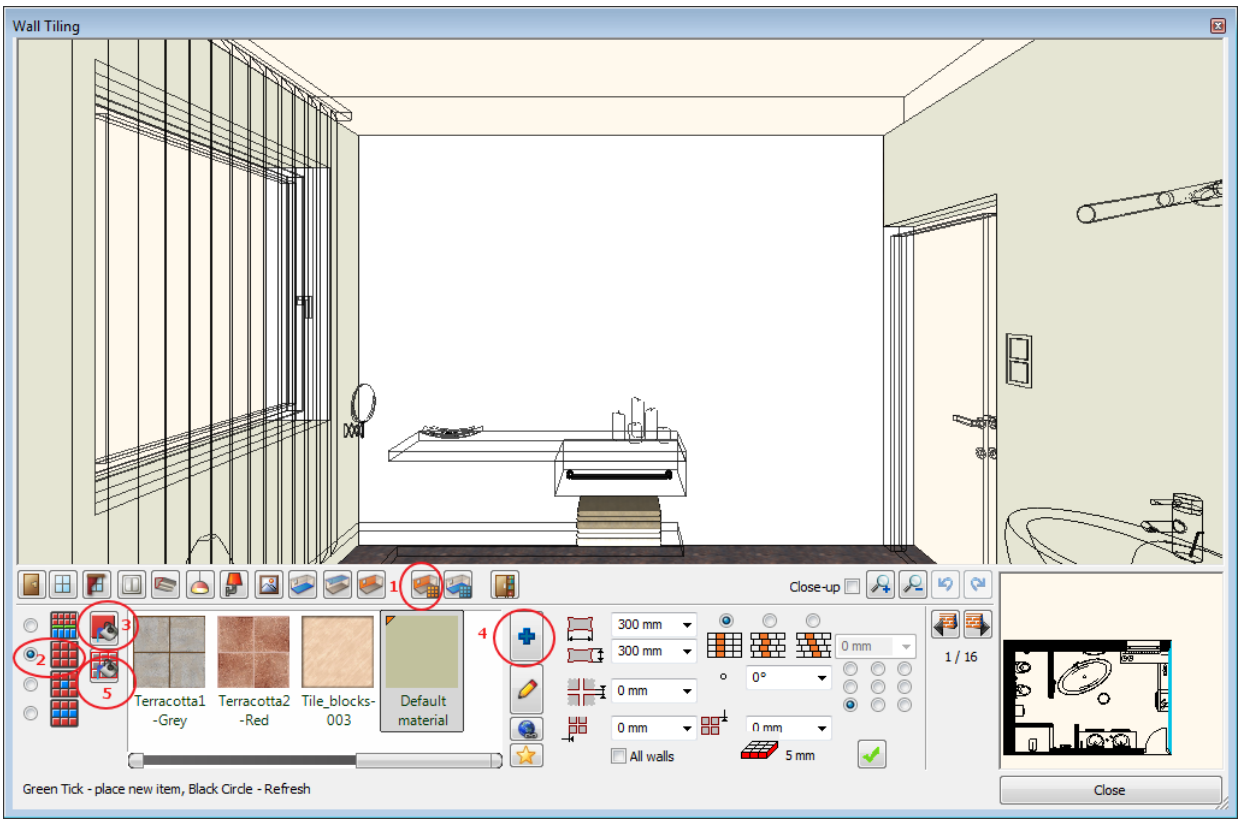


Wall tiling

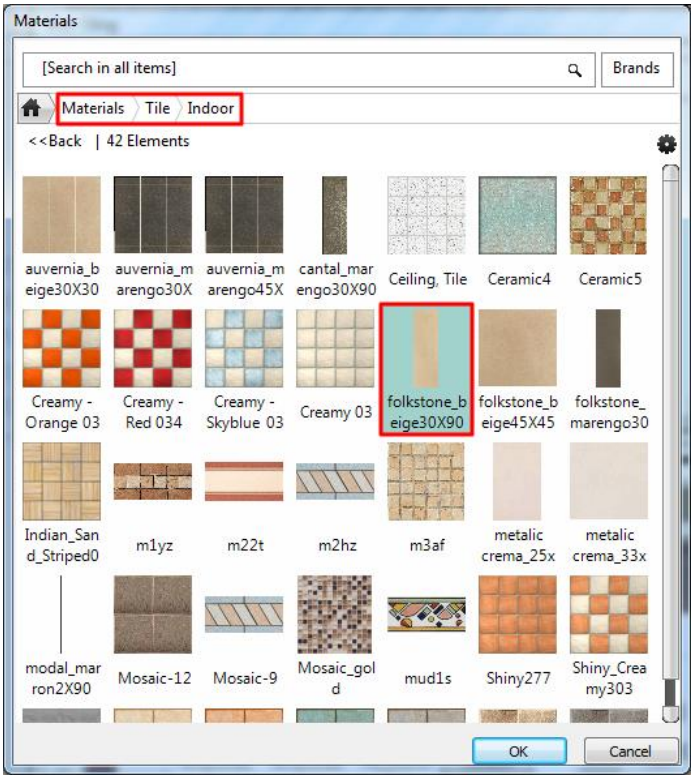
We are going to place Folkstone Beige 300 x 900 mm tiles from the floor until the ceiling (full wall) on all walls.

- Click on the *Toolbox / Interior / Room maker* command.
- Click in the bathroom on the floor plan.

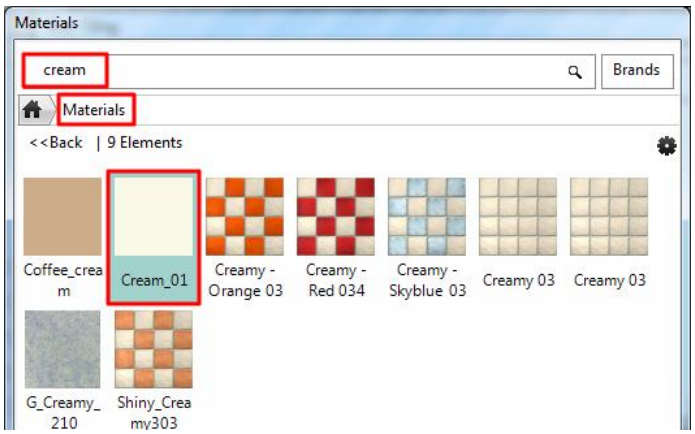
- To put tiles on the bathroom walls, click on the Wall Tiling icon (1).
- Select the *Full tiling* option (2)
- Click on the Tile material icon (3) and
- Click on the blue cross icon (4) to open the Material library.



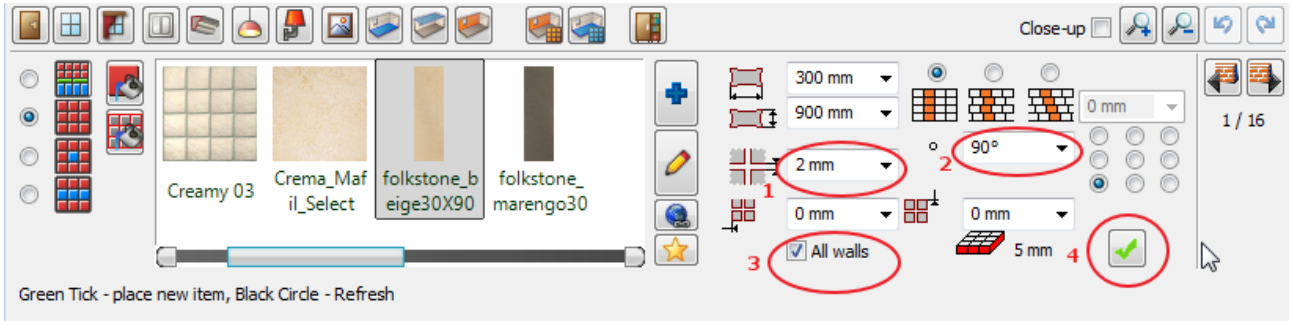
- Select the tile from the library: *Materials/Tile/Indoor/folkstone_beige_30x90.* Ok.



- Set the grout colour clicking on the *Tile grout icon* (5)and click on the blue cross icon (3) to open the Material library.
- Click the Material category and type: *Cream* into the searching field.
- Choose the *Cream_01* colour for the grout. Ok.



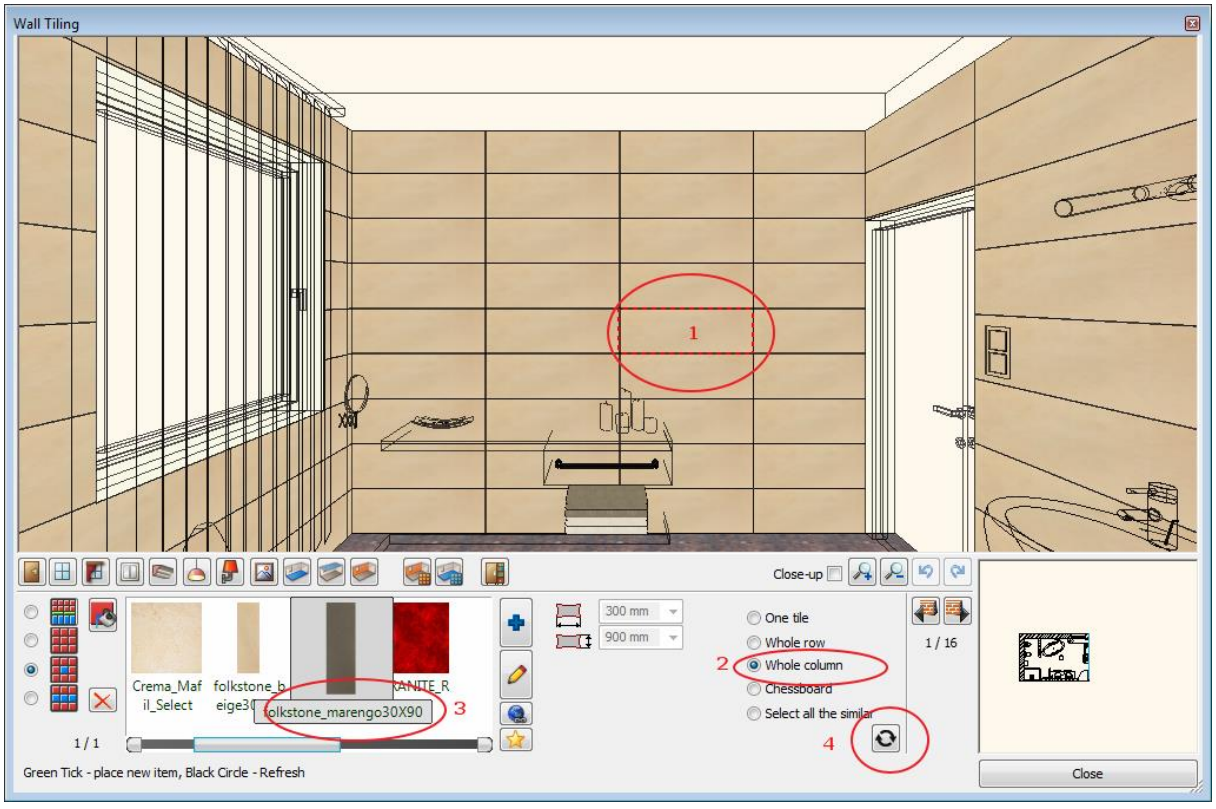
- Type 2mm for tile grout (1)
- The tile should be on landscape position, therefore choose 90 degree (2) to rotate it.
- Choose the all wall option (3)
- Click on the green thick (4)



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

Modify tilling

We will now demonstrate how we can place decor tiles by replacing one column on the selected wall with Folkstone Marengo tiles.



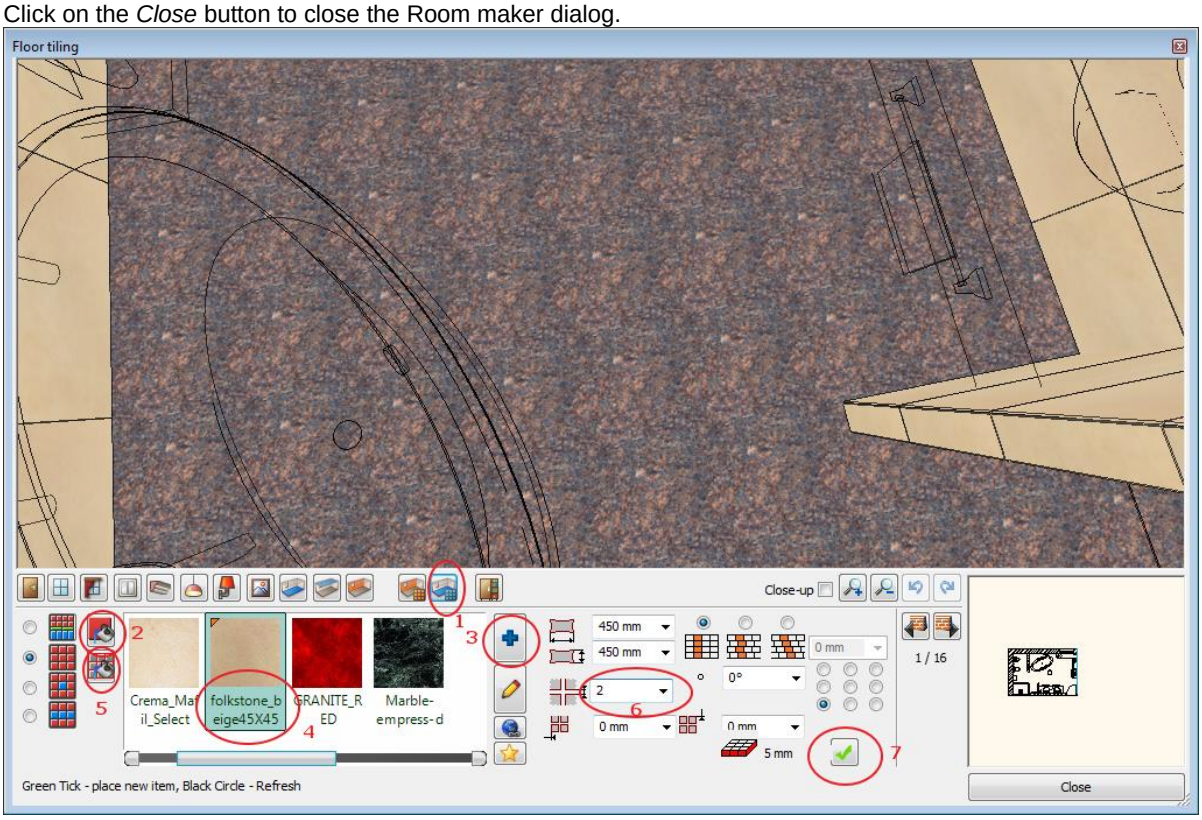
- Click on the tile (1), choose the *Whole column* option (2), choose the *Folkstone_marengo30x90* (3) tile from the material library.
- Click on the Refresh button (4)

Floor tiling

We are going to place Folkstone beige tile on the floor:

- Click on the *Floor Tiling* icon (1) in the Room Maker
- Select the *Full tiling* option
- Click on the Tile material icon (2) and
- Click on the blue cross icon (3) to open the Material library.
- Select the tile from the library: *Materials/Tiles/Indoor/ folkstone_beige_45x45*. Ok. (4)

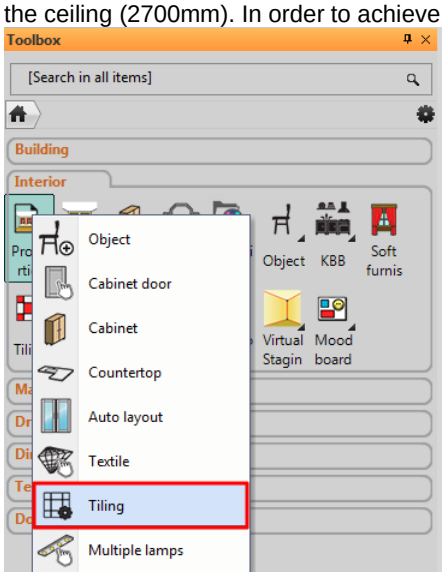
- Set the grout colour clicking on the *Tile grout icon* (5) and click on the blue cross icon (3) to open the Material library.
- Choose the *Cream_01* colour for the grout. Ok.
- Type 2mm for tile grout (6)
- Click on the green thick (7)
- Click on the *Close* button to close the Room maker dialog.



3.3. Create a tile pattern – Tiling style

We have just demonstrated how to use the Room Maker to place bathroom tiles quickly and easily.

Still, in that example, we are aiming to keep the wall tiling at the height of 2110 mm, leaving the area above painted until the ceiling (2700mm). In order to achieve that, we need to use the Tiling Style method.



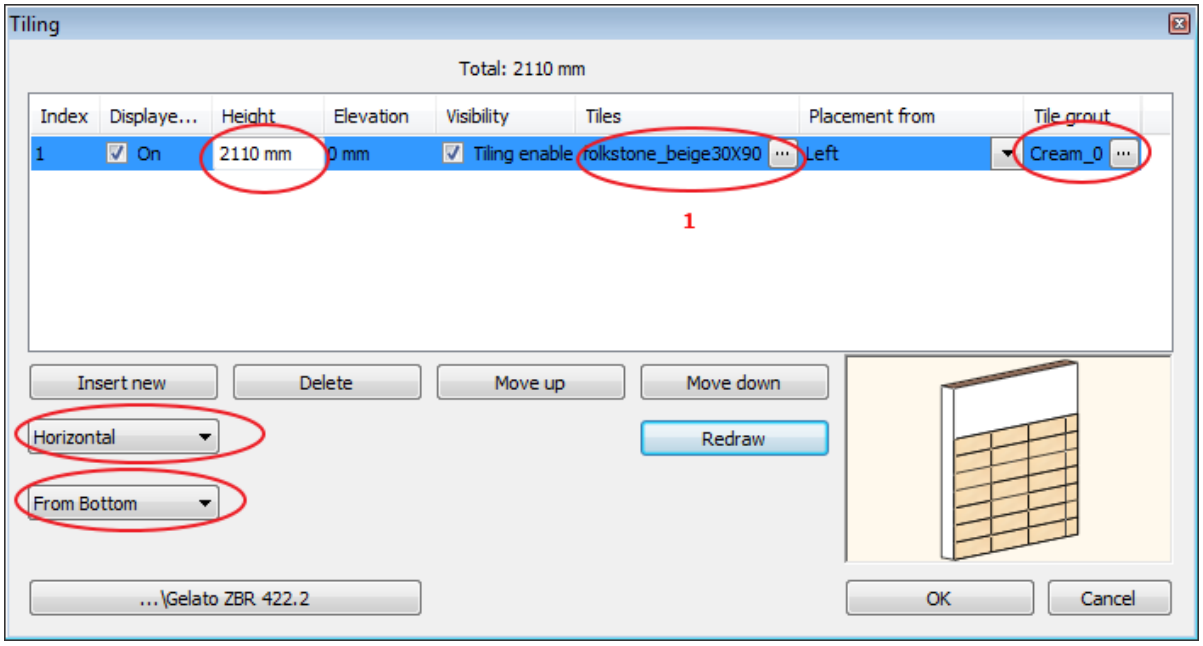
Click on the *Toolbox / Interior / Properties / Tiling* command. You can define the tiling pattern here in this dialog.

3.3.1. Define Style 1: Folkstone 01

Our first tiling pattern will includes 2 lines:
Line1: tiling with Folkstone Beige tiles
Line2: painted area above the tiles: colour of Cream

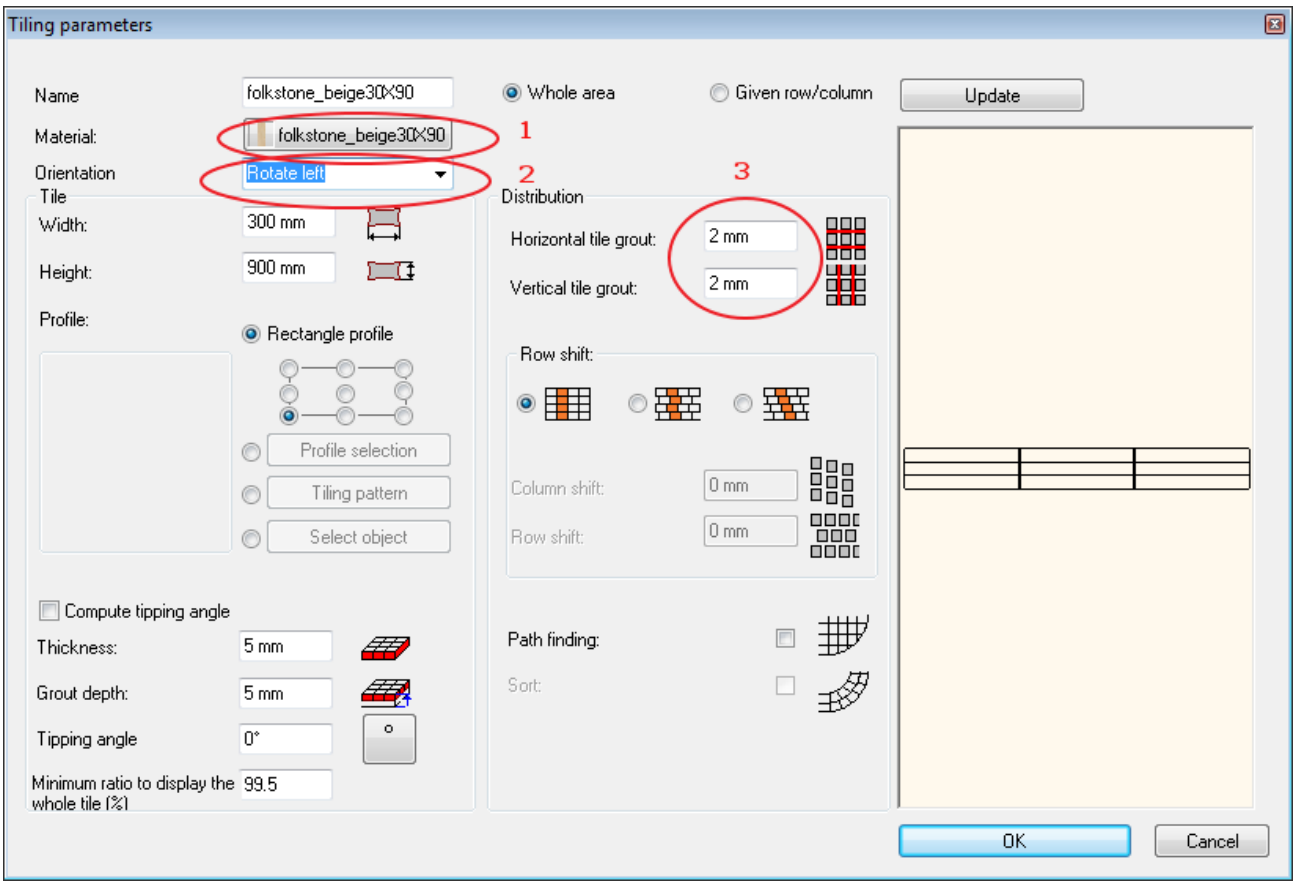
Line 1:

Enter the following parameters in the dialog:



- Click on the tiles name (1) to choose the Folkstone_Beige_30x90 tile.

  The Tiling parameters dialog appears:



- Choose the folkstone_beige_30x90 tile from the library (1)
- Rotate it by 90 degrees (2). Set the grout: 2mm (3). OK

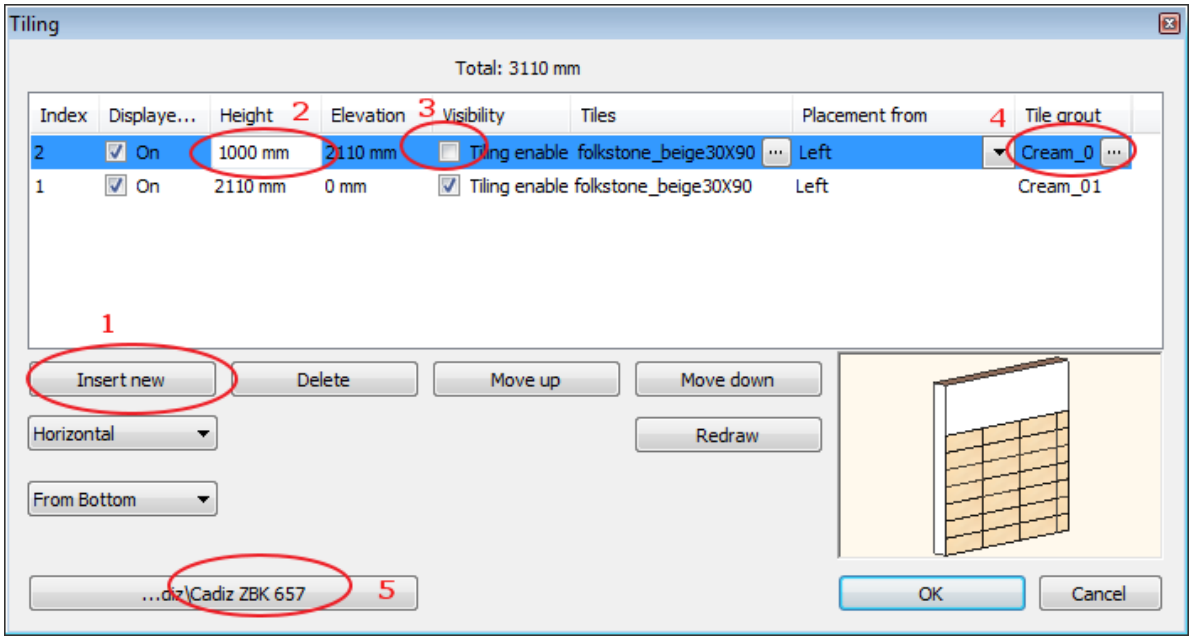
In the tiling dialog continue to enter the values:

- The total height should be set at 2110 mm.
- The grout colour should be Cream_01.
- Lines are horizontal and starts from bottom.

Line 2:

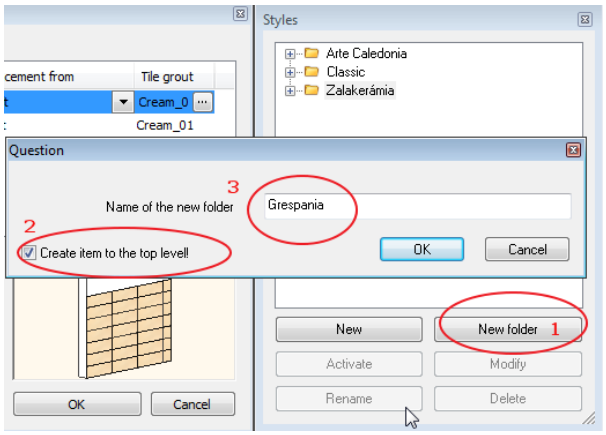
This line will define the painted area:

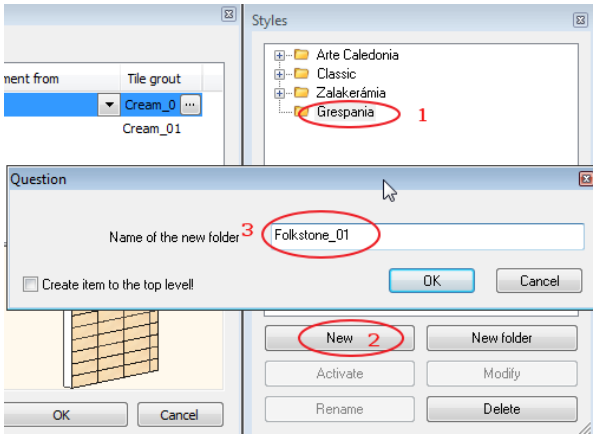
- Click on the *Insert new* button (1) to copy the first line into the second.
- In the line 2, use the colour (Cream_01) (4) of the Grout for the Painted Area. It is important for the Visibility option (3) to be switched off.
- The height of the painted area: 2700-2110=590mm
  Here the height of it can be bigger than the required: 1000mm (2). In this case you can use this tiling pattern for the walls until 3110 mm height.



Finally, we need to save the new tiling pattern into the tiling style naming it Folkstone_01 under the Grespania folder:

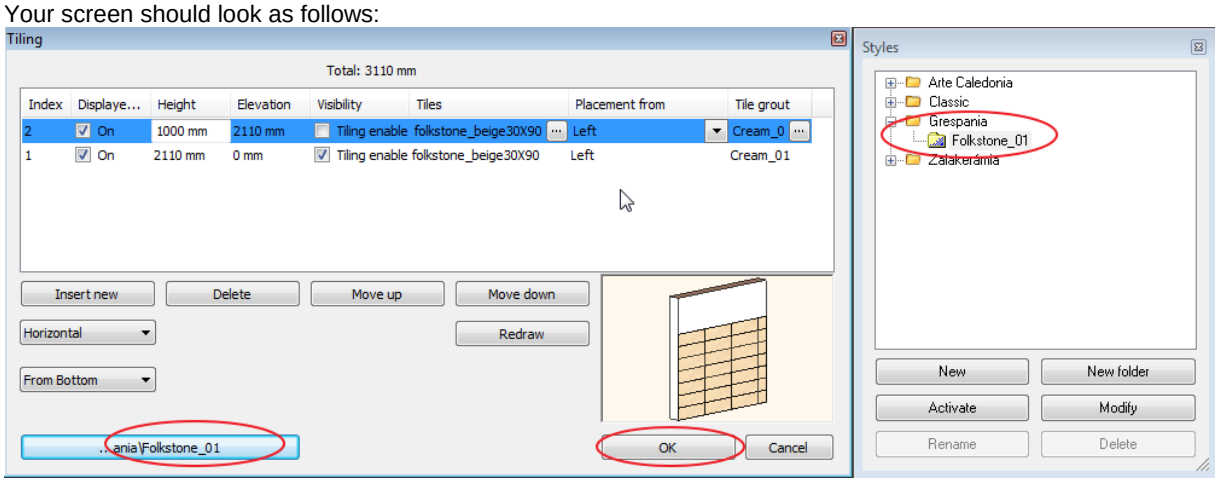
- Click on the *Style name* icon (5).
- Click on the *New folder* (1) button.
- Switch ON the *Create item on the top level* option (2).
- Type the folder name: Grespania (3), OK.





- Choose the Grespania folder (1)
- Click on the *New* (2) button.
- Type the new tiling style name: Folkstone_01 (3), OK
-

Your screen should look as follows:



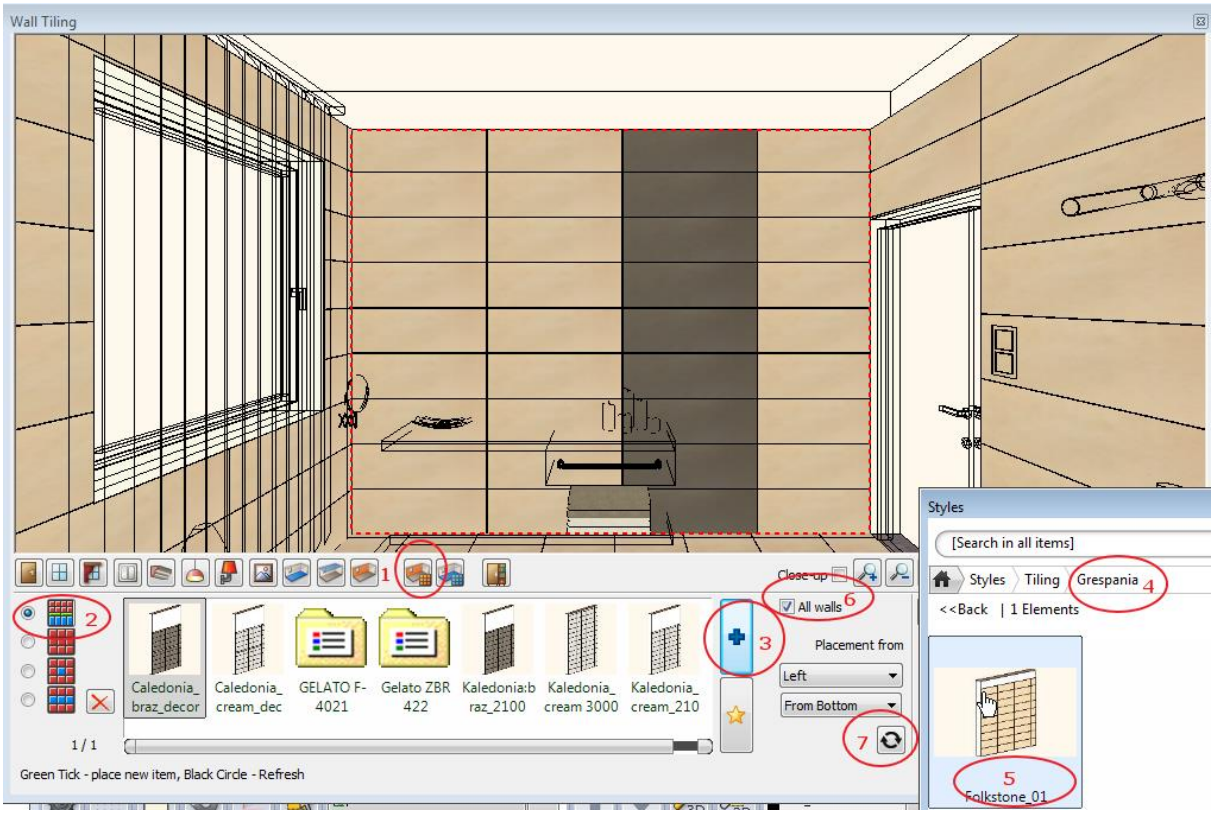
- Click OK to close the dialog.

3.3.2. Place Style 1: Folkstone_01 in the Room maker

Thus, it can be used directly from the Room Maker to place it on all walls, keeping the tiling height at 2110 mm and the area on top painted throughout the room.

- Click on the *Toolbox / Interior / Room maker* command.
- Click in the bathroom on the floor plan.

- Click on the *Wall Tiling* icon (1) in the Room Maker
- Choose the *Sets* option (2)
- Click on the blue cross icon (3) to open the *Sets* library.
- Click on the *Grespania* folder in the Library and choose the *Folkstone_01 style*.
- Switch on the *All walls* option (6)
- Click on the *Refresh* button (7). Close the Room Maker.

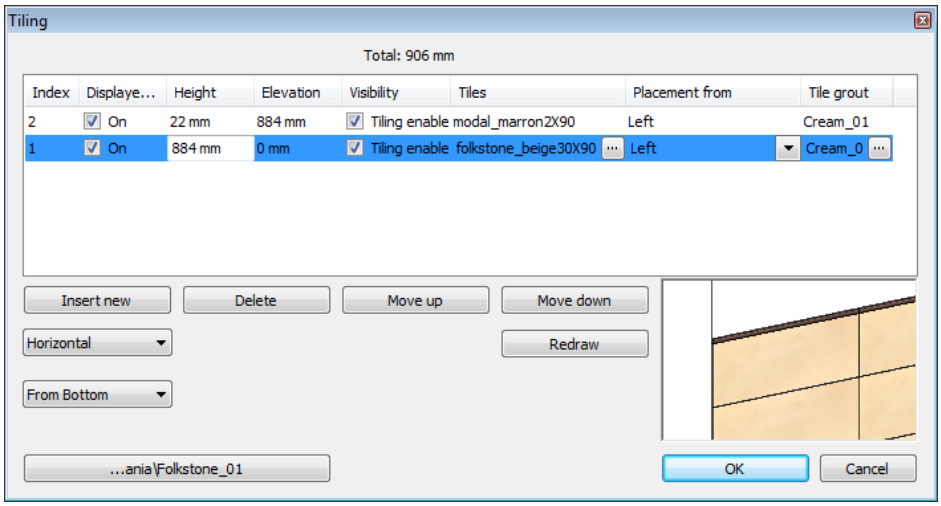


3.3.3. Define Style 2: Folkstone 02 – with strips

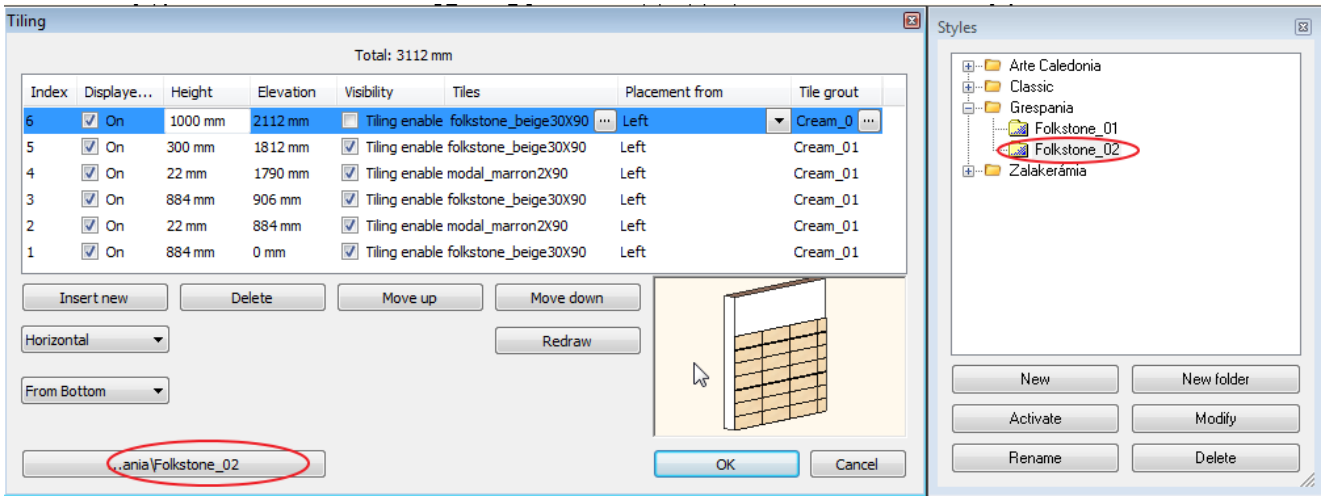
Our next step will be to create the second tiling style, the one with the strips, applying it on 3 of the bathroom walls.

Following the same steps as in the first example *Toolbox* / *Interior* / *Properties* / *Tiling*, we will modify the recently created Folkstone_01 tiling style.

- Deleting the top line (painting).
- Than change the height in the first line to 884mm.
- Then add a new line of the Décor Strip (Modal Marron 2x90) setting the height of the tile to 22 mm.
  The combined total height of the first two lines should now be 906. Thus, we would have matched the new tiling style with the original one in the bathroom.

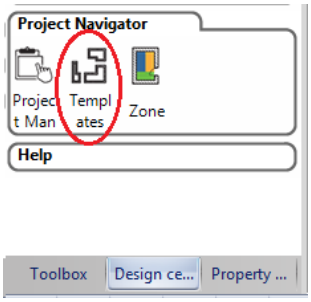


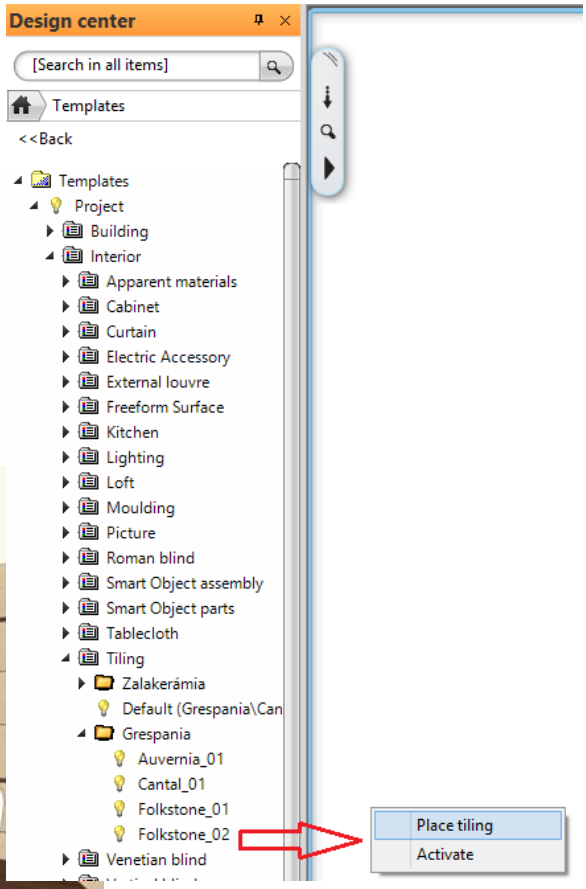
Following the same method, finish the tiling pattern all the way up the wall and save as tiling style Folkstone_02.



3.3.4. Place the Style 2: Folkstone02 from the Design Centre

Next step is to browse in the *Design Centre /Templates* / *Project* / *Interior* / *Tiling* / *Grespania*. You can drag and drop the Folkstone_02 tiling style to the chosen three walls.
Drag and drop - Hover the mouse cursor over the item to be placed. Press down the mouse left button then move the mouse with the left button down onto the drawing area and release the mouse button up.



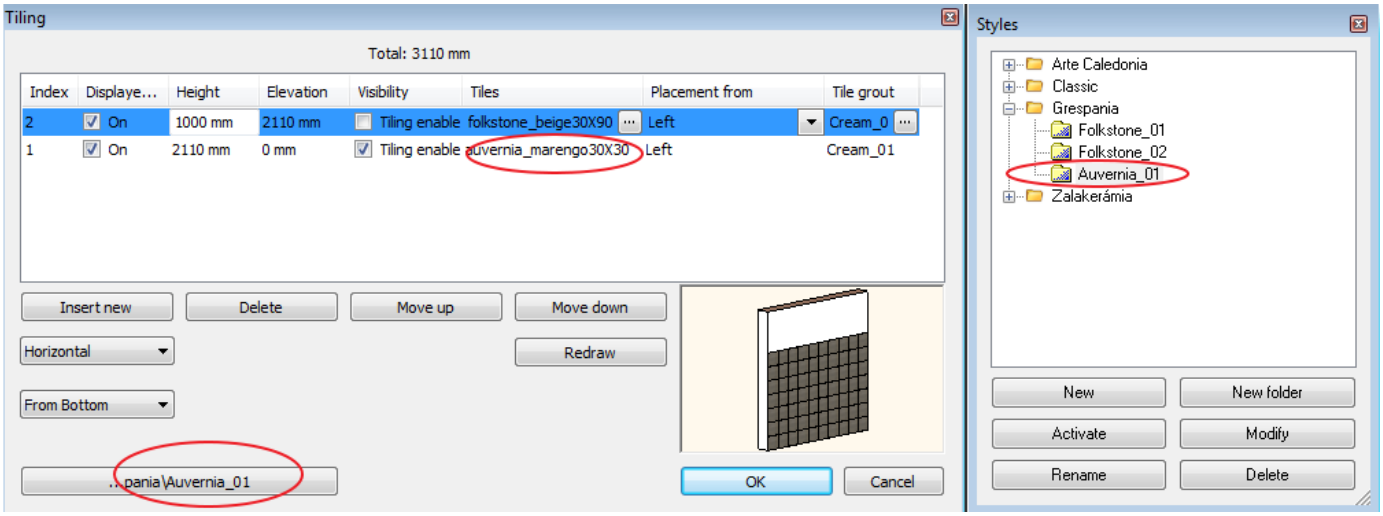


- Click on the *Place tiling* option and choose the wall surfaces.

3.3.5. Define and place Style 3: Auvernia_01

Next, for the third tiling style, we will be using the Auvernia_marengo30x30 tiles to place on the shower wall.

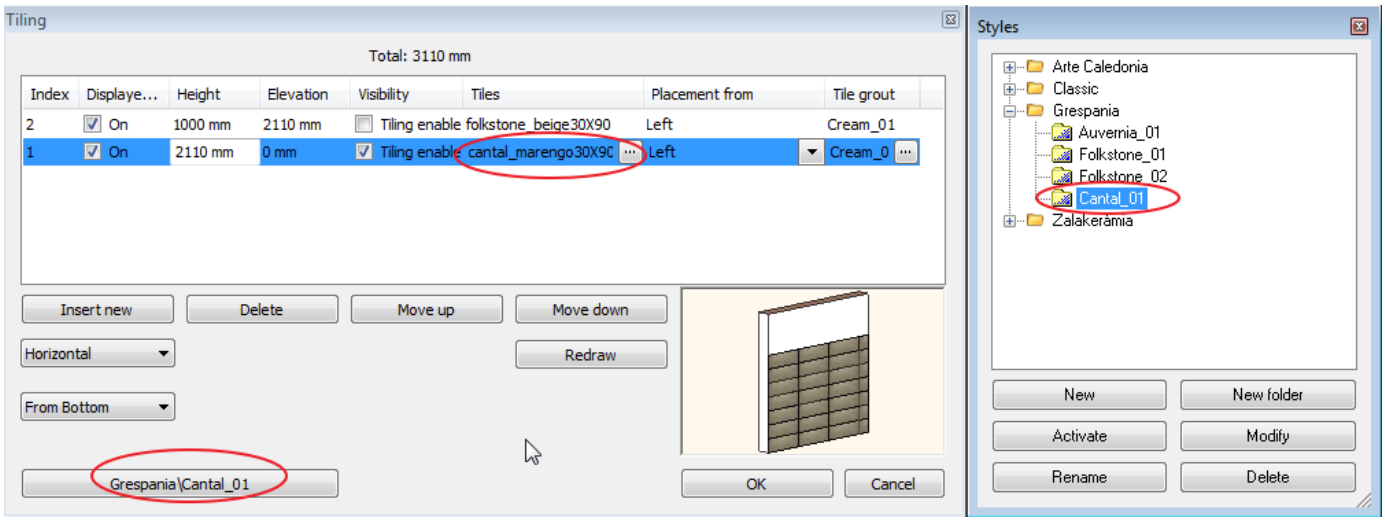
Again, choose the *Toolbox / Interior / Properties / Tiling* command, and modify the Folkstone_01 tiling style and choose the new pattern as Auvernia_marengo30x30.
Finally, save the new tiling pattern into the tiling style naming it Auvernia_01.



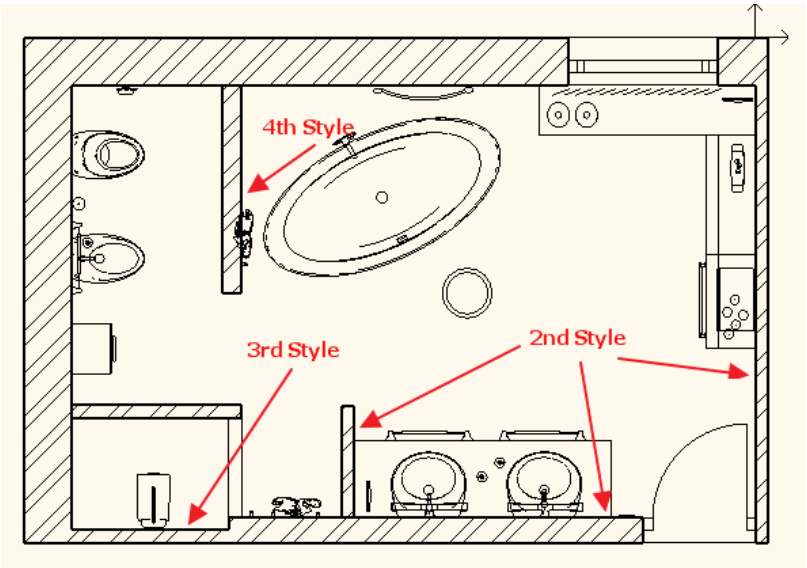
Similarly to the previous example, drag and drop the Auvernia_01 from the Design Centre (Design Centre – Templates – Tiling) to the back wall inside the shower.

3.3.6. Define and place Style 4: Cantal_01

Create the fourth tiling style, this time using Cantal Marengo tiles to place on the back wall of the bath. From the *Toolbox/Interior/Properties/Tiling*, modify the Auvernia_01 style by replacing with Cantal Marengo tiles and save as Cantal_01 style.



As before, place the Cantal_01 on the chosen wall from the Design Centre by drag and drop on the walls.

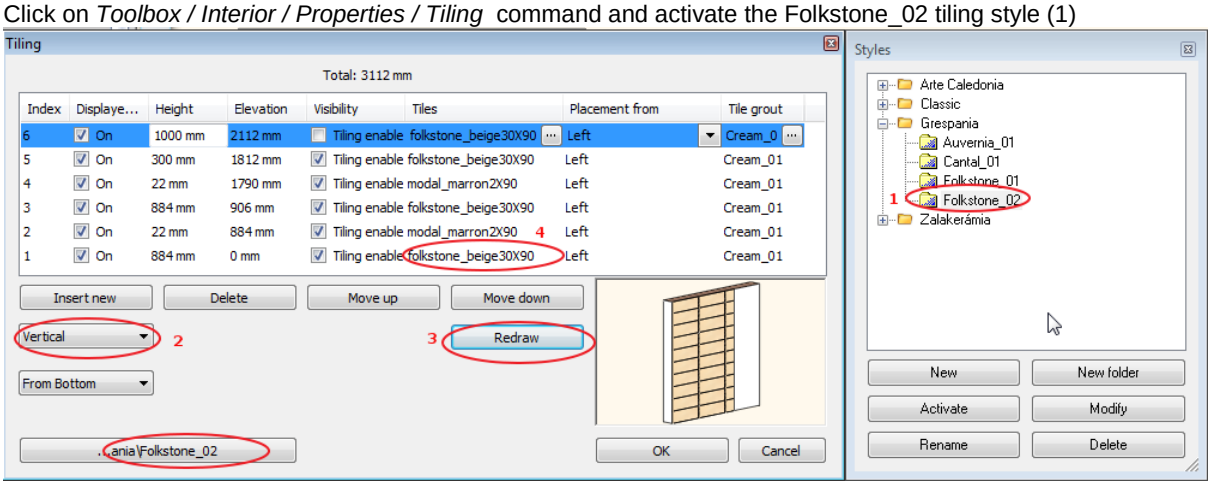


The first tiling phase has finished in the bathroom.

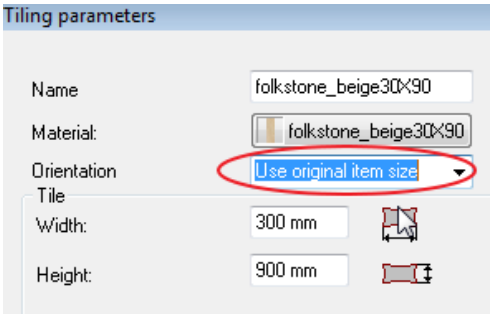
3.3.7. How to create vertical stripes in tile pattern - Optional

The next steps of this tutorial is about learning how to create vertical stripes in a tile pattern.

- Click on *Toolbox / Interior / Properties / Tiling* command and activate the Folkstone_02 tiling style (1)

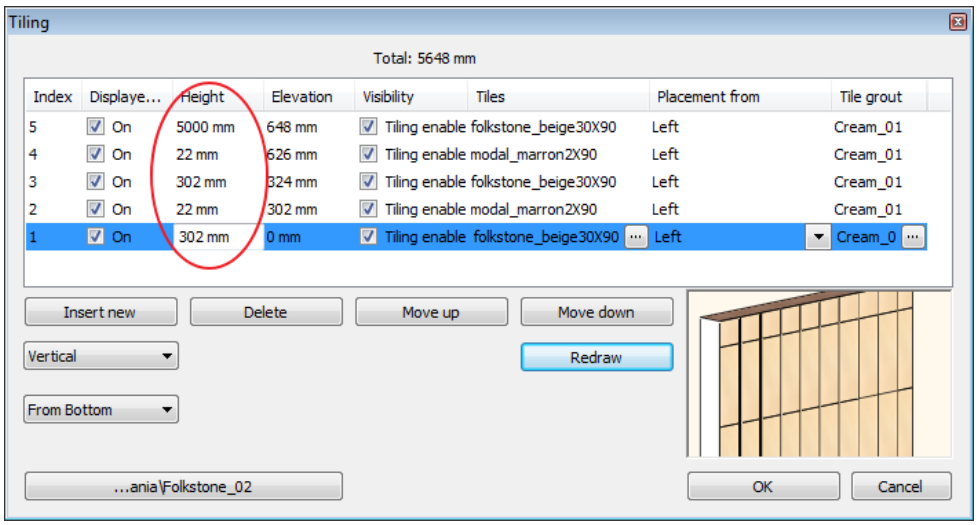


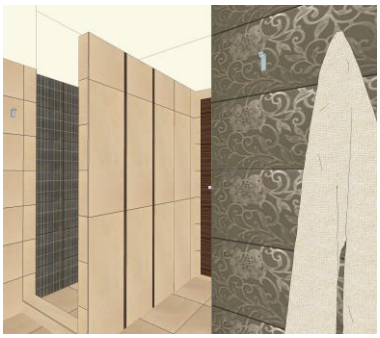
- Choose the Vertical mode (2) from the list.
- Click on the Redraw (3). The figure shows the rotated style but the tile shape is in landscape view.
- Click on the tile name (4) in the first row.
  First, the *Rotate left* of the Tiles in each line should be switched off by choosing the 'Use Original Shape' option.
  Thus, the tile shape will be set to Portrait view.



Then, set the appropriate tile height in each section, inserting a bigger value (e.g. 5000 mm) on the top line, so that the walls can be fully covered with the new length.

Don't worry if you forget to save the newly defined pattern as a tiling style, as you can easily place the last defined tiling pattern on the wall using the Tiling command (Toolbox – Interior – Tiling) and save it in the program any time.





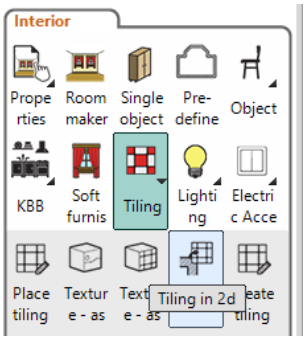
3.4. Integrating mirrors on tiled wall

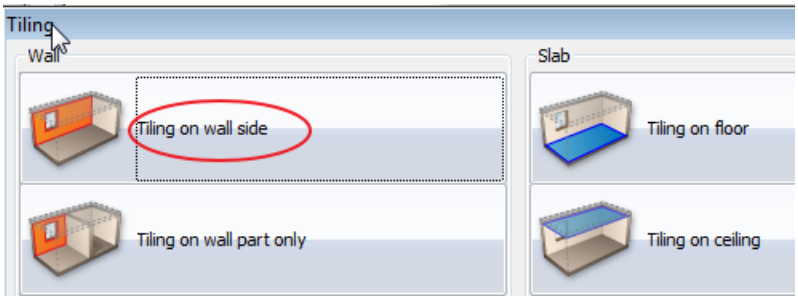
The topic of this step is demonstrating how to edit a tiling layout in order to integrate mirrors on tiled walls.
We will place mirrors above the small desk on the left side wall of the door and other one above the basin on the right side of the door.

3.4.1. Mirror 1: Generate the wall layout

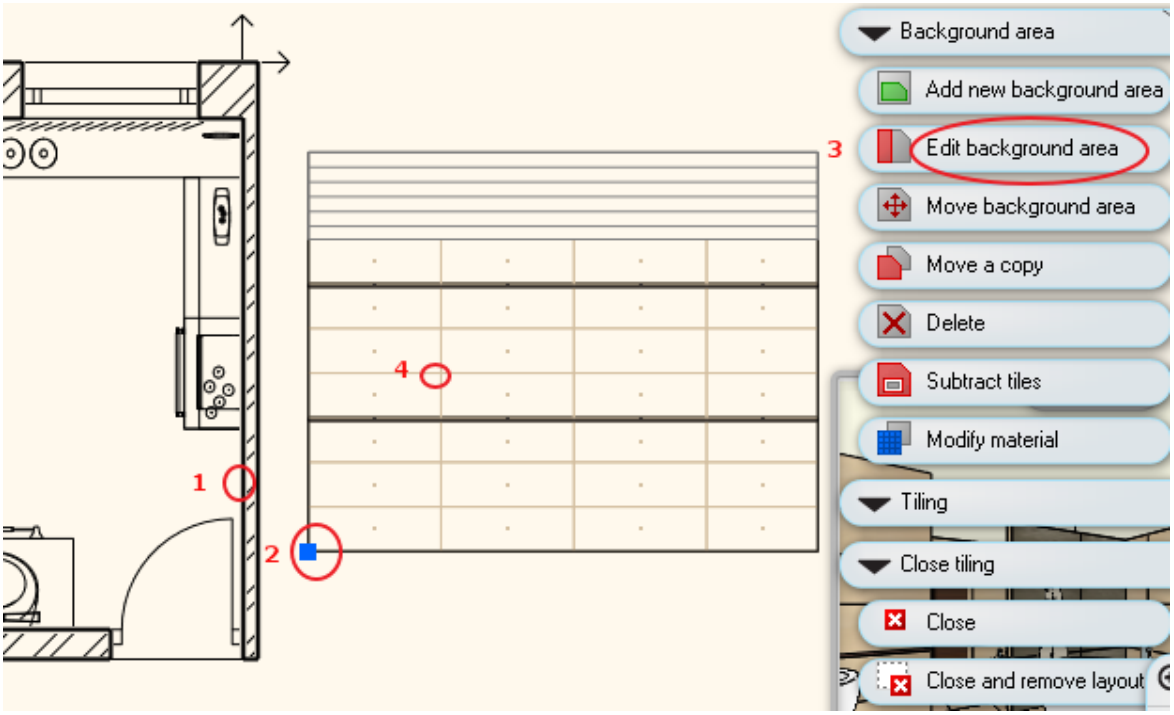
Mirrors above the small desk:

- First, the floor plan should be activated.
- Click on the *Toolbox / Interior / Tiling / Tiling in 2D* command.
- When the dialog opens, choose the *Tiling on Wall Side* option.





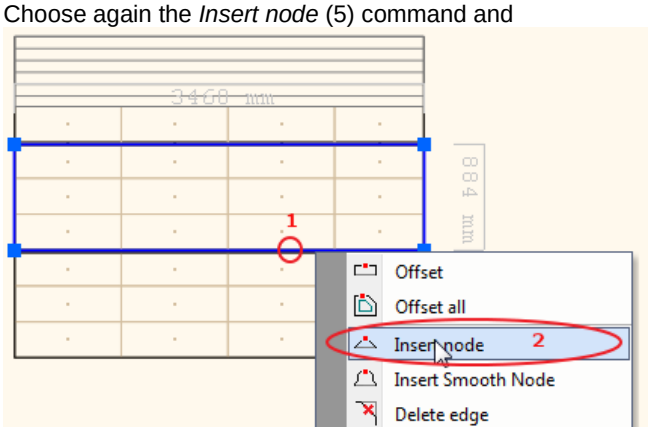
- Now, click on the internal side (1) of the wall on the 2D plan and place the tiling layout somewhere (2) on the side of the actual floor plan.

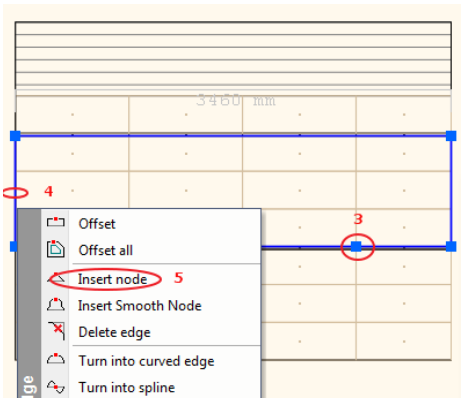


- You can edit the background area of the existing tiling by first clicking on the *Edit Background Area* (3) option from the drop down menu on the right hand side of the screen.

  In the fourth row, starting from the left we replace the first three tiles with a mirror.
  In order to do this we have to delete these tiles modifying the background area.
  We will insert new points and move the existing ones in the right position.

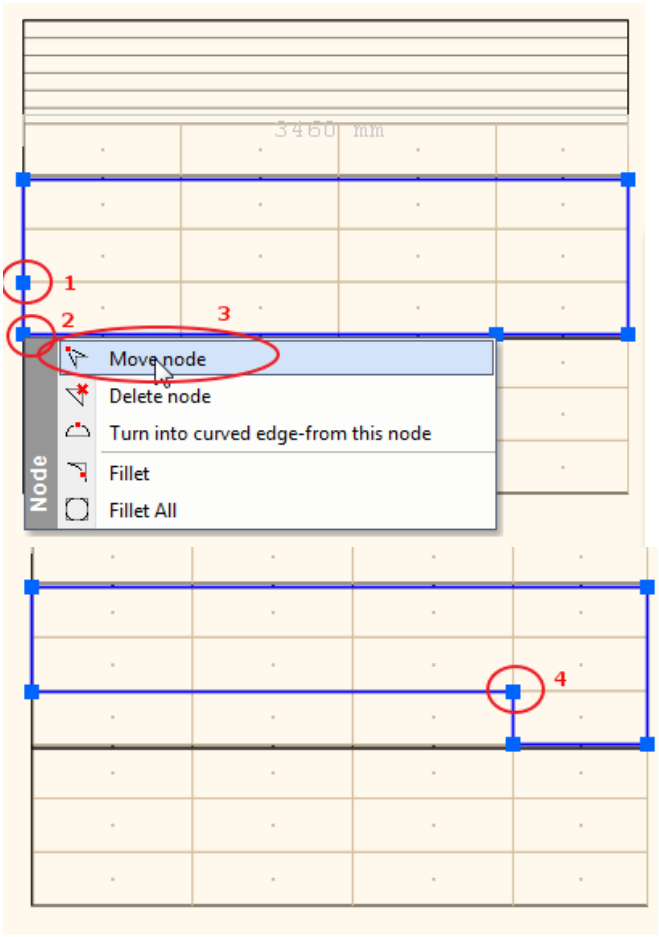
- Click on the tile (4) to choose the background area to modify it.
  Then, insert a new point:
- Click on the bottom side (1) of the blue background are,
- Choose the *Insert node* (2) command and
- Click on the corner point (3) of the third tile to place the new node here.
  Then, insert other new point:
- Click on the left side (4) of the blue background are,
- Choose again the *Insert node* (5) command and





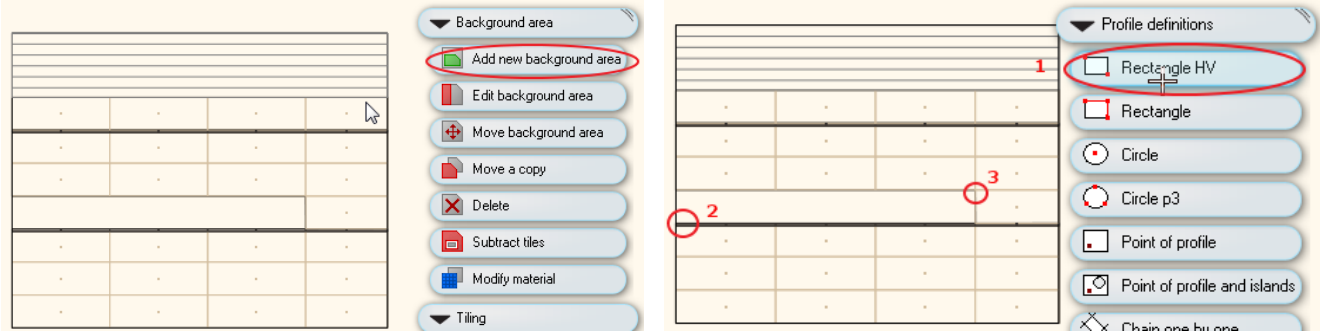
- Click on the corner point (1) of the first tile to place here the new node.

  Then, move the corner point of the background area:
- Click on the left corner (2) of the blue background are,
- Choose the *Move node* (3) command and
- Click on the corner point (4). Enter

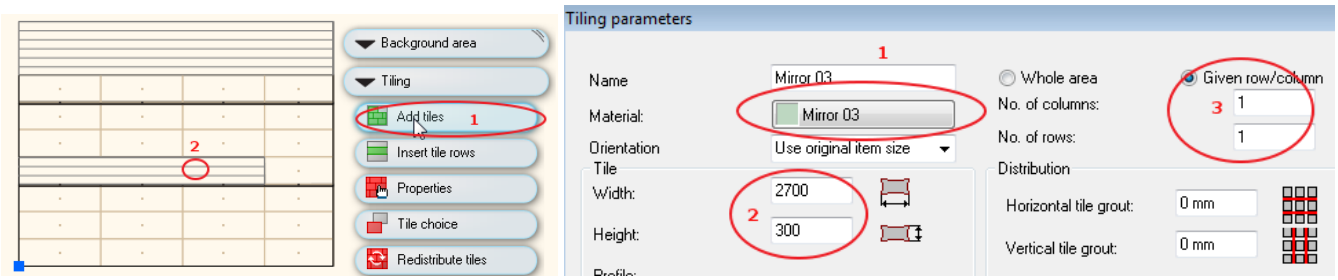


The first three tiles are deleted. Now we are going to create a new background area for the mirror:

- Click on the *Add new background area* command.
- Click on the *Rectangle HV* (1) command and
- Draw the rectangle clicking on the two corner points: (2, 3)
- Choose Cream_01 from the library which also appears as the colour of the grout.



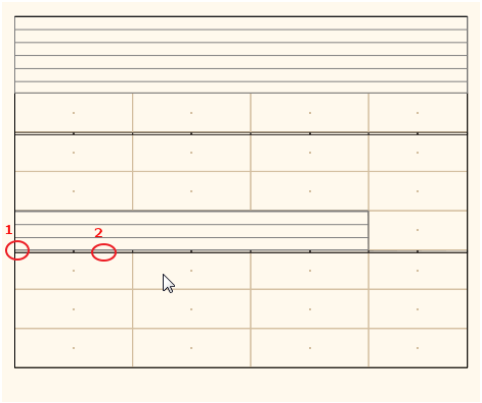
- Click on the *Add Tiles* (1) command to place a Mirror tile on the background area.
  Click in the background area (2).
- Select the Mirror_03 tile (1) from the library and
- Set it to the right size (2): 2700x300.
- The settings should be changed to one column and one row (3) because we place only one tile.

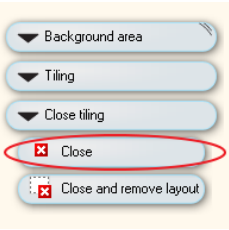


Then place the tile on the background area:

- Clicking on the left bottom corner (1) of the background area
- Move the cursor to the horizontally right and click (2). This click defines the direction of the tile which should be horizontal.
- Click on the *Close* the command to close the tiling command and keep the layout of the tiling on the floor plan.

Meanwhile if you click on the next one: *Close and remove layout*, it will close the command and will remove the layout from the floor plan. Next time when you will use again the tiling command you have to only click on the Enter and the program will remember for your choose.

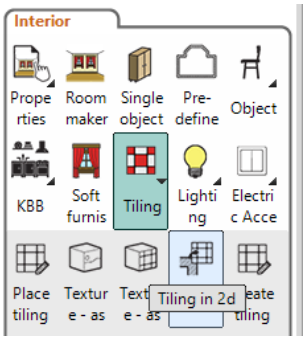


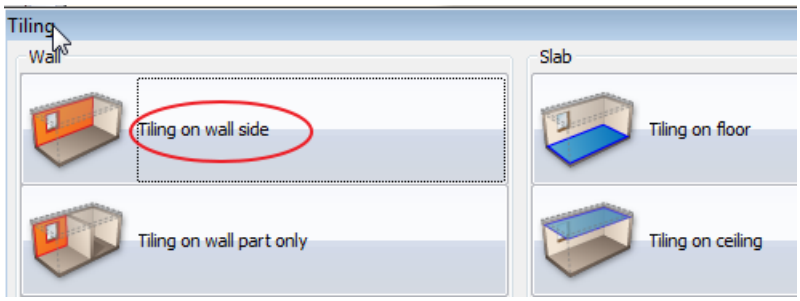


3.4.2. Mirror 2: Generate the wall layout

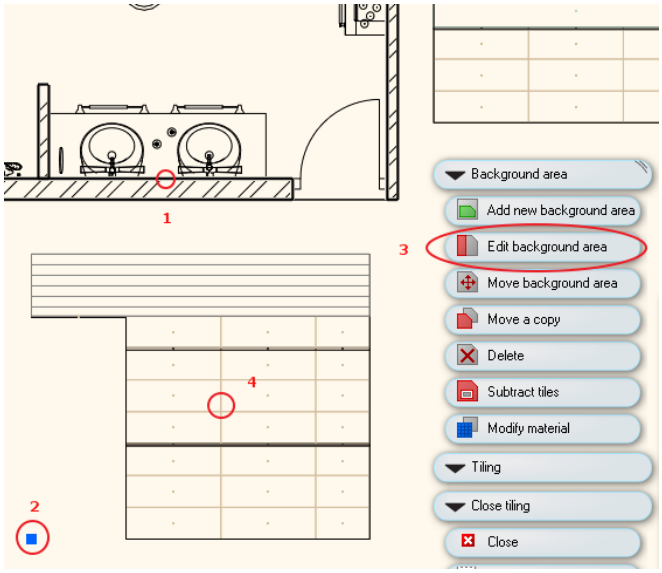
The second mirror will be placed on the right hand side of the door
In the fourth and fifth rows, starting from the door at 250 mm we replace the tiles with a mirror.
In order to do this we have to delete these tiles modifying the background area.
We will repeat the previous steps.

- First, the floor plan should be activated.
- Click on the *Toolbox / Interior / Tiling / Tiling in 2D* command.
- When the dialog opens, choose the *Tiling on Wall Side* option.





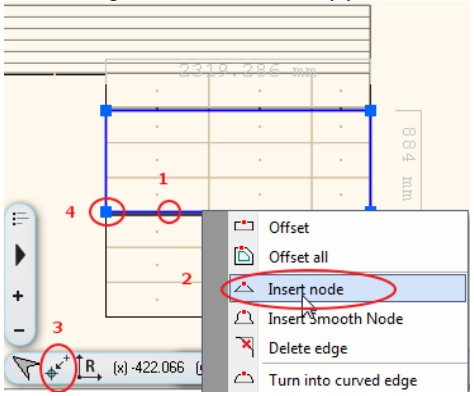
- Now, click on the internal side (1) of the wall on the 2D plan and place the tiling layout somewhere (2) on the side of the actual floor plan.

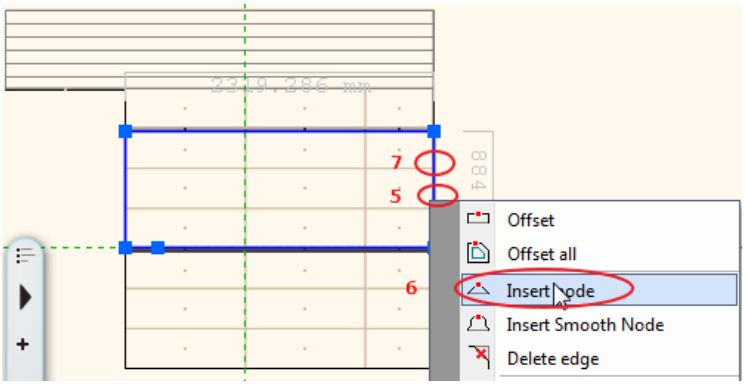


- You can edit the background area of the existing tiling by first clicking on the *Edit Background Area* (3) option from the drop down menu on the right hand side of the screen.

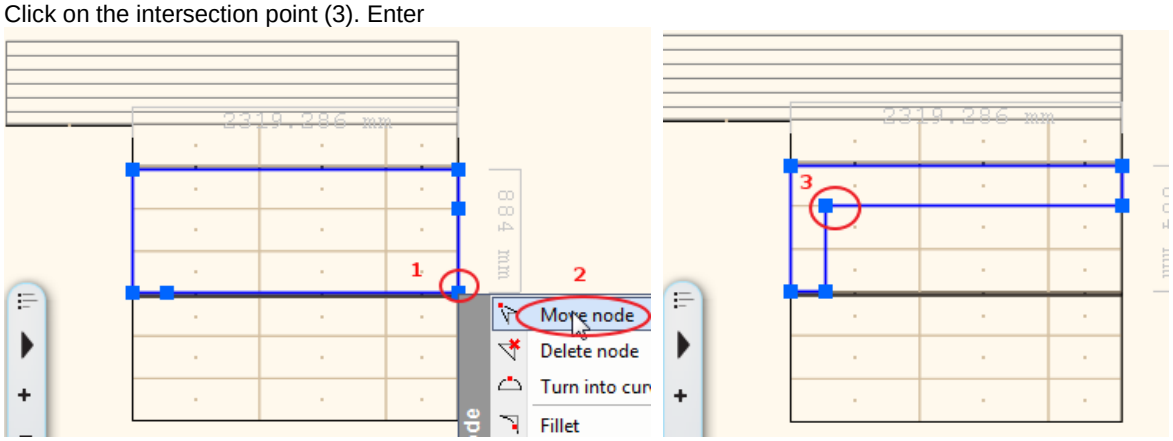
We will insert new points and move the existing ones in the right position:

- Click on the tile (4) to choose the background area to modify it.
Then, insert a new point:
- Click on the bottom side (1) of the blue background area,
- Choose the *Insert node* (2) command and
- Click on the *Reference* icon (3).
- Click on the corner point (4) of the background area and move the cursor to the right and type the distance: 250 mm.
Then, insert other new point:
- Click on the right side (5) of the blue background are,
- Choose again the *Insert node* (6) command and



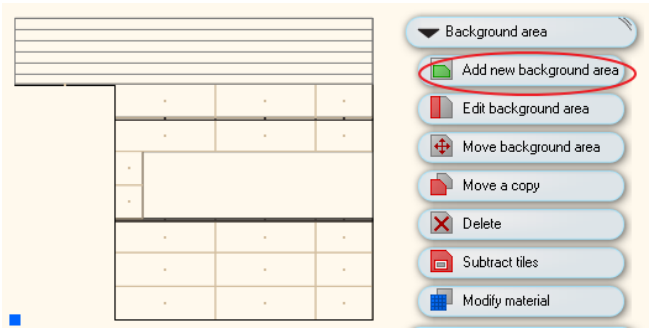


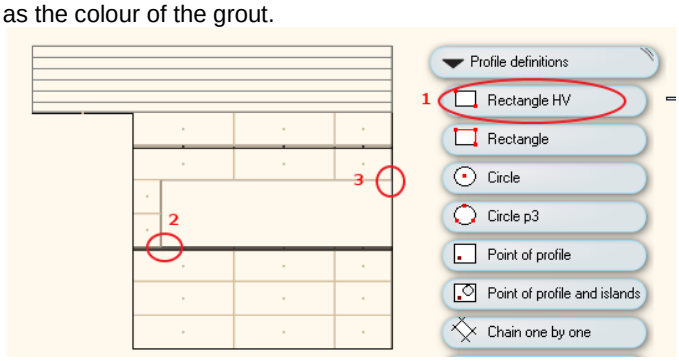
- Click on the corner point (7) of the tile to place here the new node.
Then, move the corner point of the background area:
- Click on the right corner (1) of the blue background are,
- Choose the *Move node* (2) command and
- Click on the intersection point (3). Enter



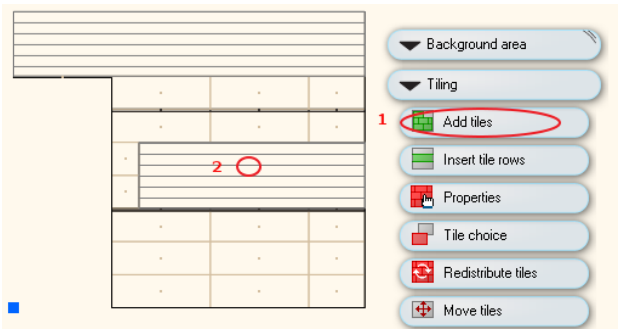
The tiles are deleted. Now we are going to create a new background area for the mirror:

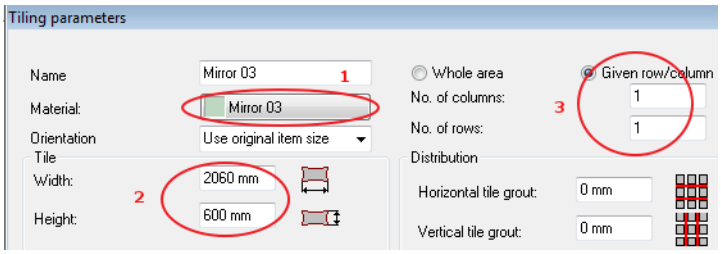
- Click on the *Add new background area* command.
- Click on the *Rectangle HV* (1) command and
- Draw the rectangle clicking on the two corner points: (2, 3)
- Choose Cream_01 from the library which also appears as the colour of the grout.





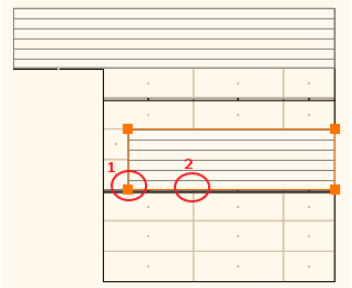
- Click on the *Add Tiles* (1) command to place a Mirror tile on the background area.
  Click in the background area (2).
- Select the Mirror_03 tile (1) from the library and
- Set it to the right size (2): 2060x600.
- The settings should be changed to one column and one row (3) because we place only one tile.





and then place the tile on the background area:

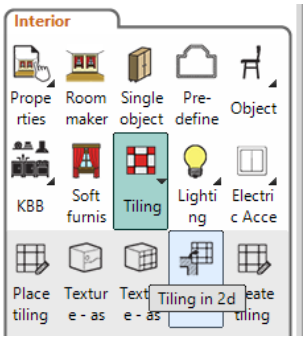
- clicking on the left bottom corner of the background area (1)
- Move the cursor to the horizontally right and click (2). This click defines the direction of the tile which should be horizontal.
- Click *Enter* to close the tiling command and keep the layout of the tiling on the floor plan.

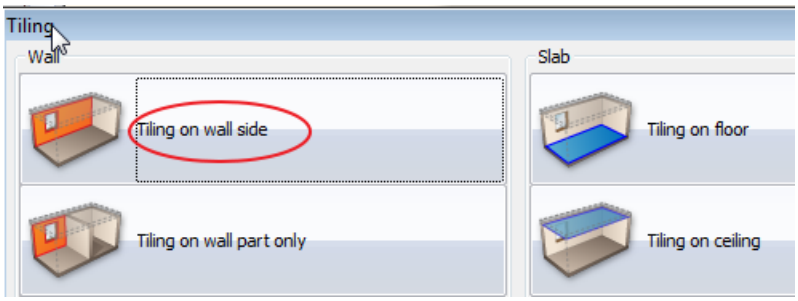


3.5. Tiling layouts

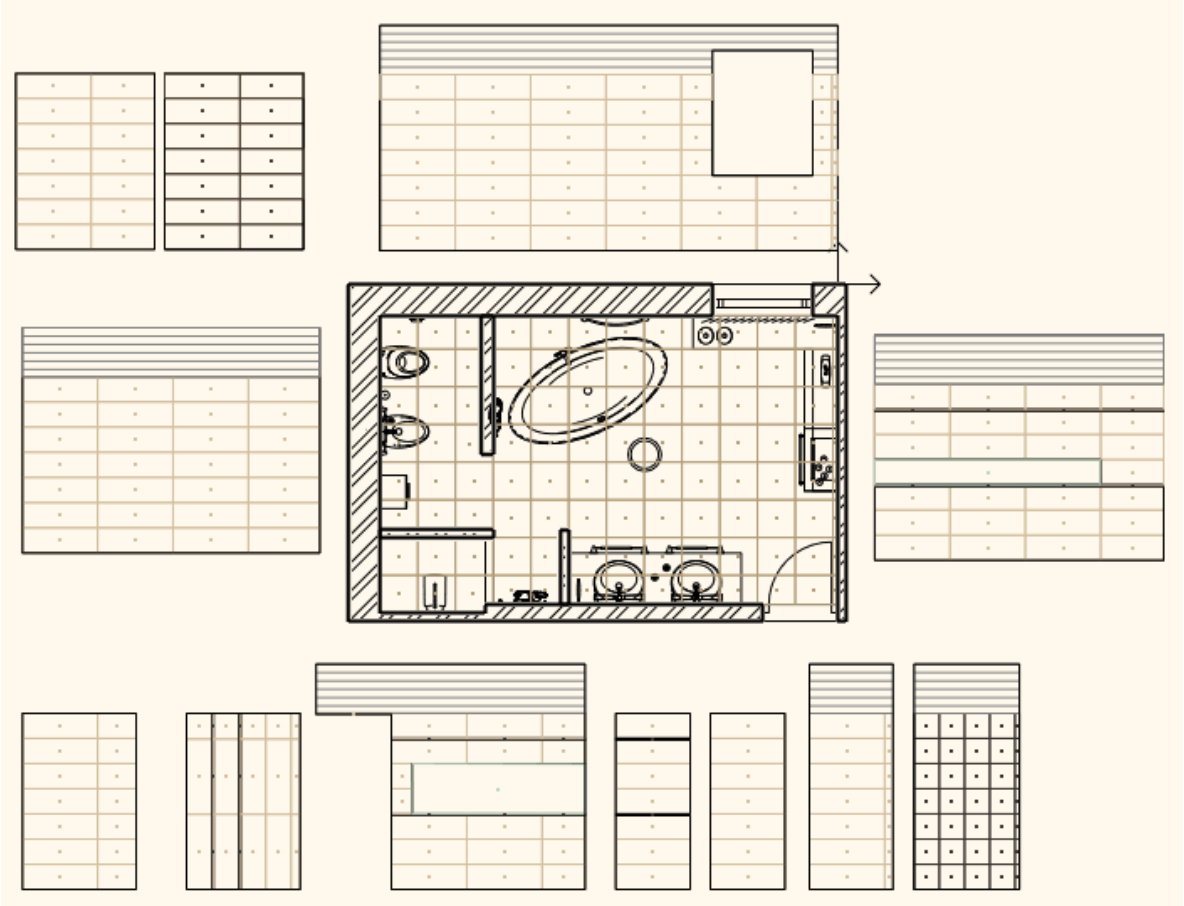
The tiling layout can be used to place and quote tiling layouts on the floor plan.

- First, the floor plan should be activated.
- Click on the *Toolbox / Interior / Tiling / Tiling in 2D* command.
- When the dialog opens, choose the *Tiling on Wall Side* option.
- Click on the wall and place the tiling layout on the floor. Click on the next wall and do the same.
- Use the *Toolbox / Dimension / Quick dimension* command to quote it.





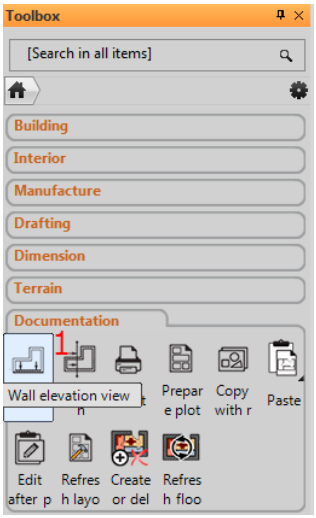
Click on the Tiling on Floor command to visualize the floor tiling layout.

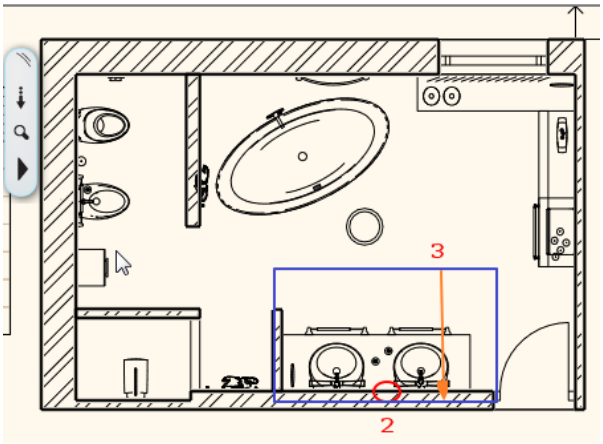


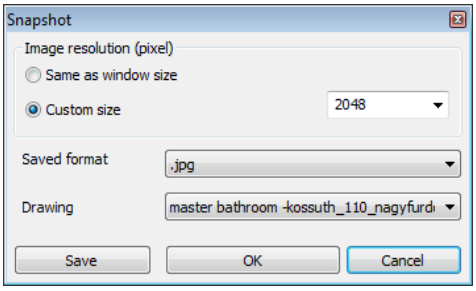
3.6. Wall elevation view

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 **Toolbox/Documentation/ Wall elevation view** command (1).
- Click on the internal part of the wall (2).
- Move the orange arrow and click on the desired point (3). The blue rectangle appears.
- Click on the Enter.
- The Snapshot dialog appears. Click OK.
- The wall view is placed. Move it on the appropriate place.
- Repeat the previous method for all walls.
- Use the dimension command to quote it.

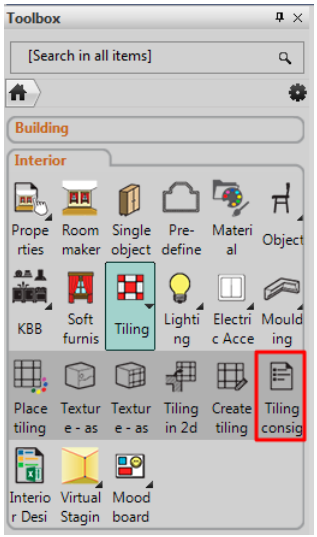

Toolbox
[Search in all items]
Building
Interior
Manufacture
Drafting
Dimension
Terrain
Documentation
1
Wall elevation view
Prepar
e plot
Copy
with r
Paste
Edit
after p
Refres
h layo
Create
or del
Refres
h floo


3
2

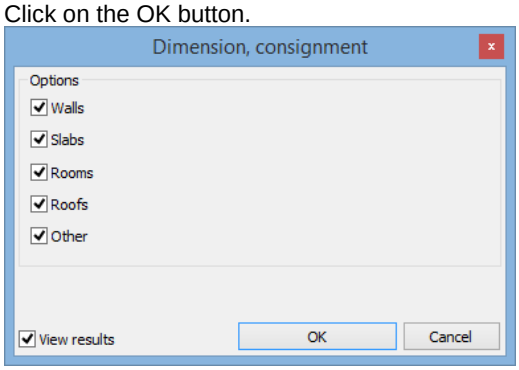

Snapshot
Image resolution (pixel)
Same as window size
Custom size
2048
Saved format
.jpg
Drawing
master bathroom -kossuth_110_nagyfurd
Save
OK
Cancel

3.7. Tiling Consignation - Quantity take off

Next, in order to make a record of the total number of tiles used in the project, we need to refer to the *Tile Consignation*. *Quantity take off* report helps you to order the required quantities from producer.



- Click on the *Toolbox / Interior / Tiling / Tiling consignation* command .
- In the *Consignment* dialog switch on the Walls, Slabs and Other checkboxes and the View results options.
- Click on the OK button.



- Give the name of the EXCEL file.
  An Excel spreadsheet appears, whereby all tiles are listed by type, size, the area they cover, total number of pieces, number of full tiles and fragments.

Tile summary

folkstone_beige30X90

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
300	900	44,29	234	(90/70/74)	0	

cantal_marengo30X90

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
300	900	3,48	14	(6/8/0)	0	

modal_marron2X90

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
20	900	0,35	22	(14/6/2)	0	

auvernia_marengo30X30

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
300	300	2,63	35	(24/4/7)	0	

folkstone_beige45X45

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
450	450	18,47	104	(63/33/8)	0	

Mirror 03

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
2700	300	0,81	1	(1/0/0)	0	

Mirror 03

Width [mm]	Height [mm]	Area [m2]	Total (pc)	Full/Part/Fragment	Price	Value
2060	600	1,23	1	(0/1/0)	0	

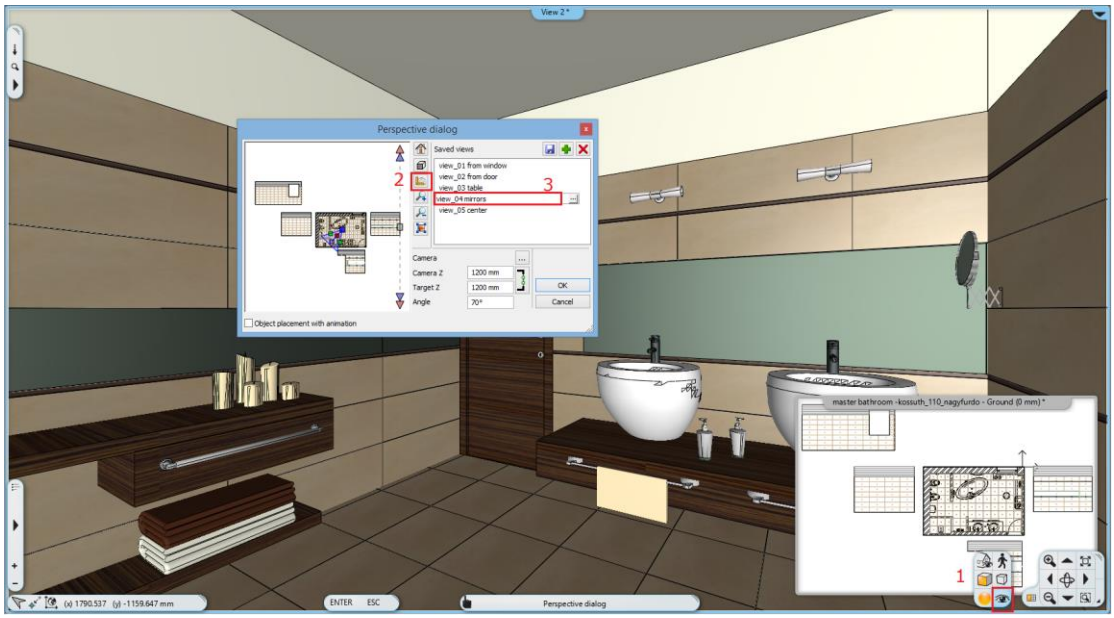
Finally, we would copy the tiling consignation table from the Excel document to the 2D floor plan by selecting all filled in cells and moving the cursor on the bottom right hand corner until the Excel pointer changes to a white arrow, drag and drop the table on the floor plan.

3.8. Rendering

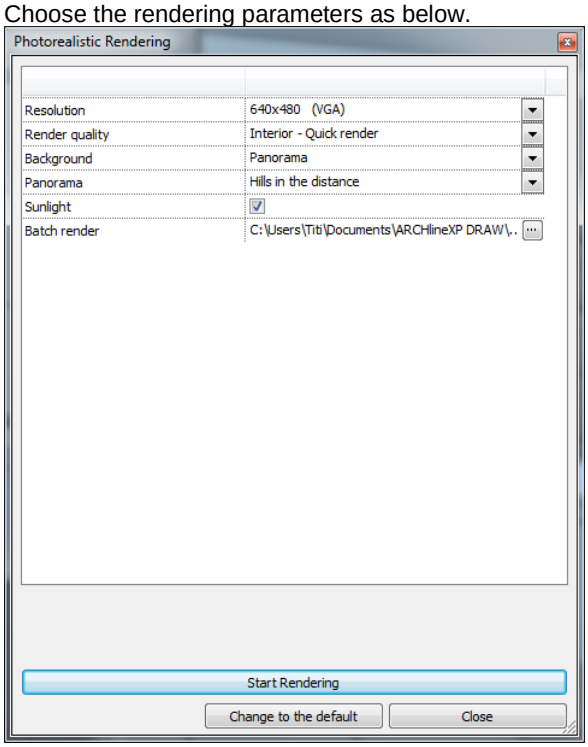
In the 3D Navibar click on the Perspective (1) icon.

Perspective view dialog

- Click on the floor plan icon (2) below in the dialog. Then select the view named *view_04_mirrors*.
- Check out the elevation values in the dialog: Camera Z = 1200 mm and Target Z= 1200mm.
- Press Ok to close the dialog.



- In the 3D Navibar click on the Rendering icon (Orange sphere).
- Choose the rendering parameters as below.



- Click on the *Start Rendering* button.

  The program starts to create the rendering image, and you have to wait a while depending on the complexity of the model. The ARCHLine.XP® Render dialog appears and the rendering is in the progress.You can set the post process values: brightness, contrast, saturation to improve the image quality.
- Click on the Save button and save the image.

Lesson 4: Kitchen Design

4. Lesson: 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.

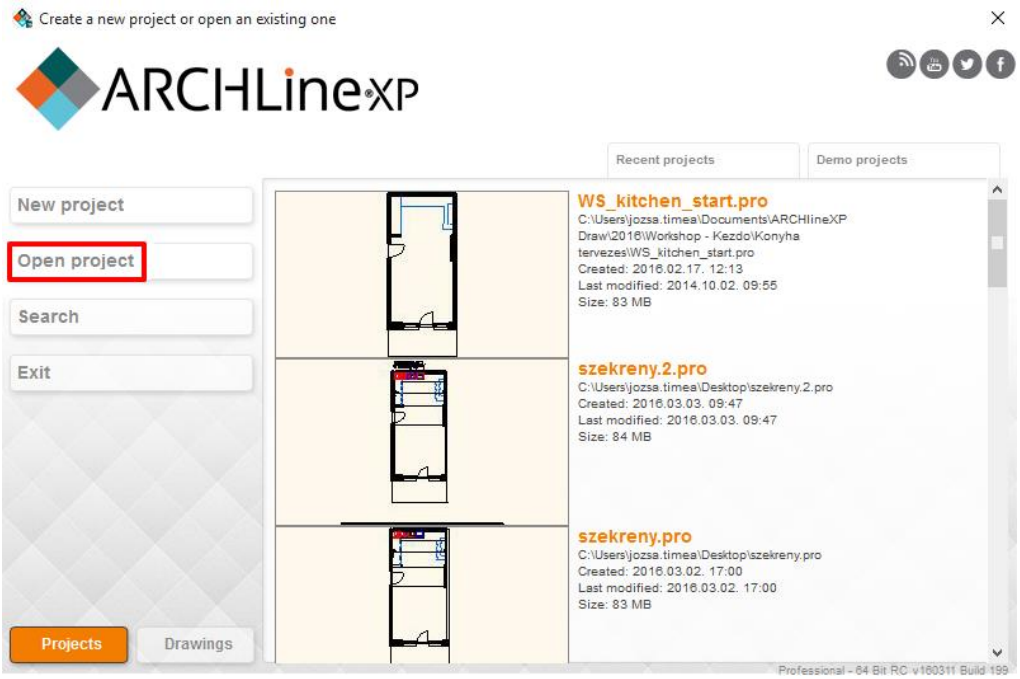
As an example, we will be using Andrea Nagy's completed Kitchen project.
The goal will be to come up with the same result as shown in the example:

- Please open the following playlist in your browser:
  http://www.archlinexp.com/video-tutorials/workshop/kitchen-workshop
  The video tutorial consist of five parts.
- Your screen should look as follows: Press the ARROW button in the centre to play the video and pause it any time you need with pressing the pause button in the left bottom corner.

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/workshops/preliminary-level/kitchen-design

- Start ARCHLine.XP® Professional.
- Click on the Open Project:
- Choose the:
  …\Documents\ARCHLine.XP Draw\2016\Workshop - 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 other name: *WS_kitchen_01*
  and Save.

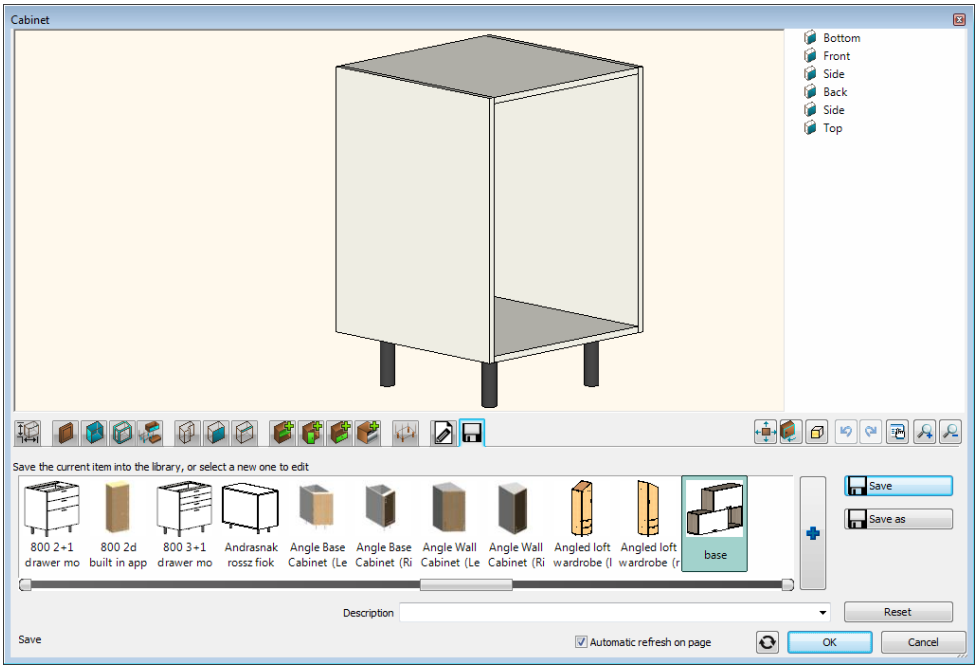
Furniture library

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

4.2. Base cabinets

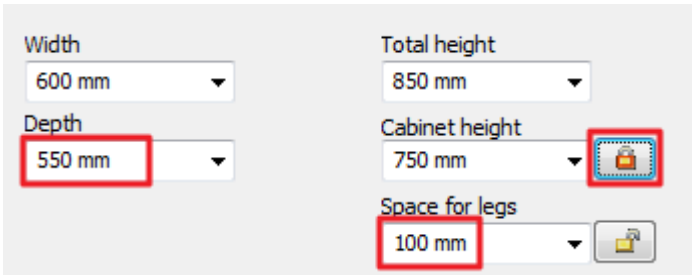
Creating the base cabinet

- Click on the Toolbox – Manufacture – Manufacturer tools – Customized cabinet icon.

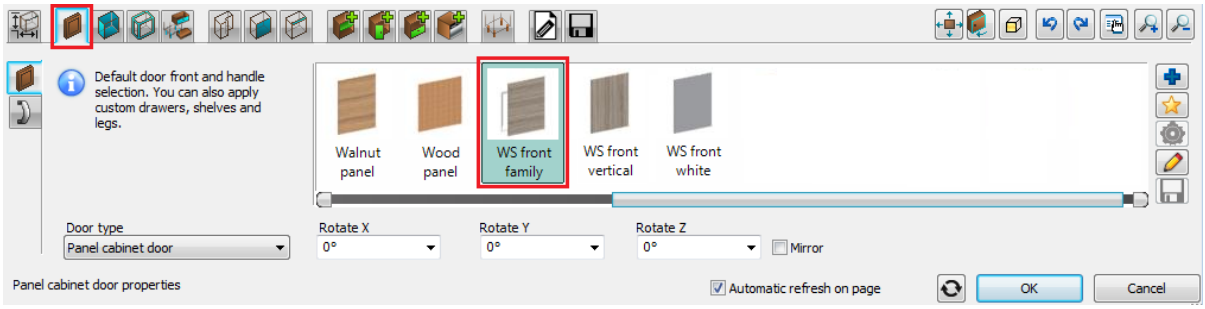


- Set the following properties:

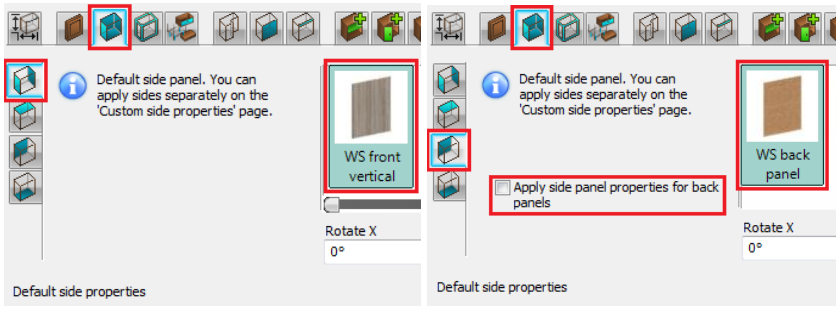
Sizes page – Set *depth* to 550 mm. Lock *Cabinet height* by pressing the button, and then decrease *Space for legs* to 100 mmm.



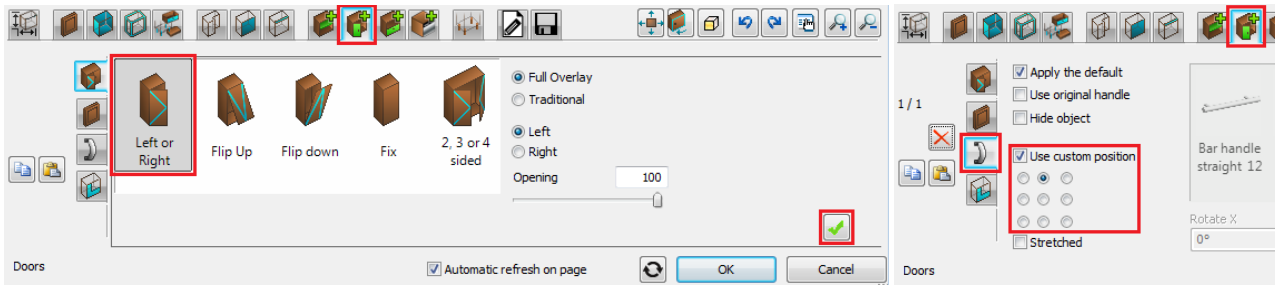
General cabinet door properties page – Select the „WS front family” cabinet door family.



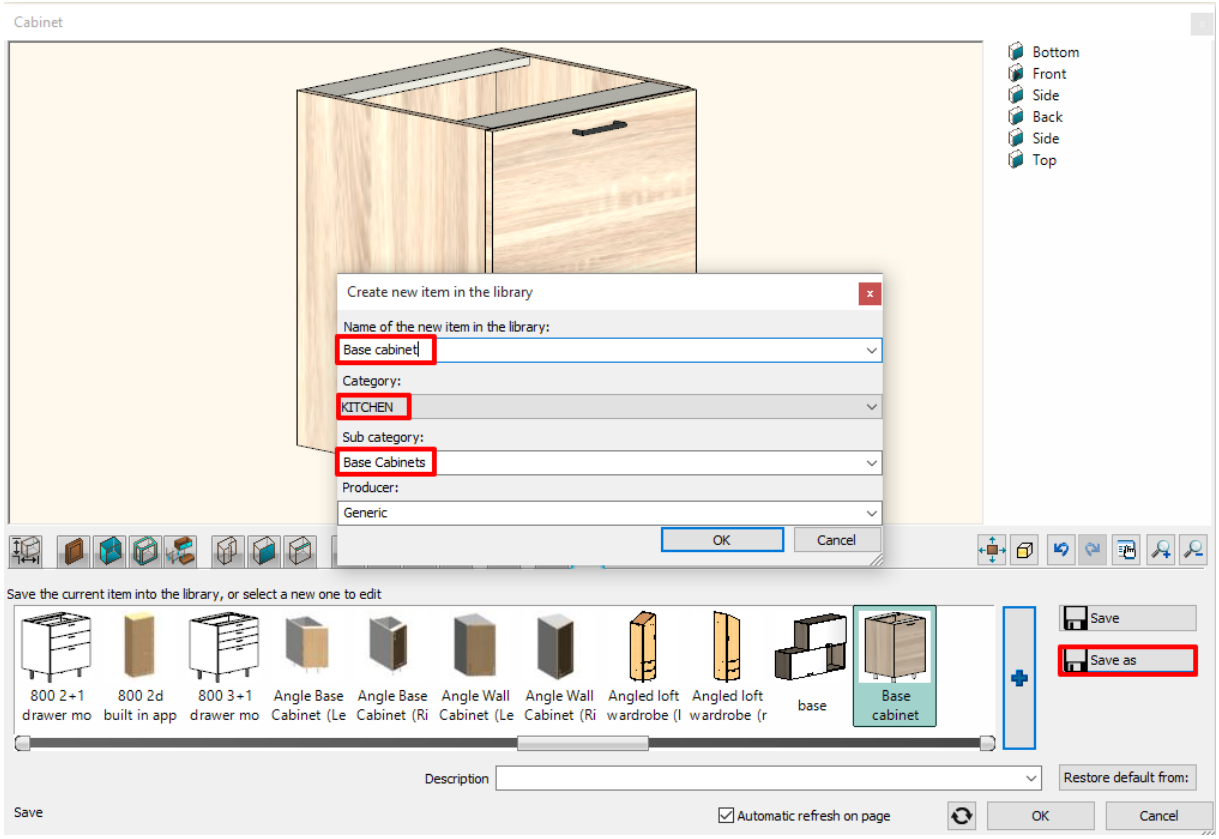
Default side properties – Select the „WS front vertical” side panel. On the *Back* tab switch „Apply side panel properties for back panels” off and select „WS back panel”-t as the default back panel.



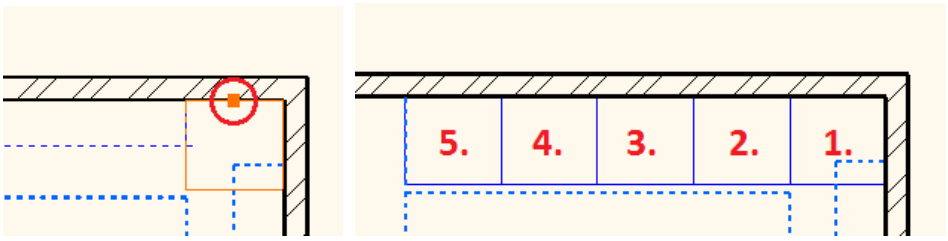
Doors page – First add a new default door by pressing the button. On the *Handle* tab switch *Use custom position* checkbox on and select the top-center handle position.



Save page – save the cabinet.

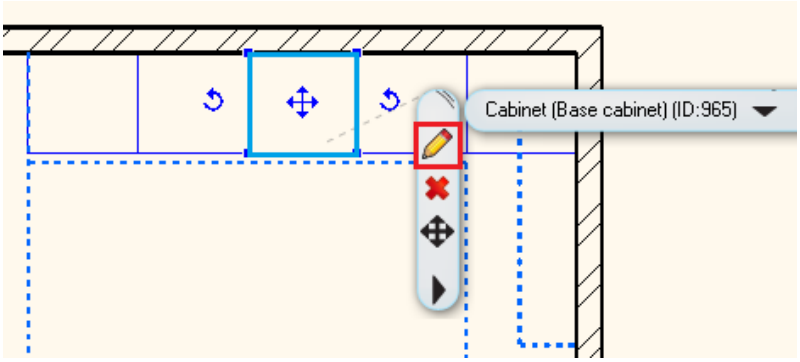


- Finally close the window by pressing the OK button. Place 5 instances of the cabinet onto the drawing next to each other, beginning from the top-right corner of the room.

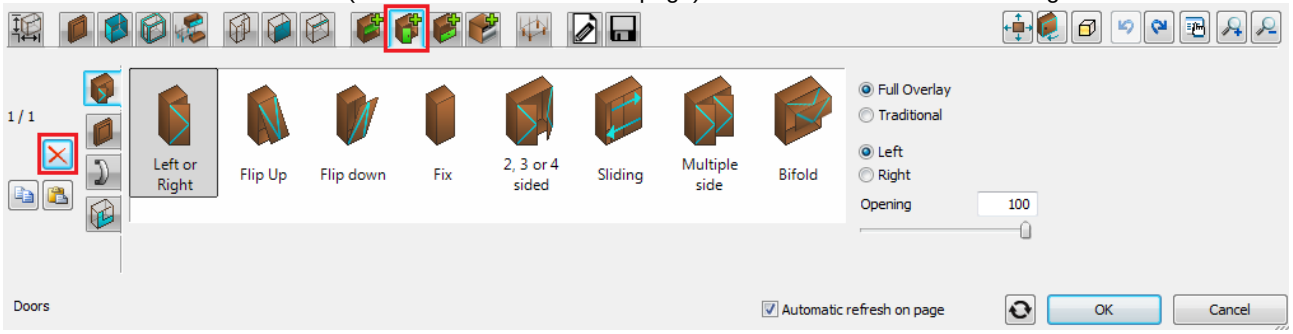


Drawer cabinet

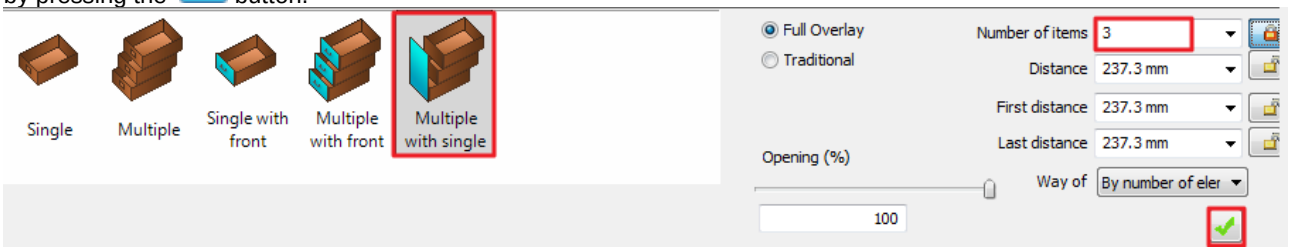
- Modify the middle cabinet.



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



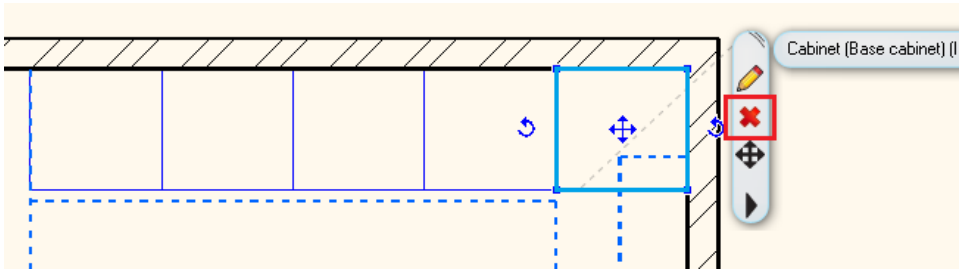
- On the drawer page select the option „Multiple with front”, set the number of drawers to 3, finally insert the drawers by pressing the button.



- Save page – save the element.

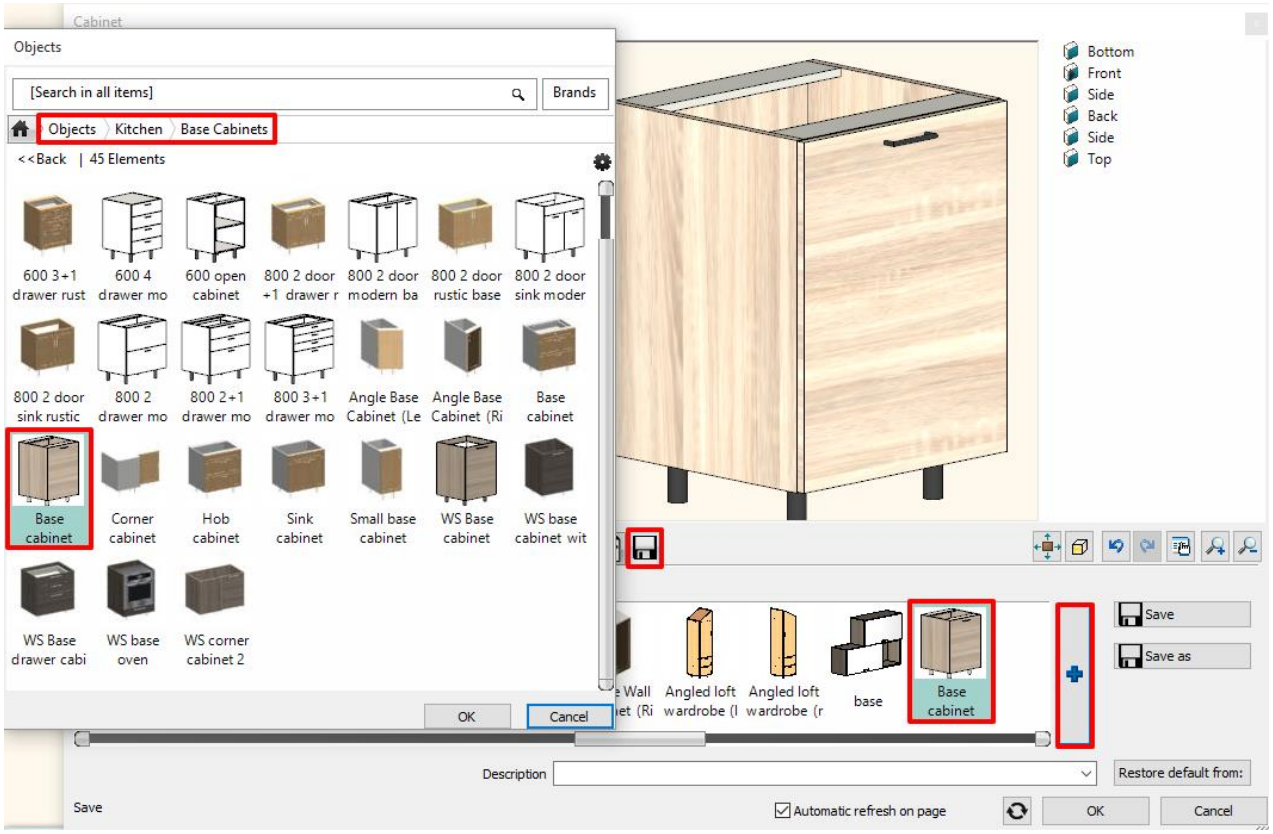
Corner cabinet

- Delete the cabinet at the wall corner.



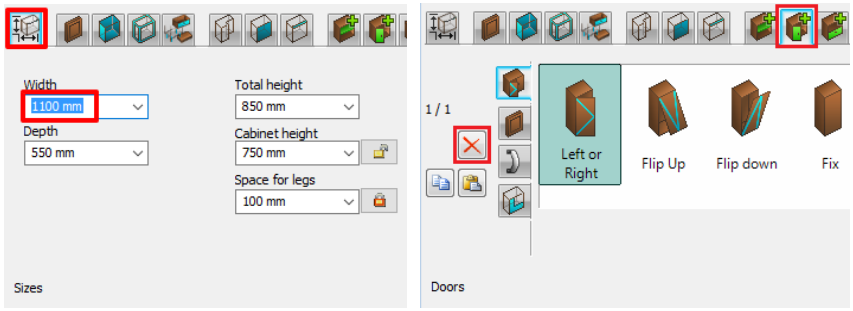
- Click on the Toolbox – Manufacture – Manufacturer tools – Customized cabinet icon.

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

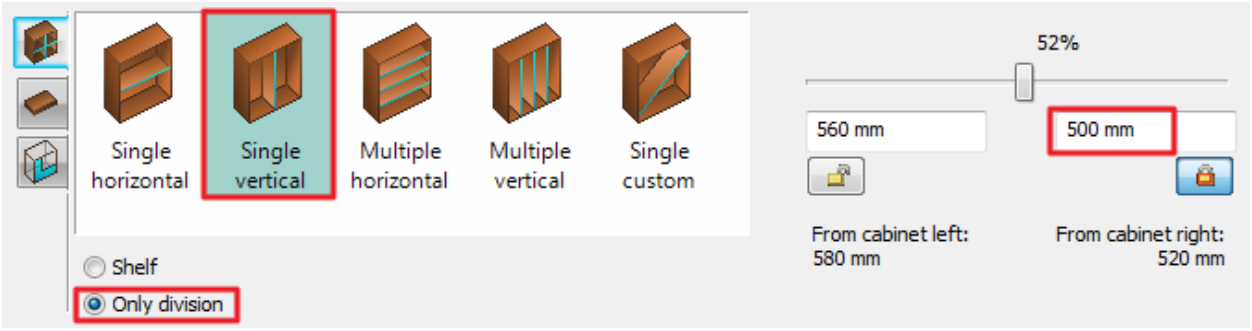


Sizes page – change the width to 1100mm.

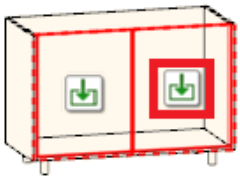
- Select the door: ALT+click on the door (or turn to the Doors page) and delete the selected door by pressing the button.



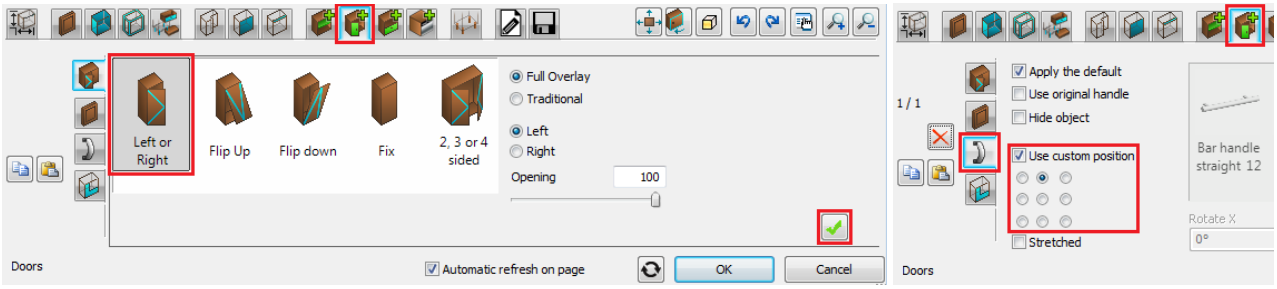
On the Dividers page select the „Single vertical” divider, check the „Only division” checkbox, set the distance on the right side to 500 mm and then insert the division by pressing the button.



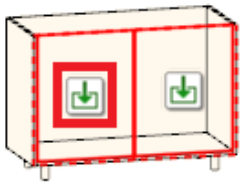
- Click on the button in the right empty zone on the preview.



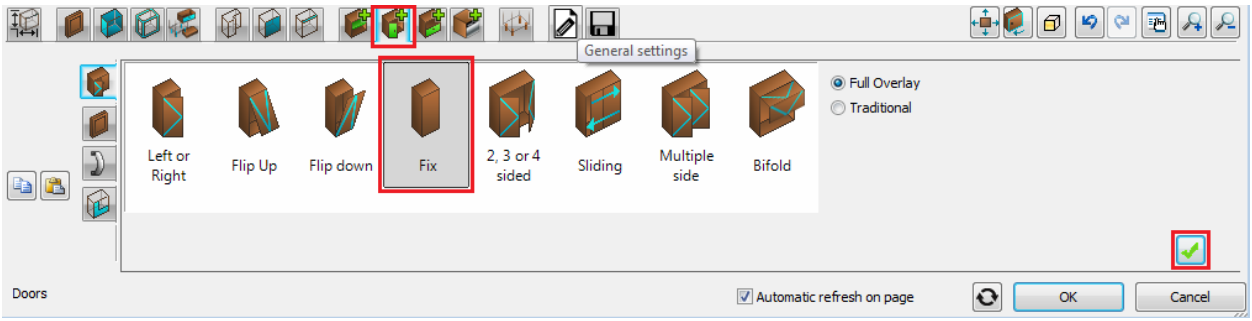
Turn to the Doors page , and then place the door by pressing the button. On the *Handle* tab switch *Use custom position* checkbox on and select the top-center handle position.



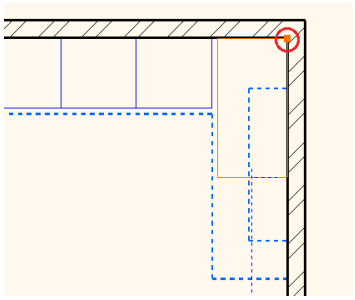
- Click on the button in the left empty zone on the preview.



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



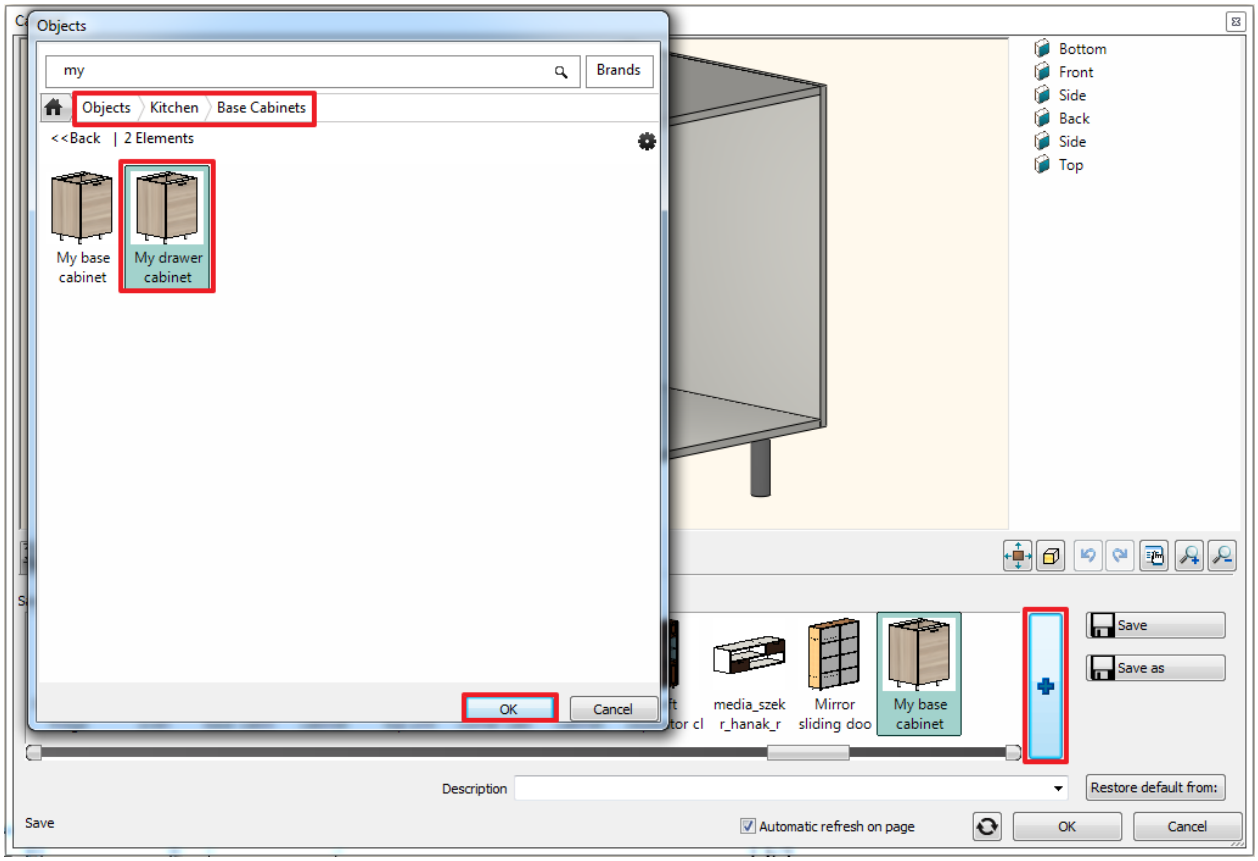
- Place the corner cabinet into the top-right wall corner.



Wide drawer cabinet

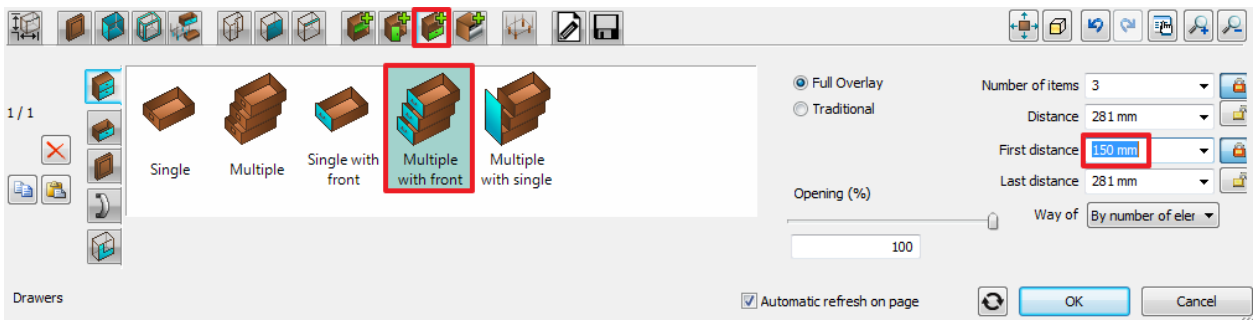
- Click on the Toolbox – Manufacture – Manufacturer tools – Customized cabinet icon.

Save page – load the previously saved drawer cabinet.

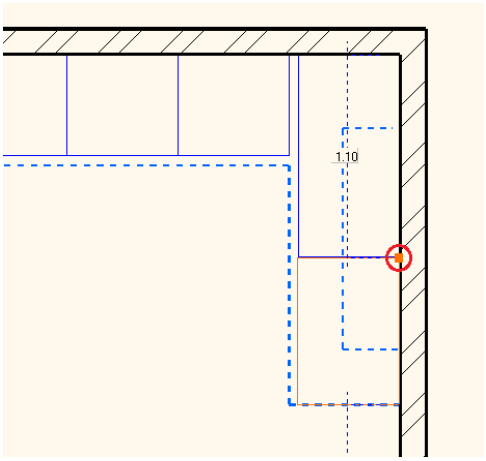


Sizes page – Set the width to 800 mm.

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

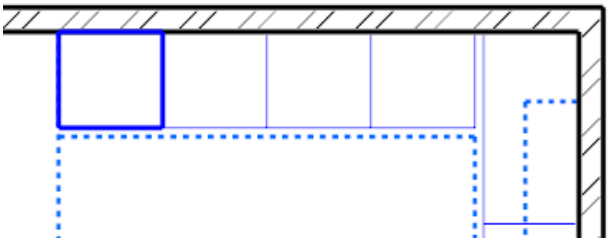


- Close the dialog and place the wide drawer cabinet onto the wall on the right side, next to the corner cabinet.



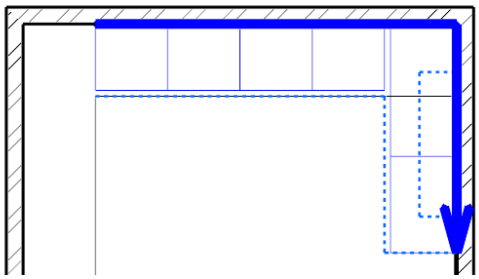
Replace the base cabinet on the left side with a dishwasher

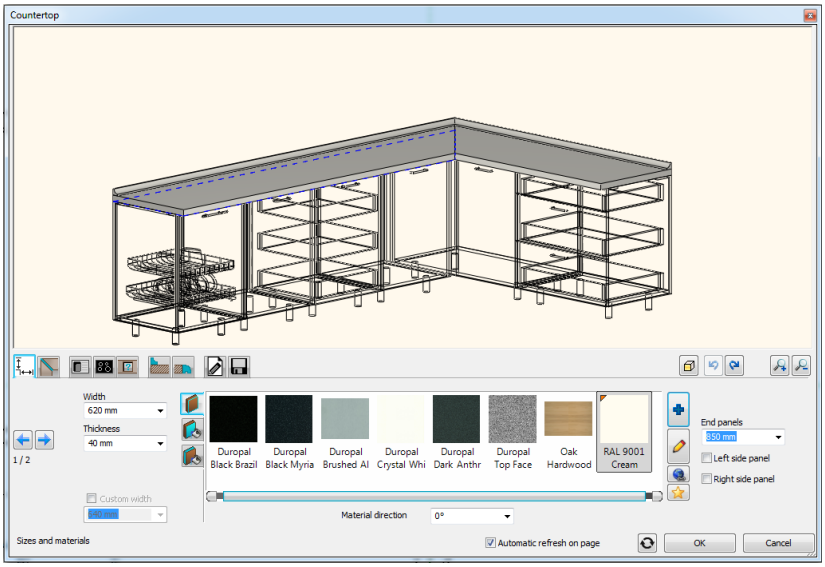
- On the Design Center ad navigate into the category “Objects / Kitchen / Dishwasher” . Drag and drop the “WS dishwasher” element onto the cabinet on the left side. In the appearing menu select “Replace unit with same dimensions”.



4.3. Countertop

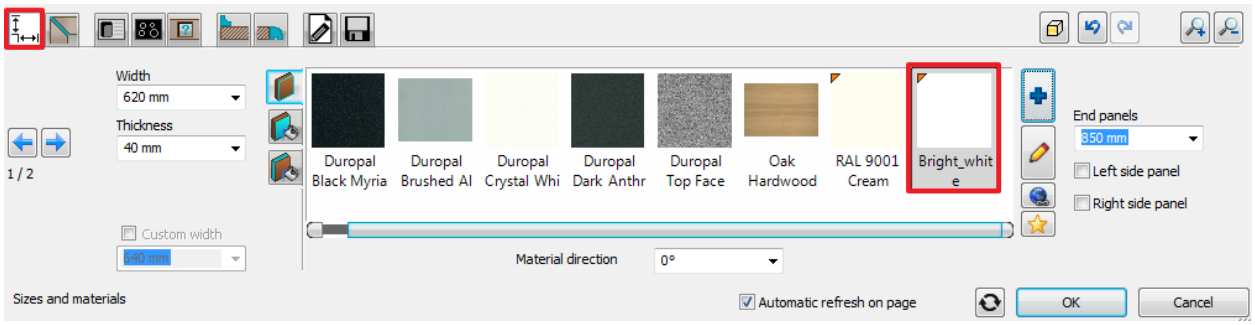
- Click on the Toolbox – Interior – KBB – Countertop icon and then choose the “Profile” from the appearing menu.
- Draw the reference line on the floor plan.



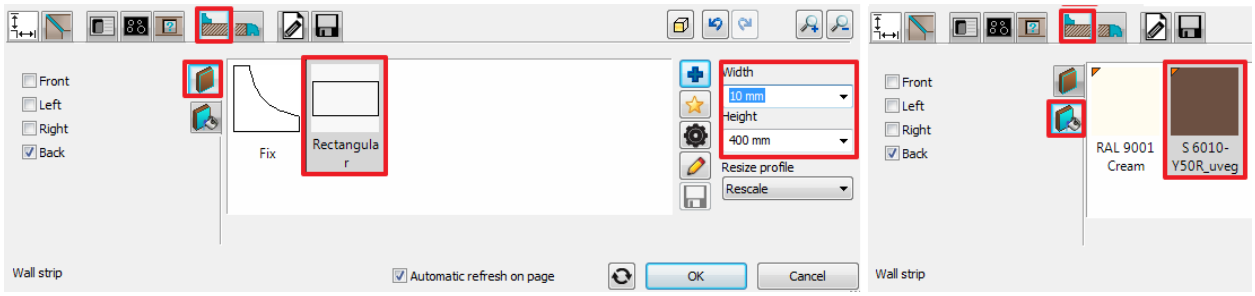


- Set the following properties:

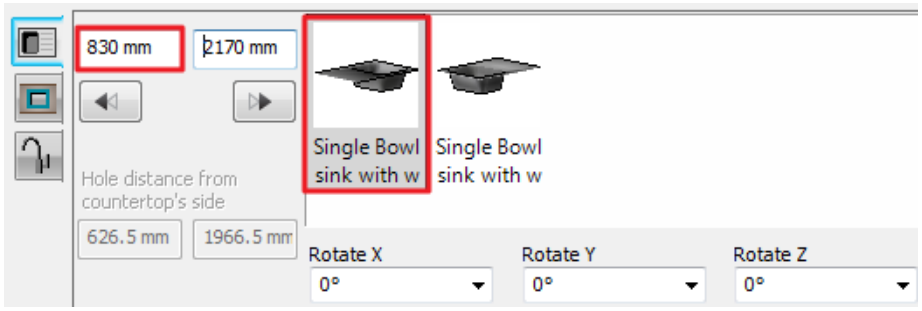
Sizes and materials page – material: “Bright white”



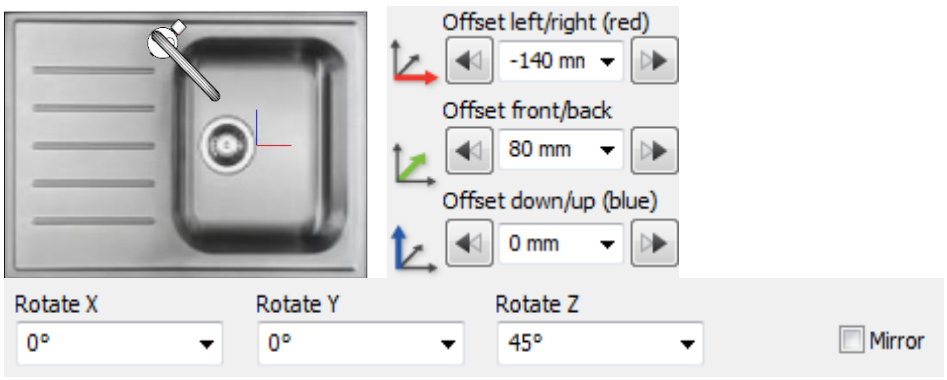
Wall strip page – section profile: rectangle (height: 400m, width: 10mm) material: “S 6010-Y50R_uveg”



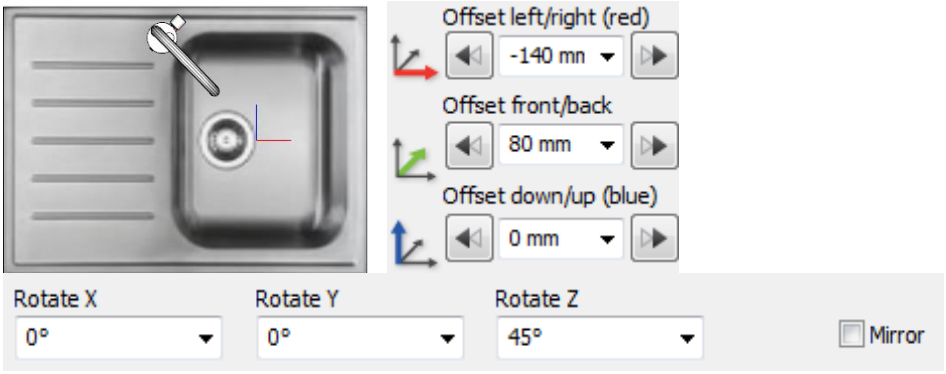
Sink page – Select the sink called „Single bowl sink with work surface on left”, set the distance from the left side to 830mm, finally create the sink by pressing the button.



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

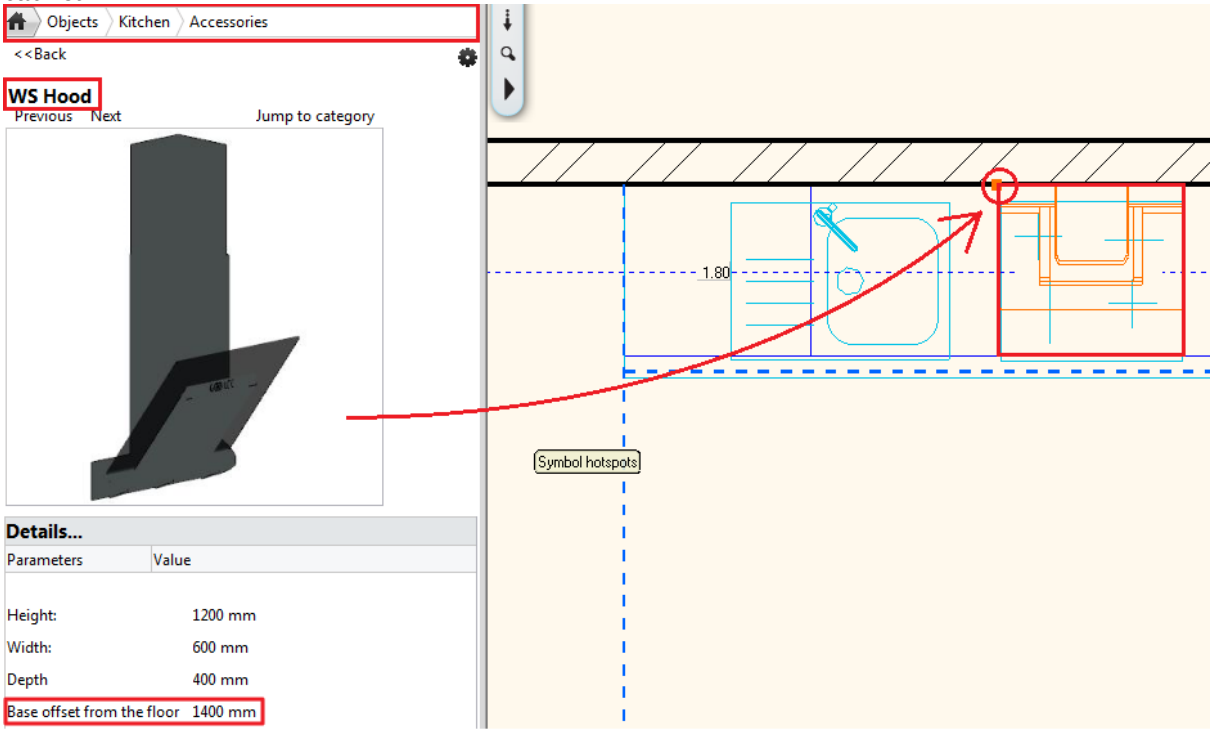


Hob page – Select „Induction hob 580x510”, set the distance from the left side to 1500mm, and then create the hob by pressing the button.



4.4. Hood

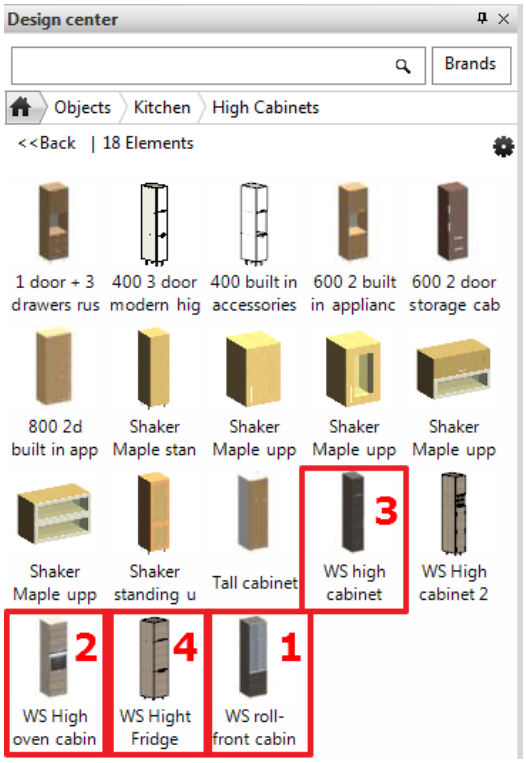
- Search for the „WS hood” in the Design Center. Set its relative height to 1400mm and place it onto the floor plan over the cabinet.

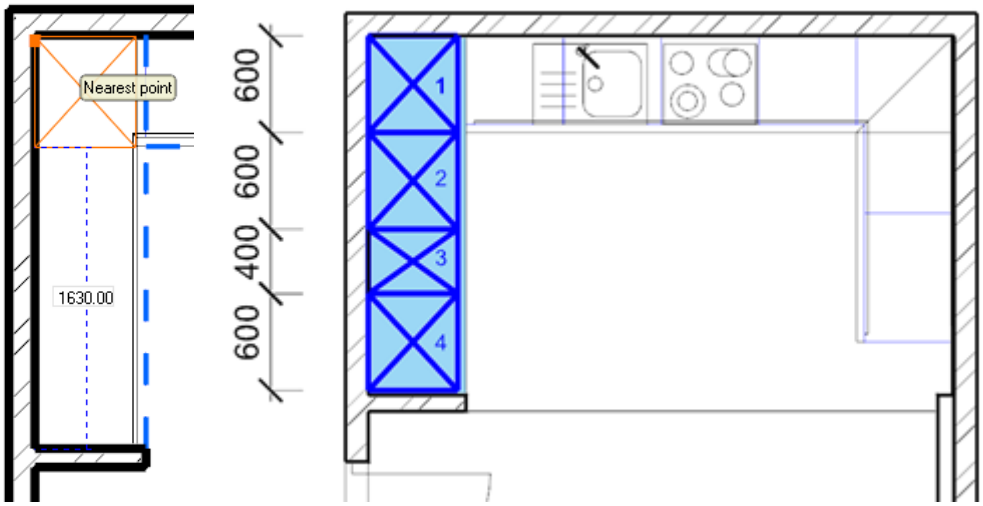


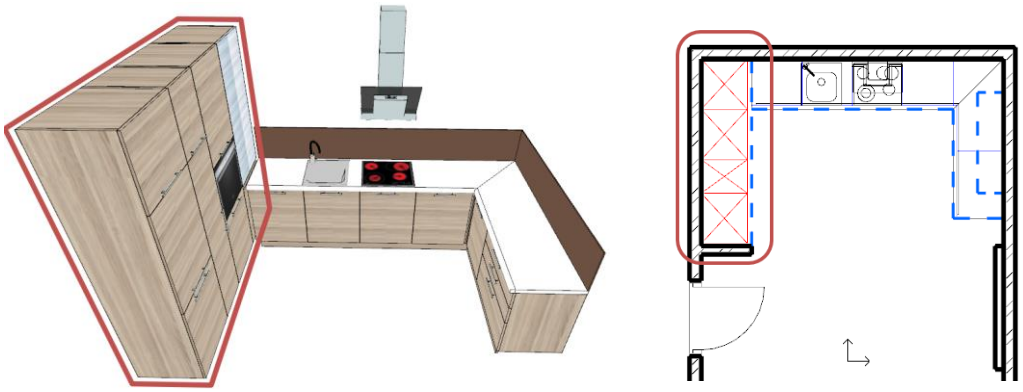
4.5. Adding cabinets

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.

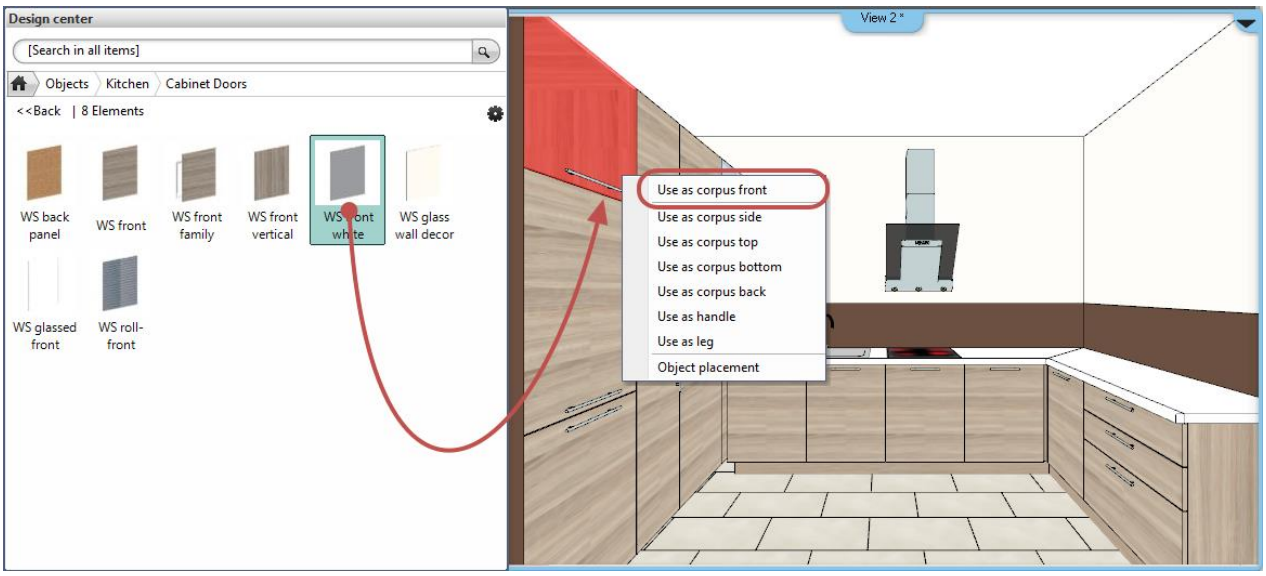


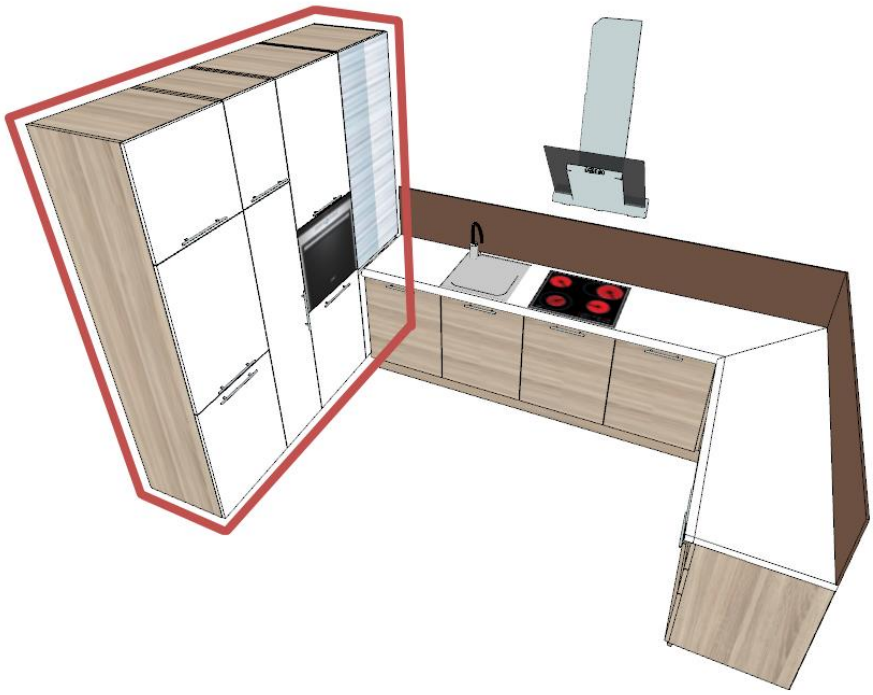




Change the front doors of the high cabinets

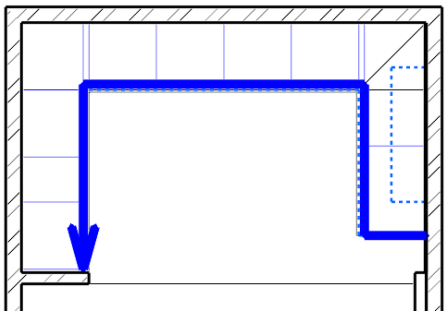
- Open the “**Objects / Kitchen / Cabinet doors**” category in the Design Center.
- Drag the “WS front white cabinet” and drop it onto the first high cabinet.
- Select “Use as corpus front” in the appearing menu and then click on the other high cabinets one after the other to change their front doors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





4.6. Creating plinth

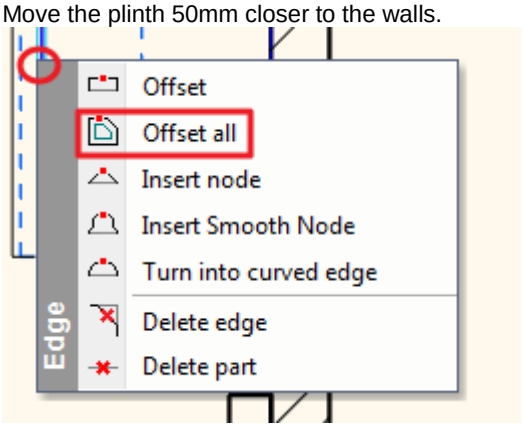
- Navigate to the Toolbox – Interior – Moulding – Horizontal moulding in Sketch mode and draw the reference line on the floor plan.



- Set the following properties:

Section profile page – frontal profile: Rectangle simple (Height: 100mm, Width: 20mm), material: “egger_h1145_st10_natural_bardolino_0”

Move the plinth 50mm closer to the walls.



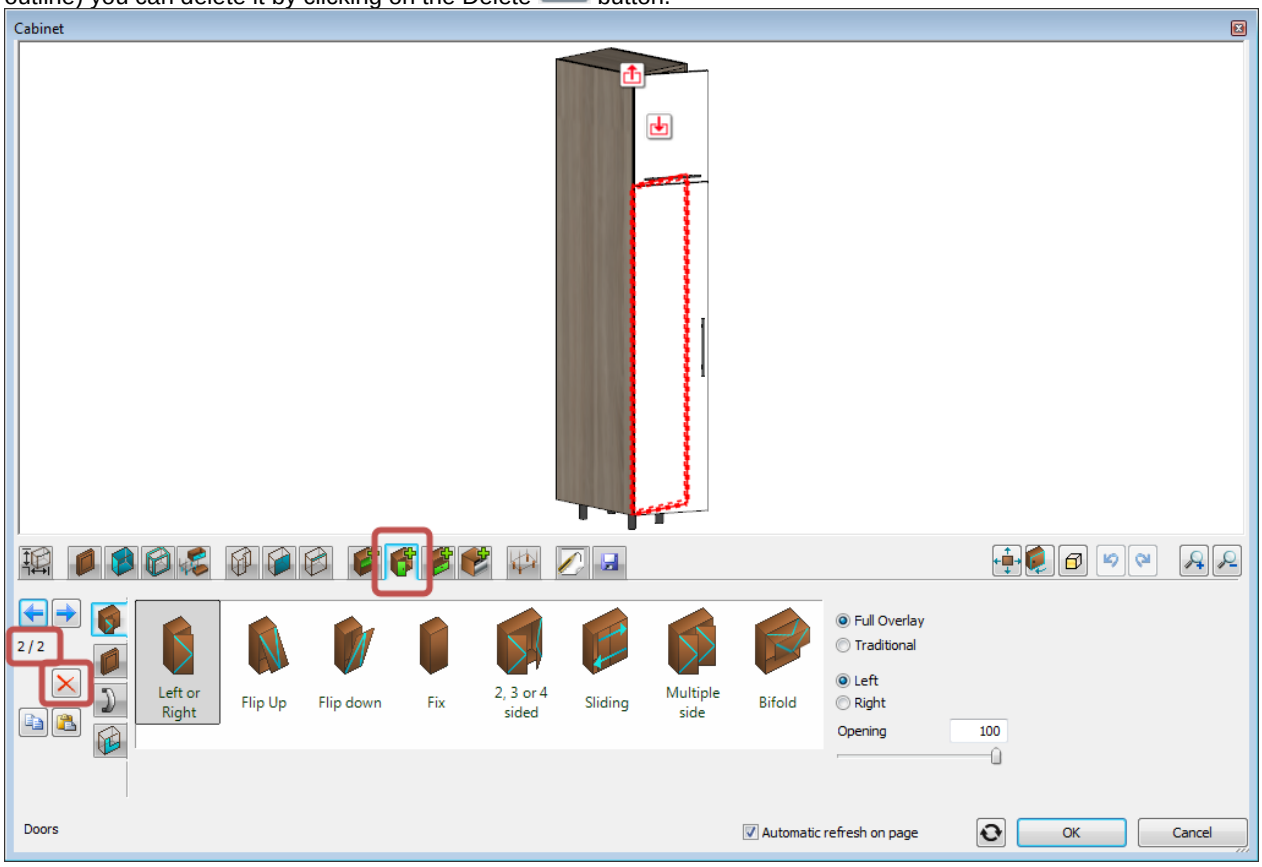
4.7. Editing cabinets

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.

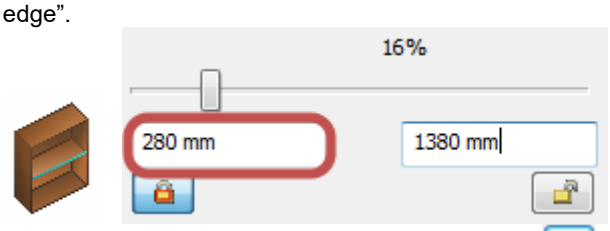
Delete the bottom door.

- 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.

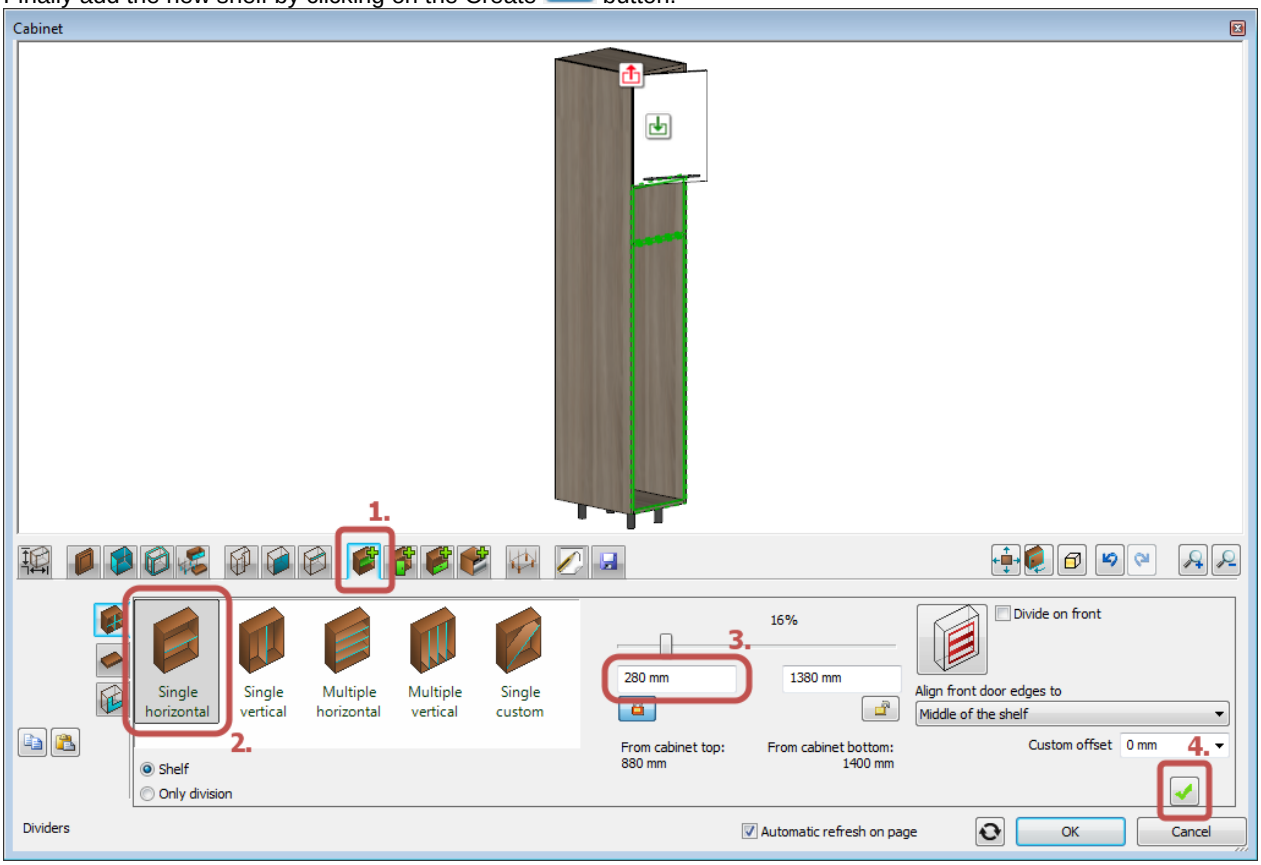


Add a shelf

- 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”.

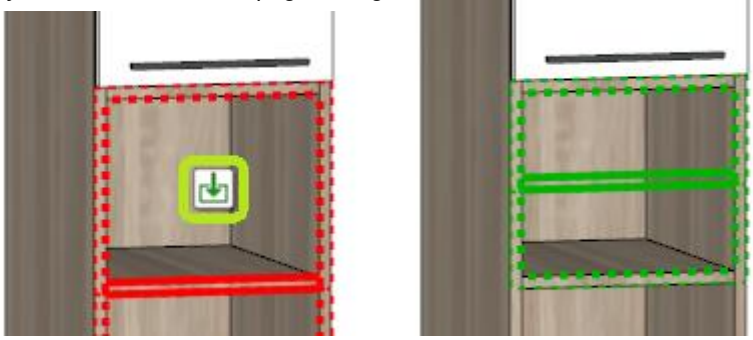


- Finally add the new shelf by clicking on the Create button.



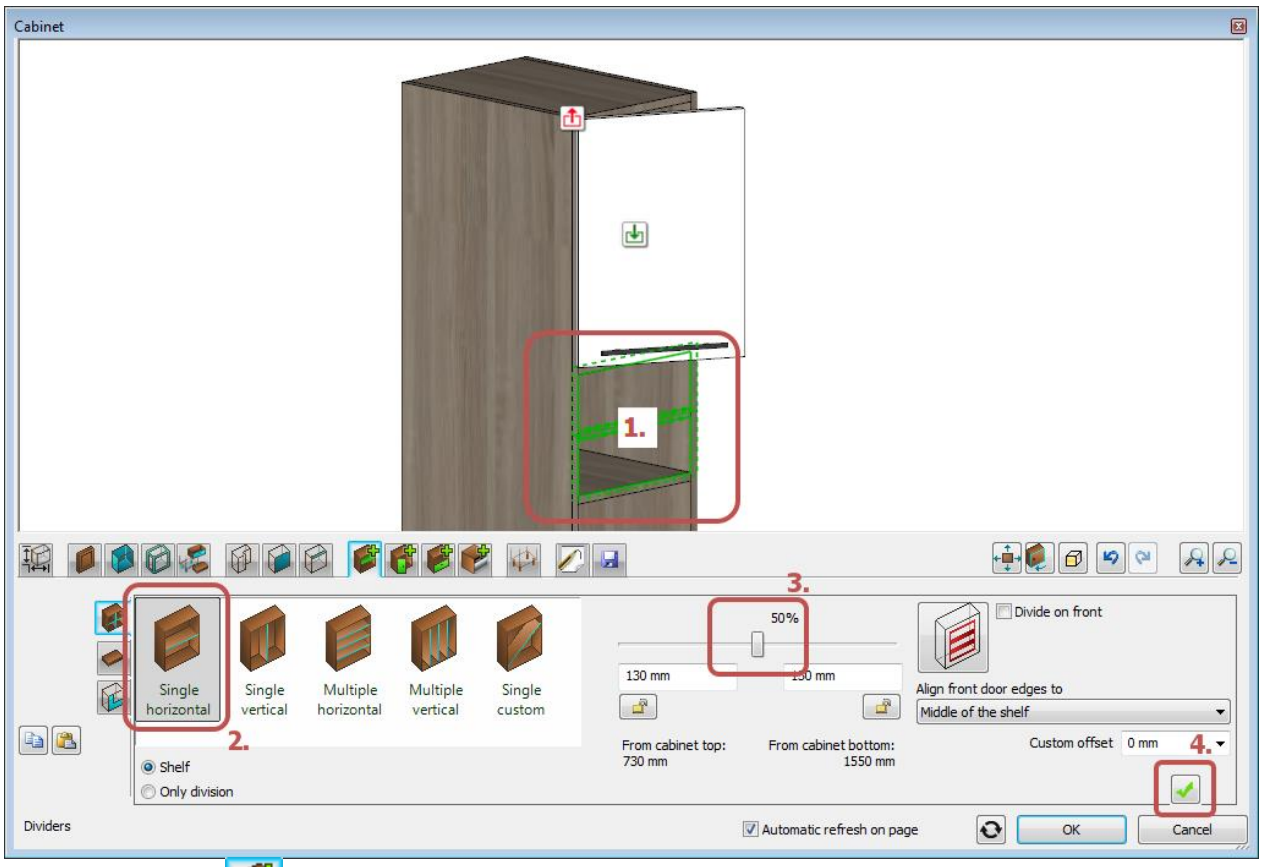
Add more dividers

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

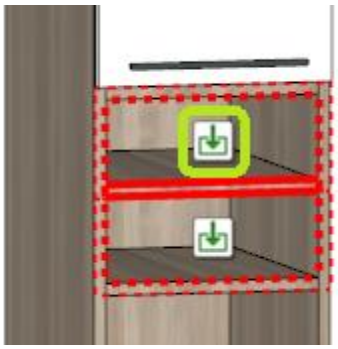
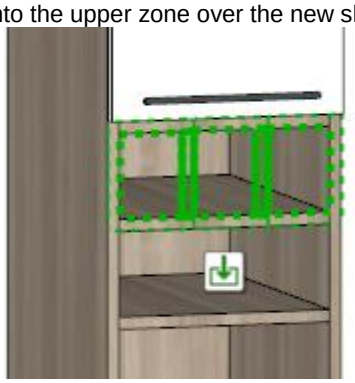


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it. Set the position to 50% by using the slider.

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

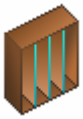


- Stay on the Dividers page. Navigate into the upper zone over the new shelf by clicking on the icon in it.

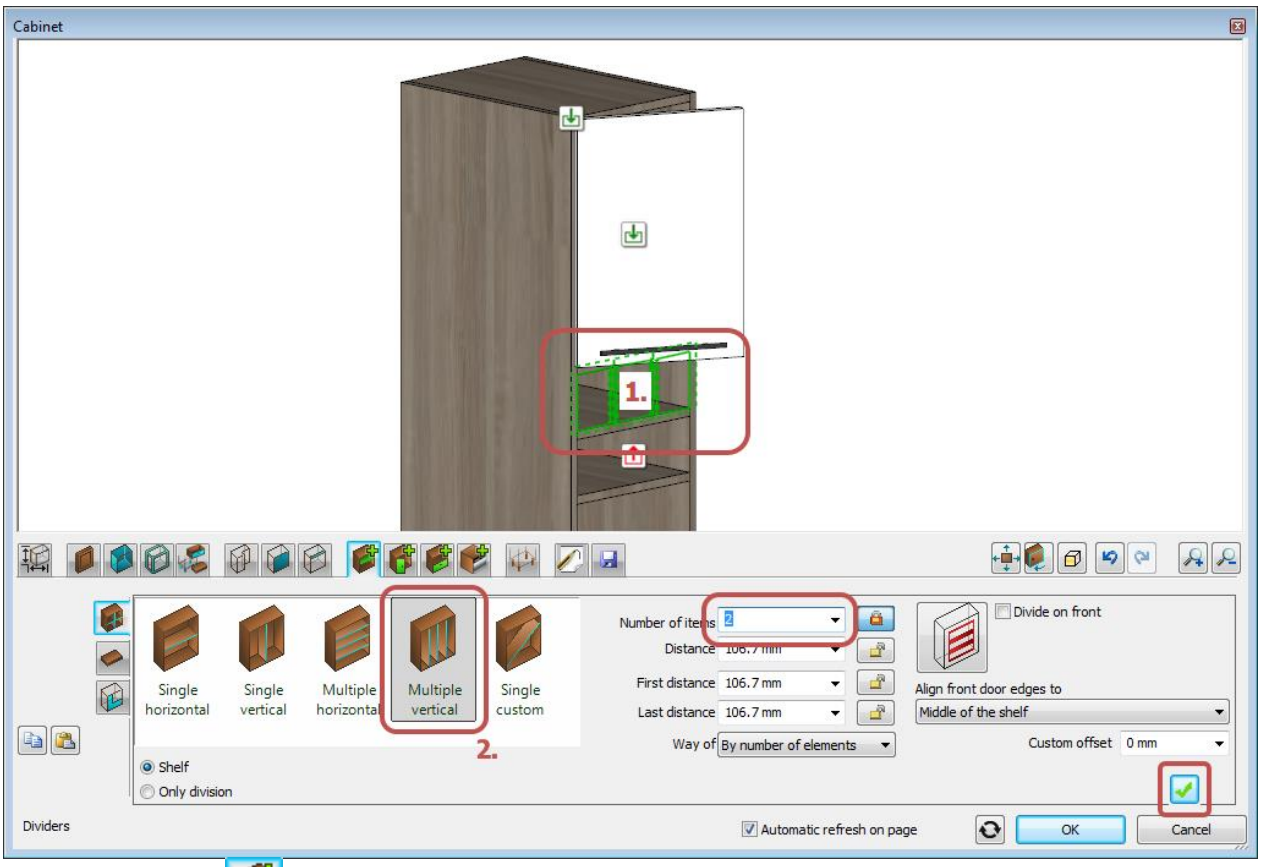



The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

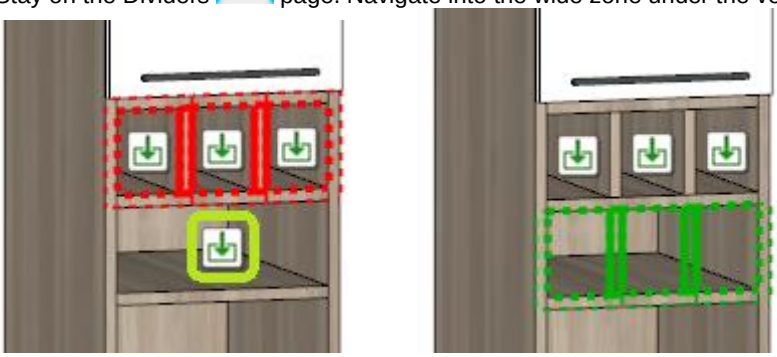
- Select the “Multiple vertical” divider. Set the “Number of items” to 2.



- 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.

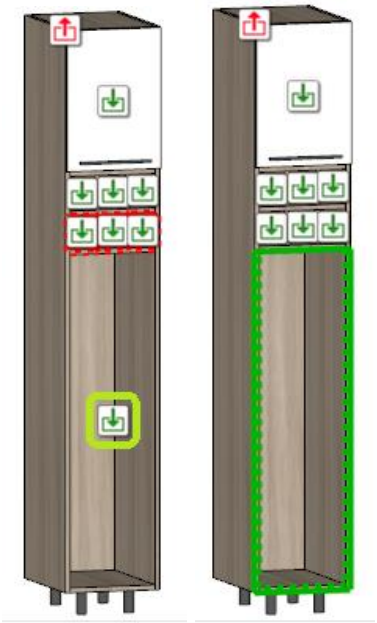


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

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

Add a drawer

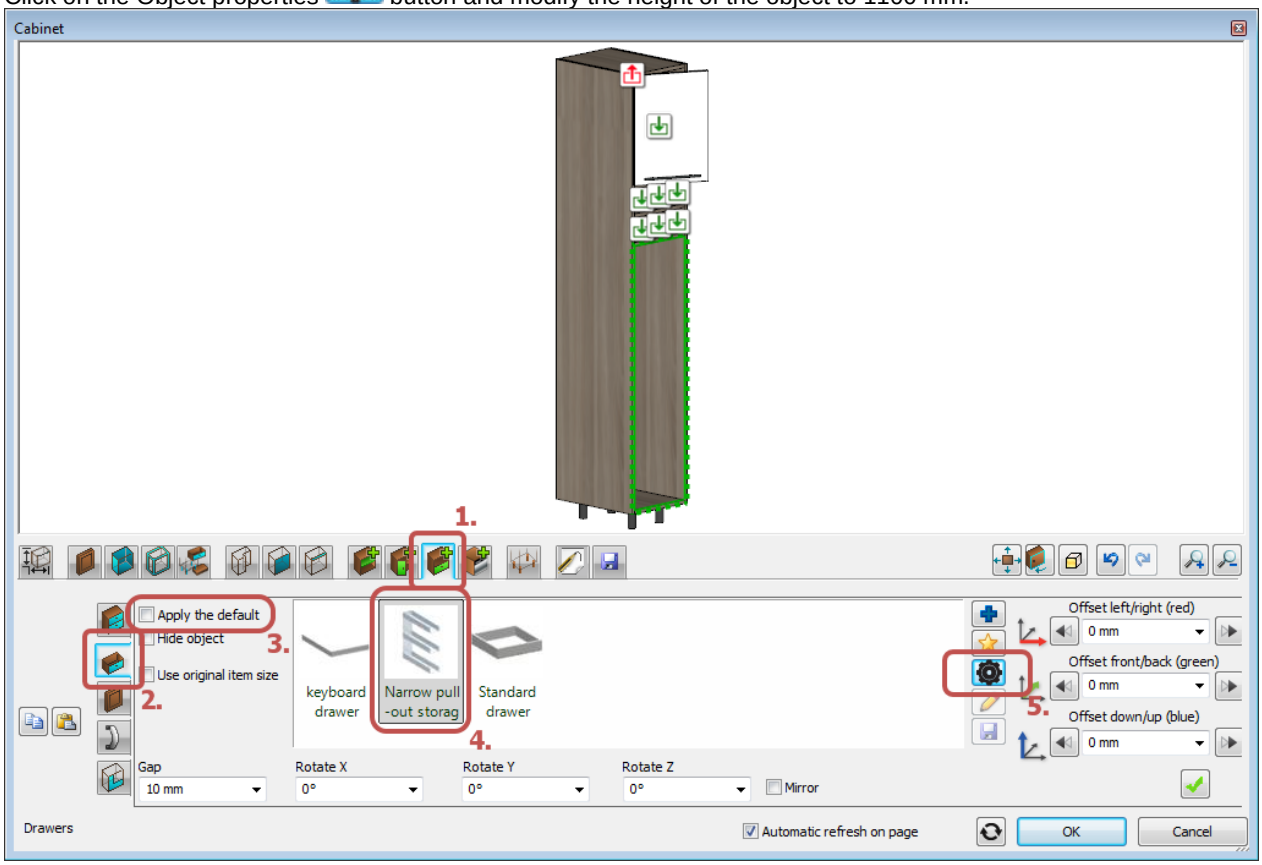
- Navigate to the Drawers page. Navigate into the bottom empty zone by clicking on the icon in it.

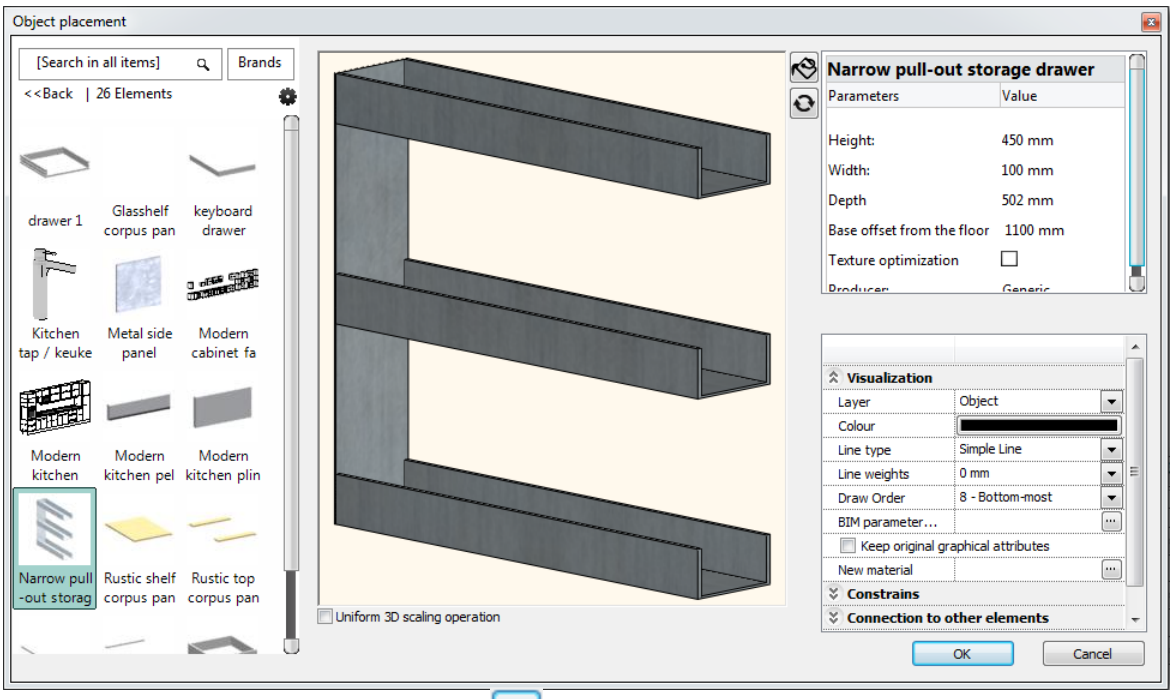


The current empty zone is marked by a green dotted outline on the preview, now you can add a new drawer into it.

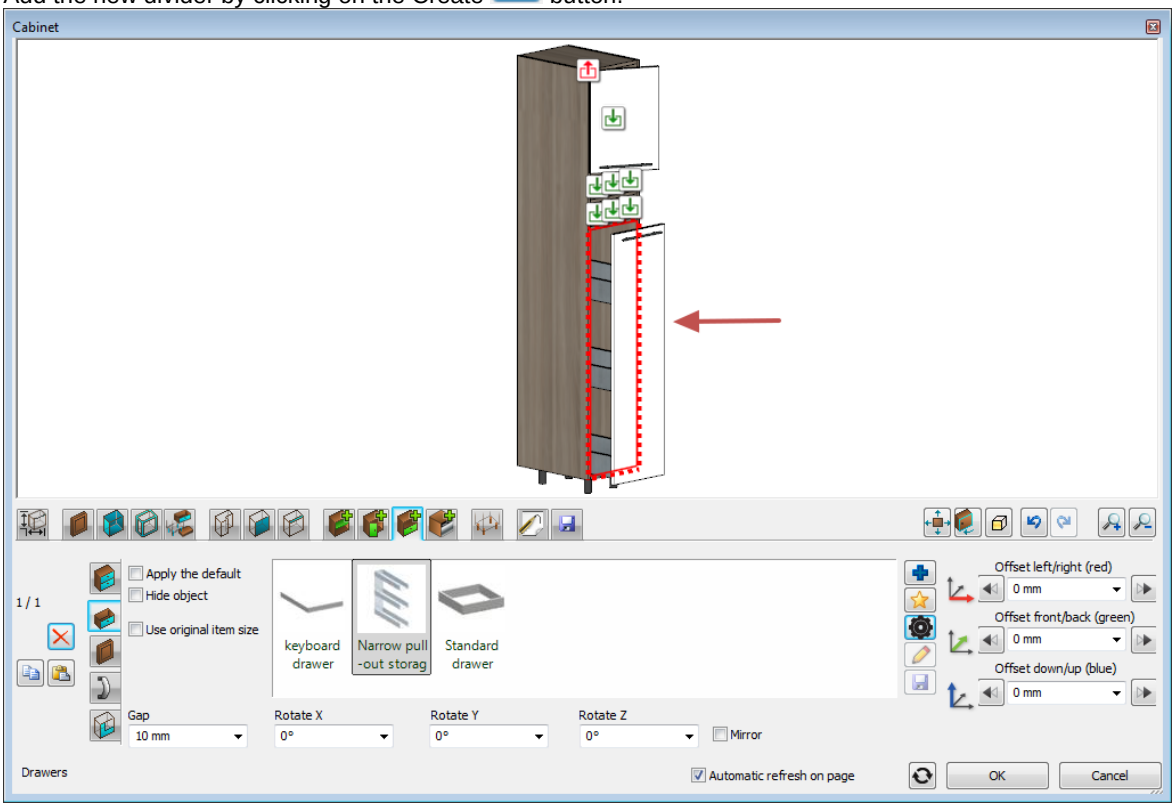
- Select “Single with front” drawer type.

- 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.

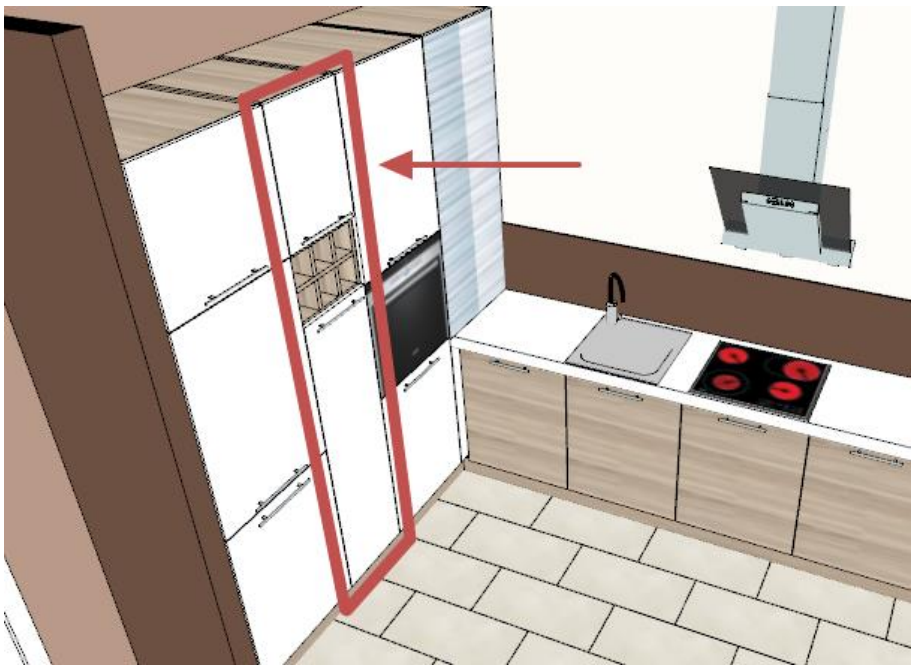




- Add the new divider by clicking on the Create button.



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.

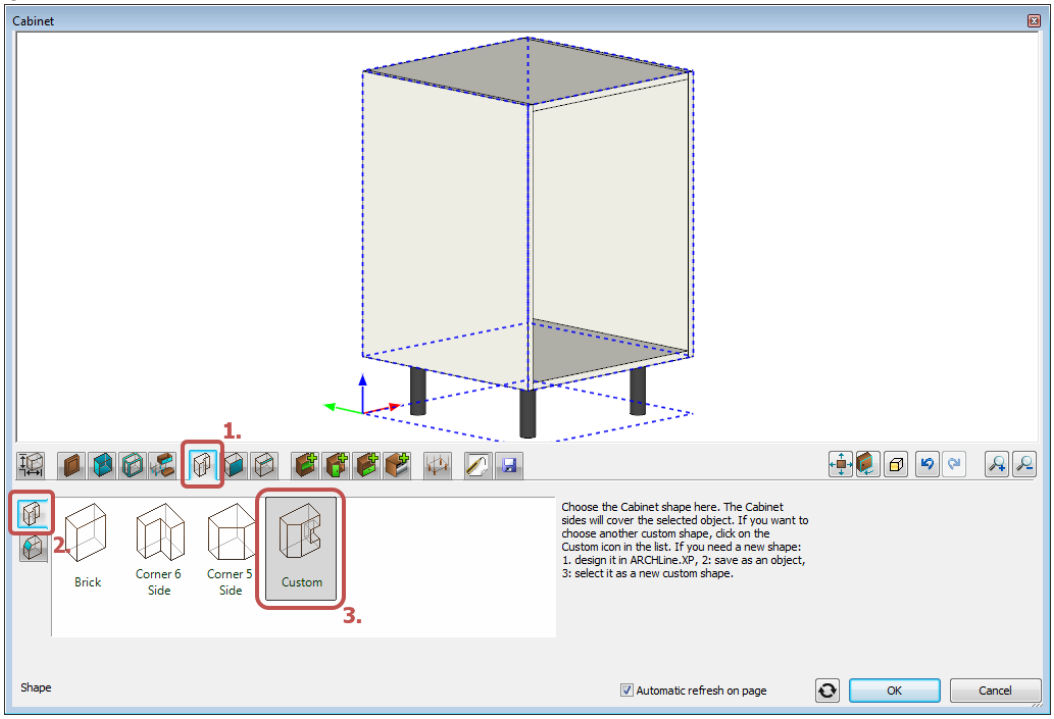
4.8. Creating a new custom-shaped cabinet

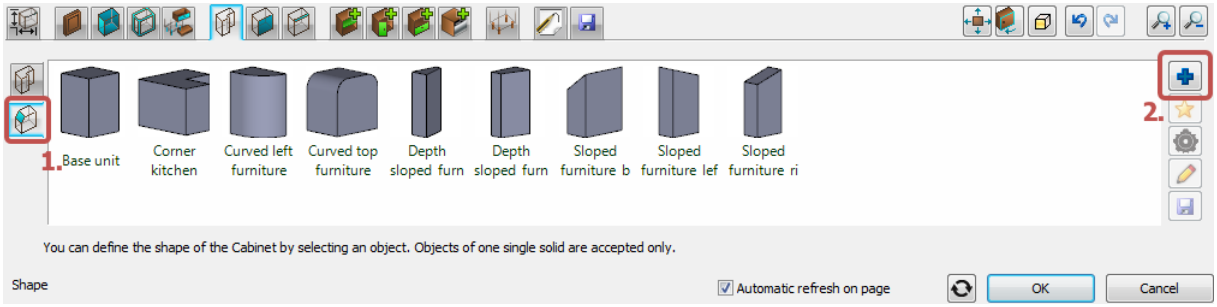
You can completely skip this section by placing the “WS Custom wall cabinet” from the Design Center

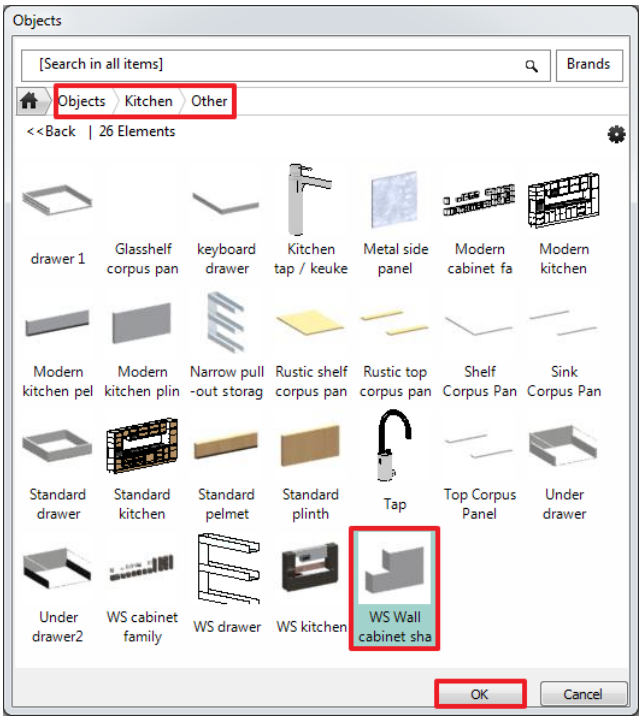
- Click on the Toolbox – Manufacture – Manufacturer tools – Customized cabinet command.

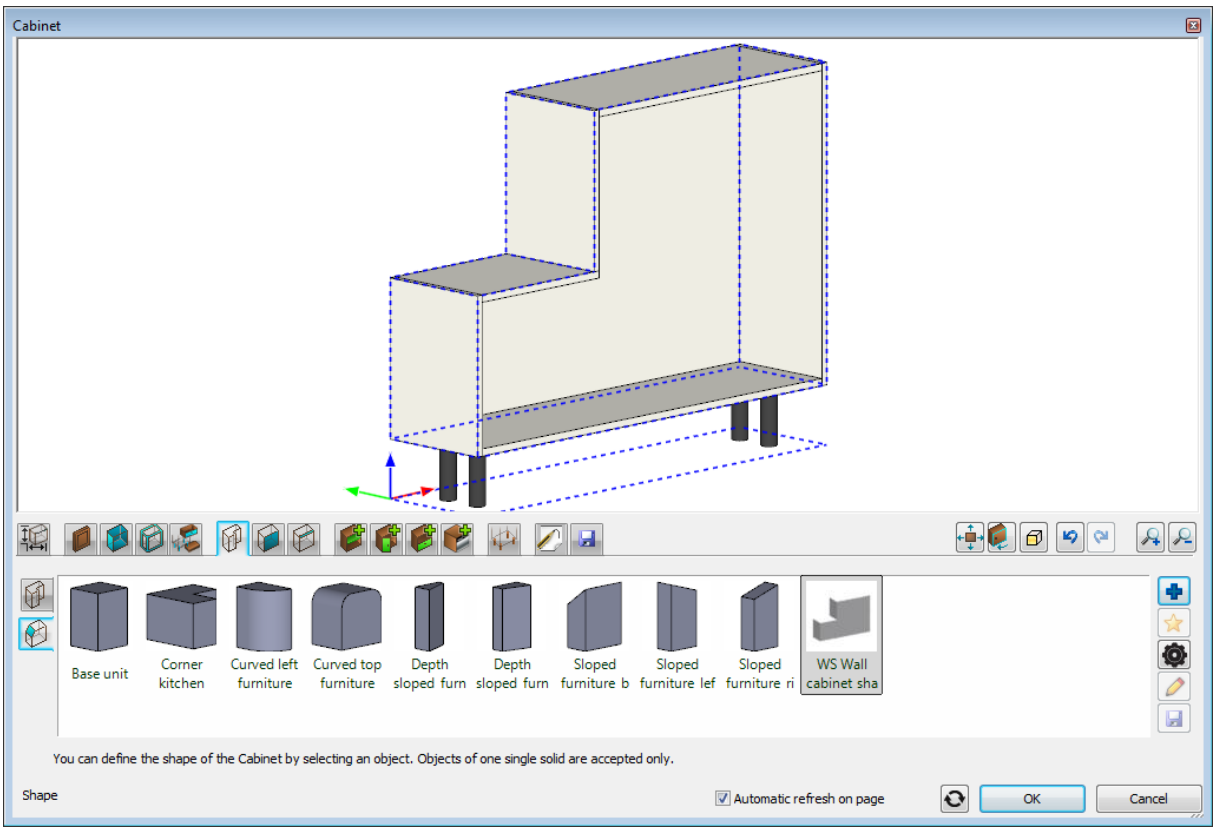
Define the shape and size

- 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”.

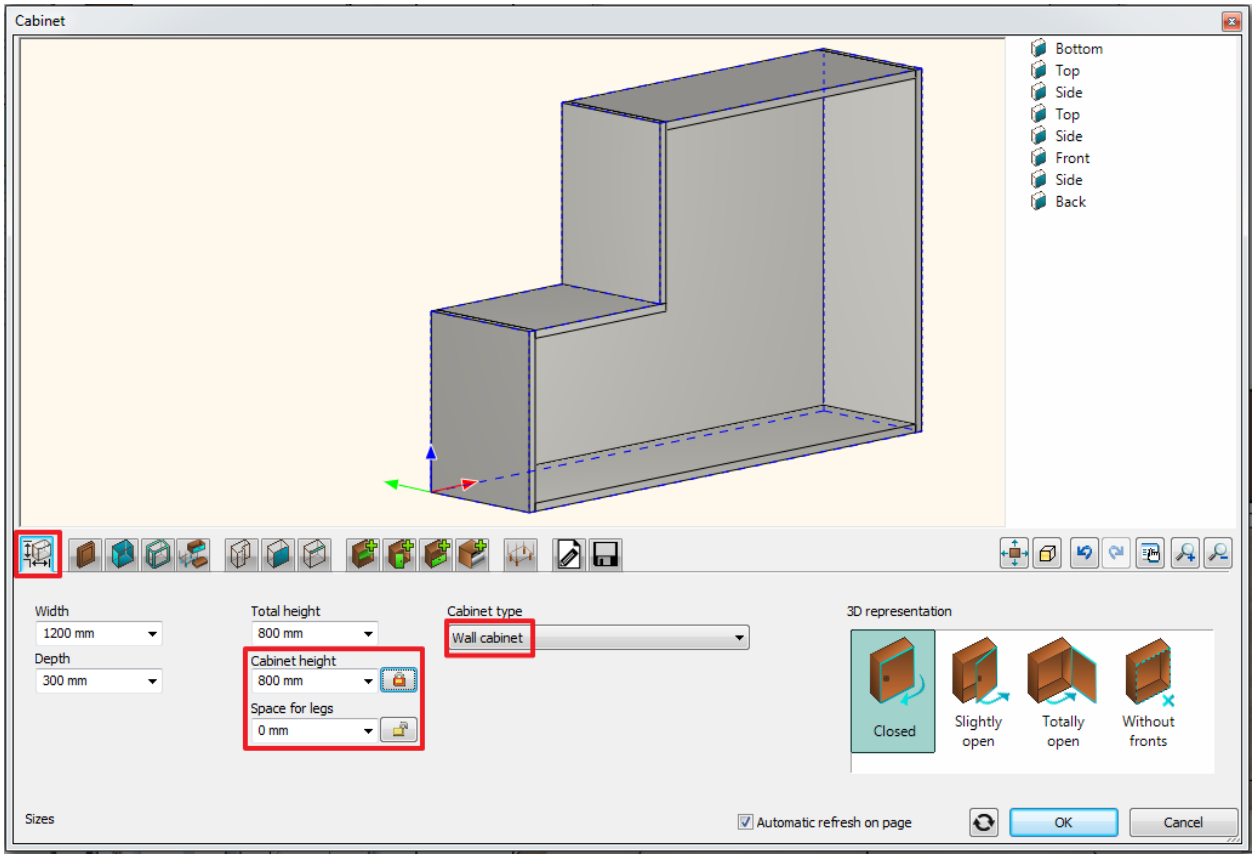



1.
Base unit
Corner kitchen
Curved left furniture
Curved top furniture
Depth sloped furn
Depth sloped furn
Sloped furniture b
Sloped furniture lef
Sloped furniture ri
2.
You can define the shape of the Cabinet by selecting an object. Objects of one single solid are accepted only.
Shape
Automatic refresh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

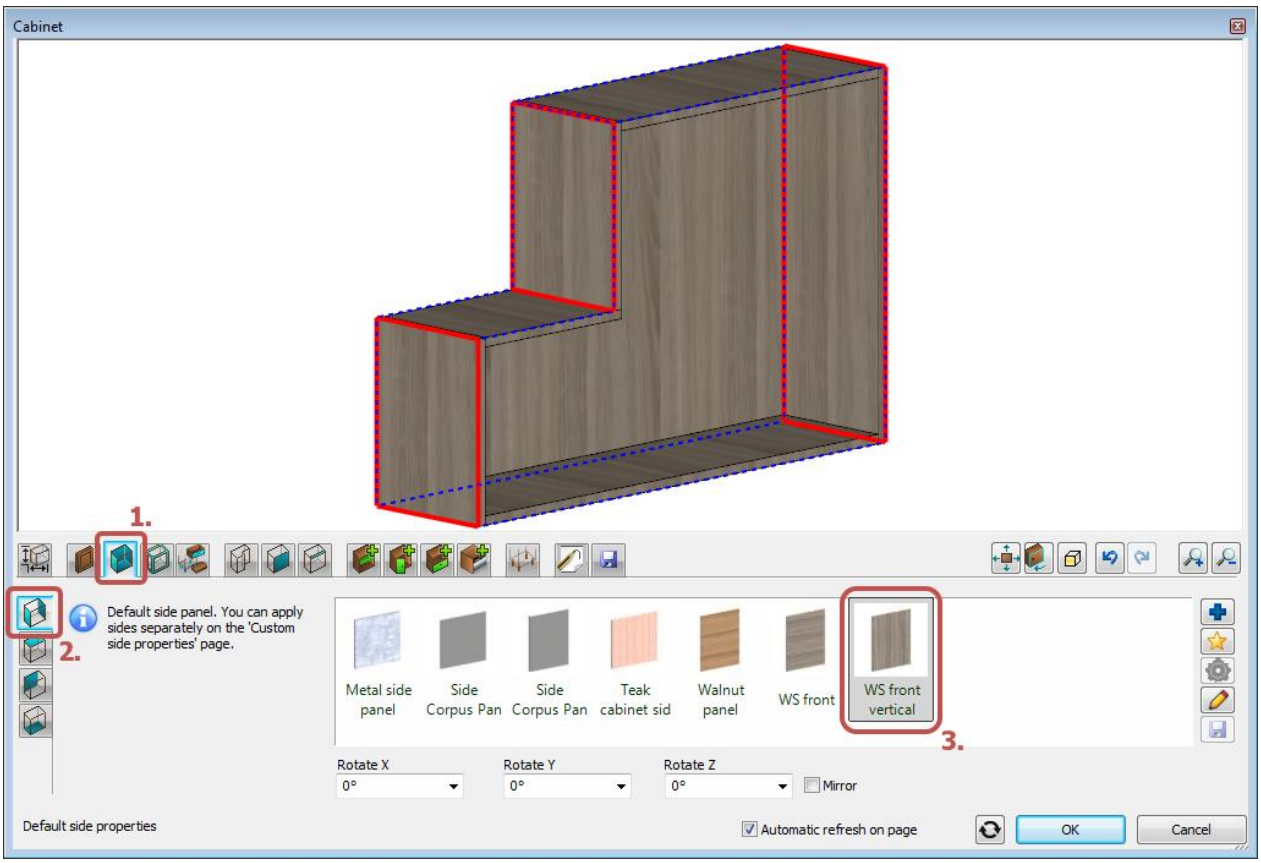
- Navigate to the Shape page. Set “Space for legs” to zero and “Cabinet height” to 800 mm. Select the “Wall cabinet” as “Cabinet type”.



Modify the defaults

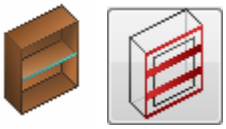
If you skip this step you can assign all the following settings to the cabinet later as well.

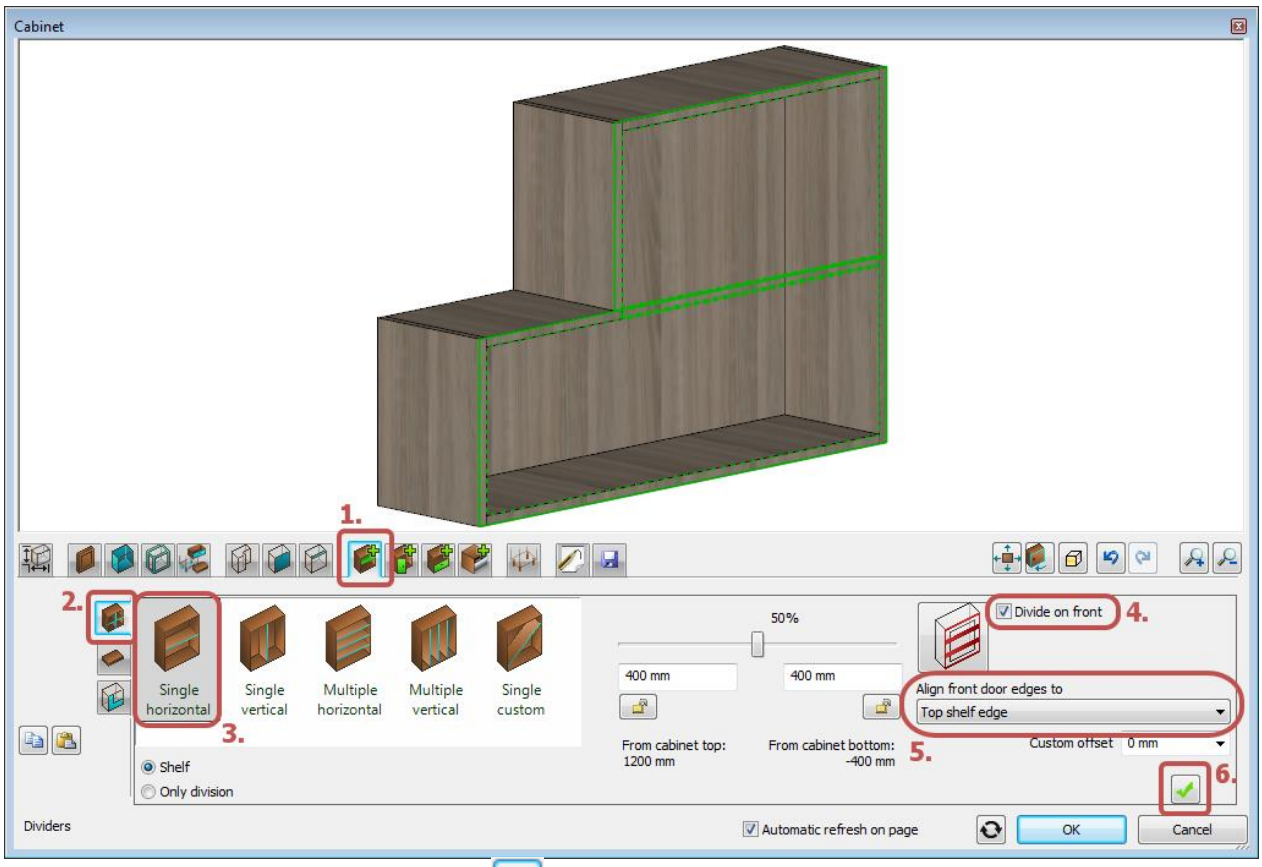
- Navigate to the General front properties page. Select “WS front white” as the default front from the category “Objects / Kitchen / Cabinet doors”.
- Navigate to the Door handle tab. Select “Bar handle straight 120” as the default door handle. (These settings haven’t any noticeable effect since we do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



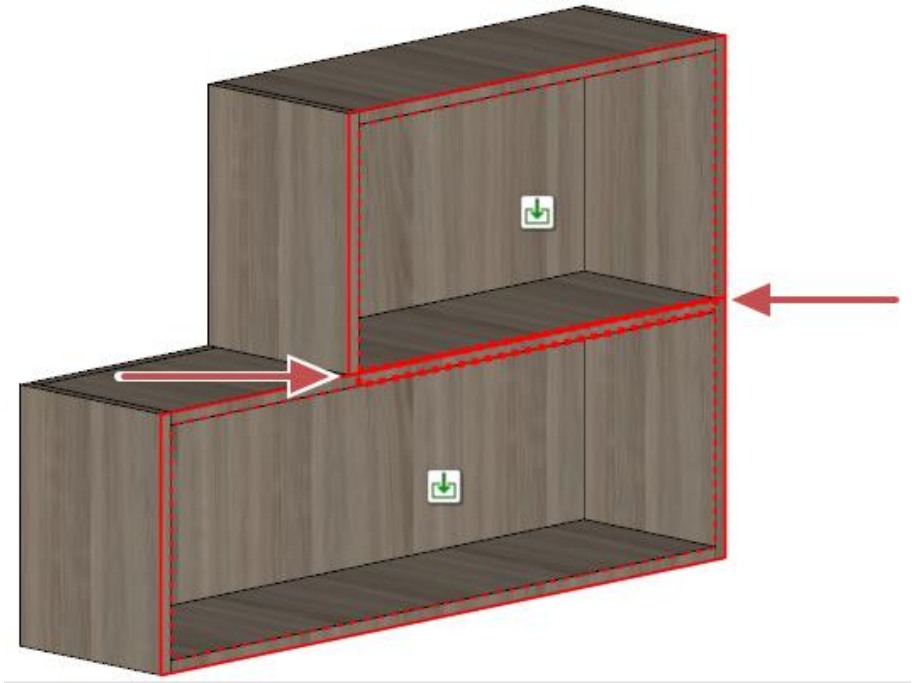
Add a horizontal divider

- 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”.



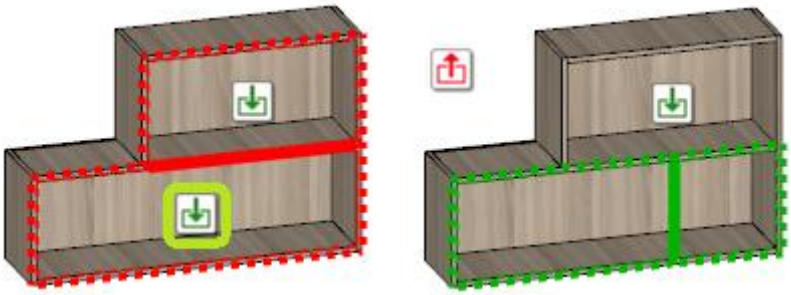


- Add the new divider by clicking on the Create button.



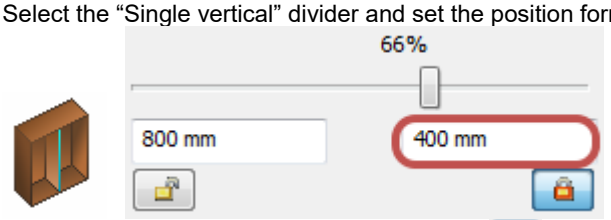
Add a vertical divider.

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

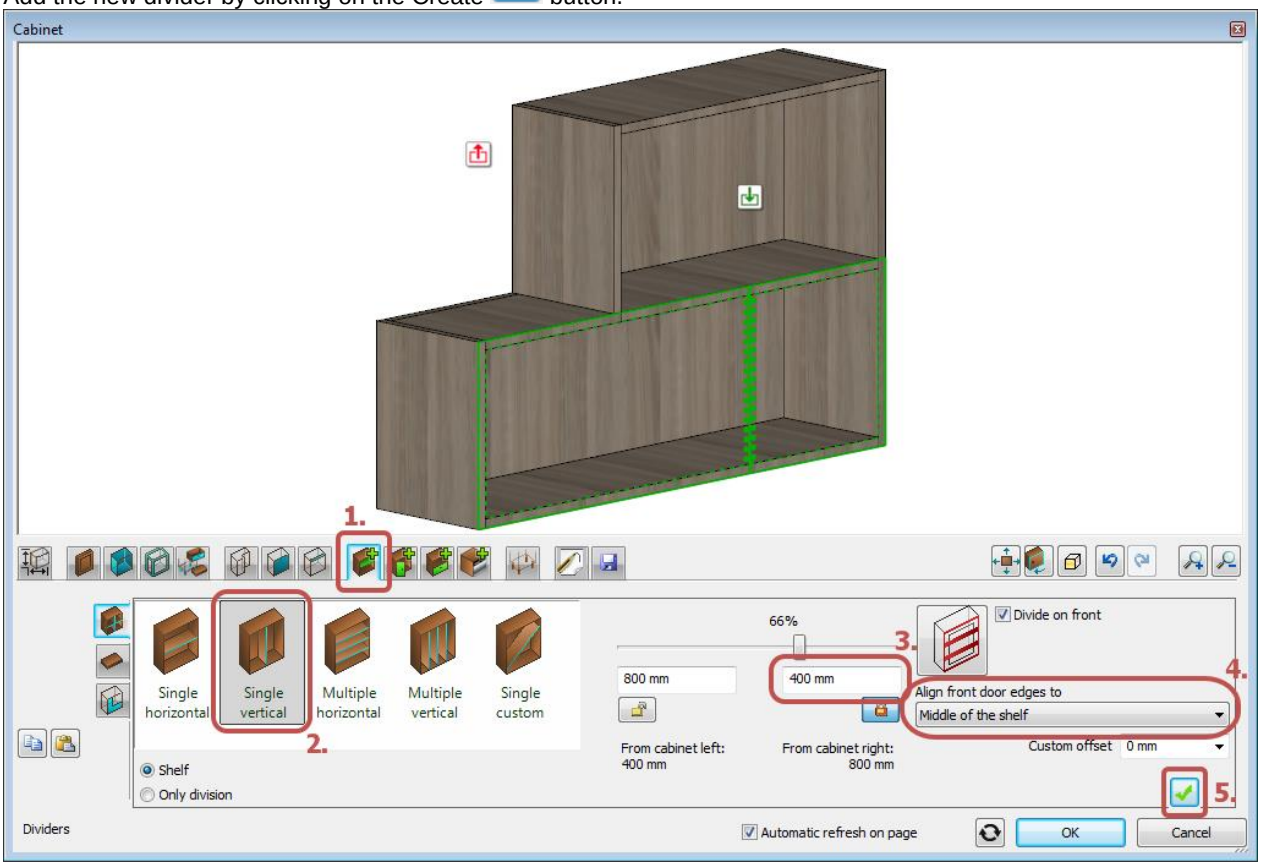


The current empty zone is marked by a green dotted outline on the preview, now you can add a new divider into it.

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

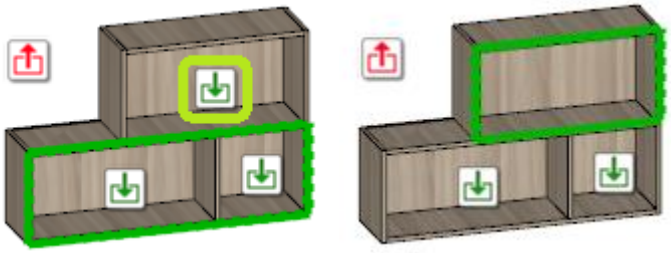


- Add the new divider by clicking on the Create button.



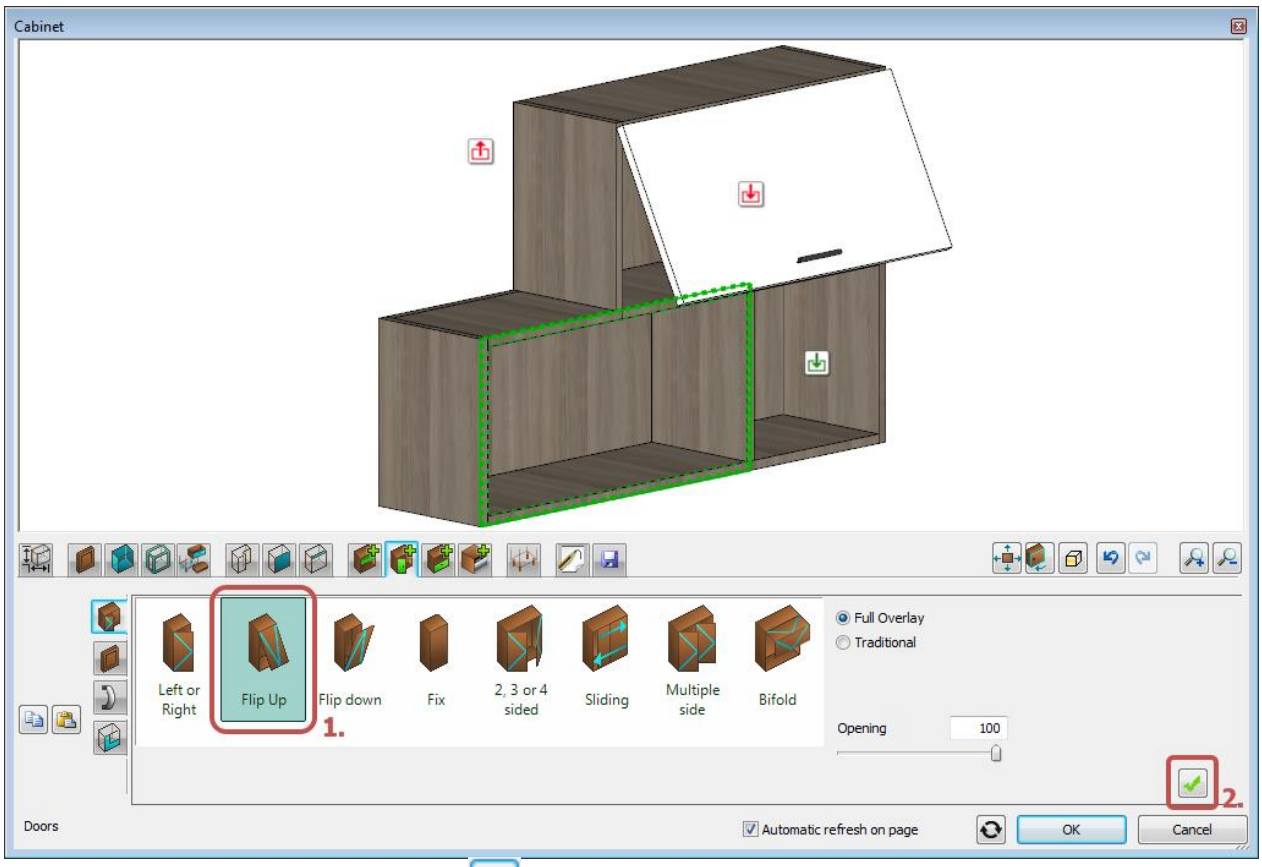
Add doors

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

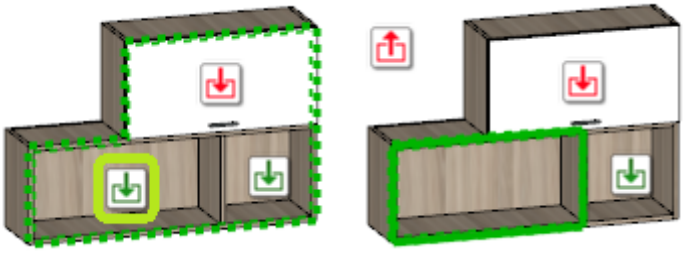


The current empty zone is marked by a green dotted outline on the preview, now you can add a new door to it.

- Select the “Flip up” door.

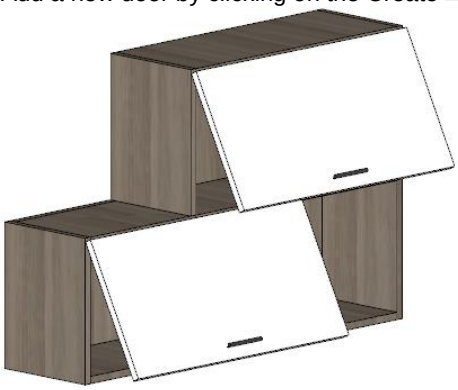


- Add the new door by clicking on the Create button.
- Navigate into the bottom-left empty zone by clicking on the icon in it.



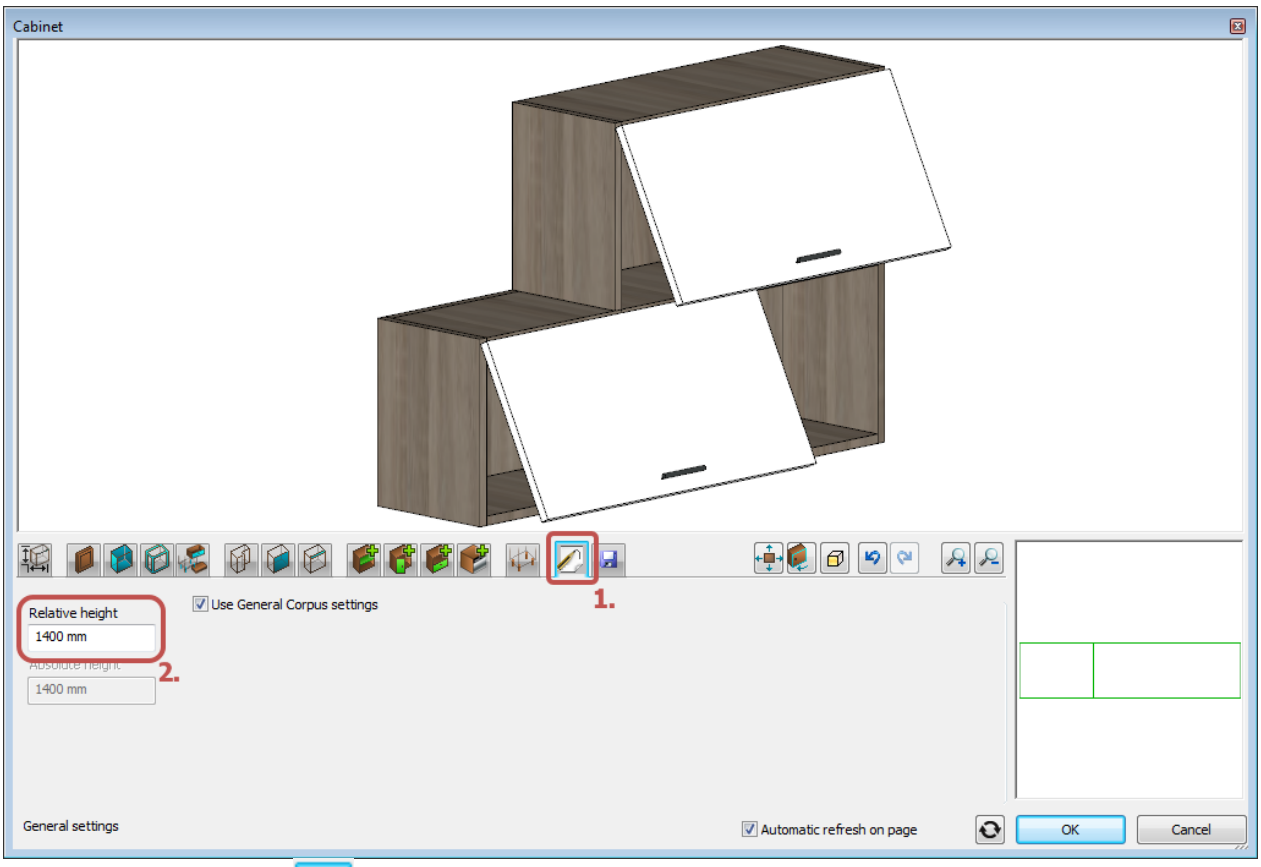
The current empty zone is marked by a green dotted outline on the preview, now you can add a new door to it.

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

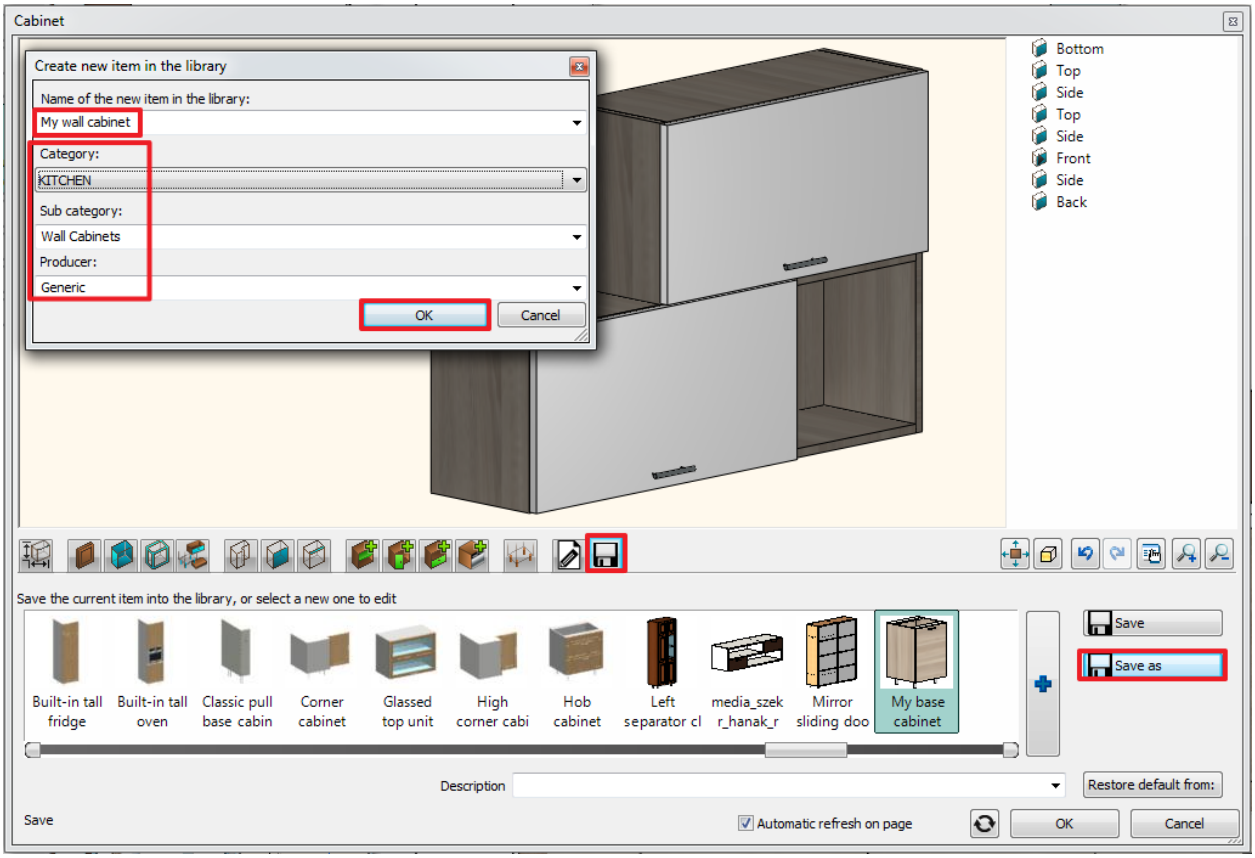


Save the object

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

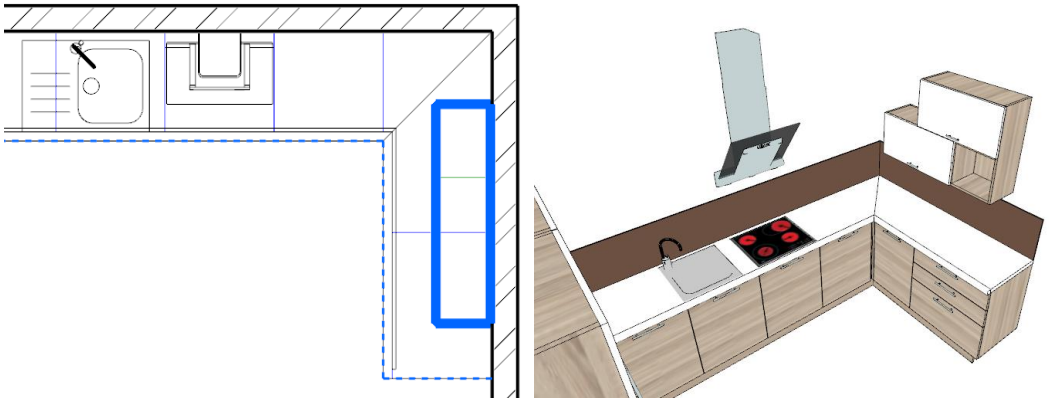


- Navigate to the Load/Save page. Click on the “Save as” button and save the cabinet into the “Objects / Kitchen / Wall cabinets” category.



Place the object.

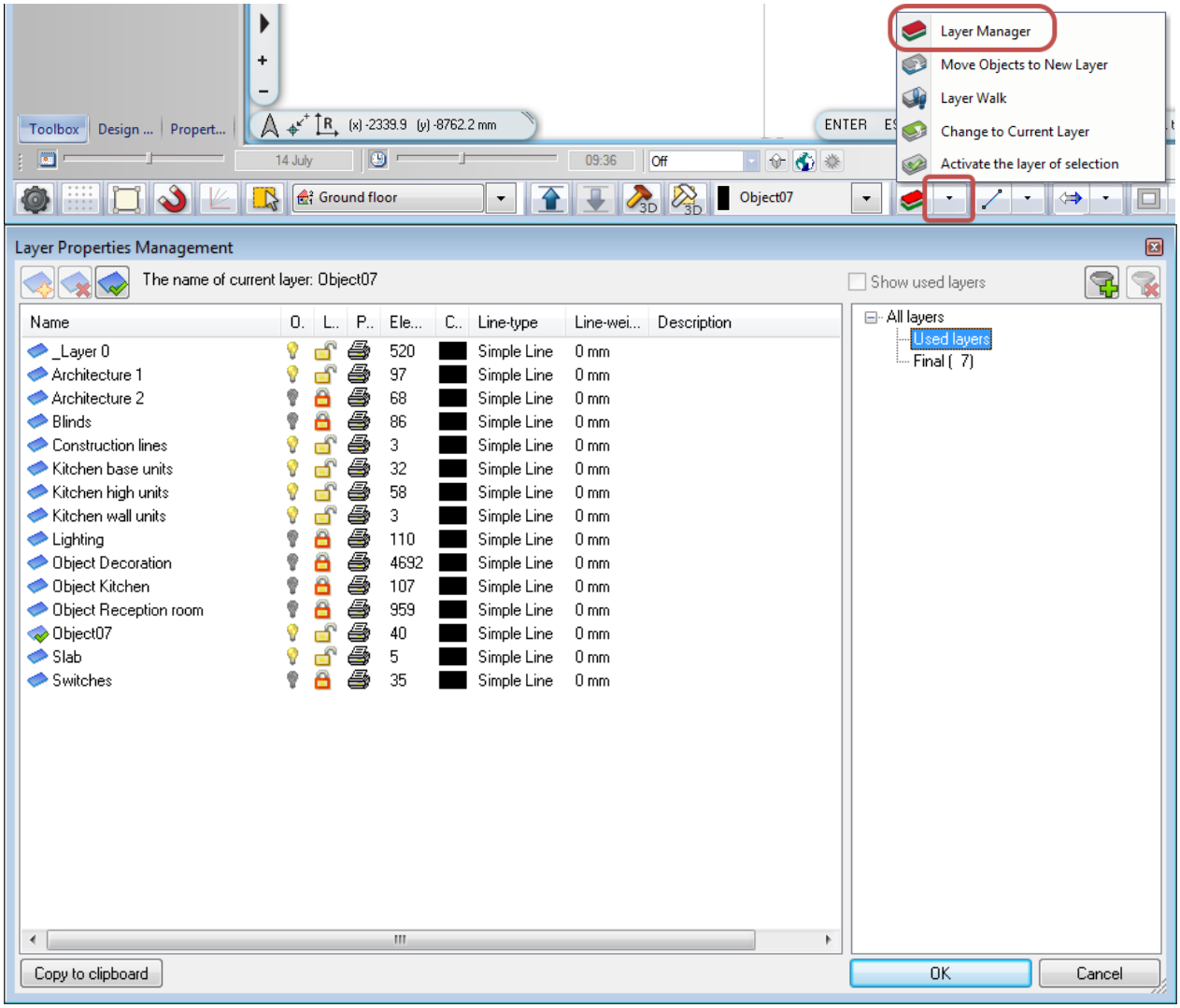
- Close the dialog and place the new cabinet with drag and drop to its position.



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.

4.9. Enable the visibility of the final drawing

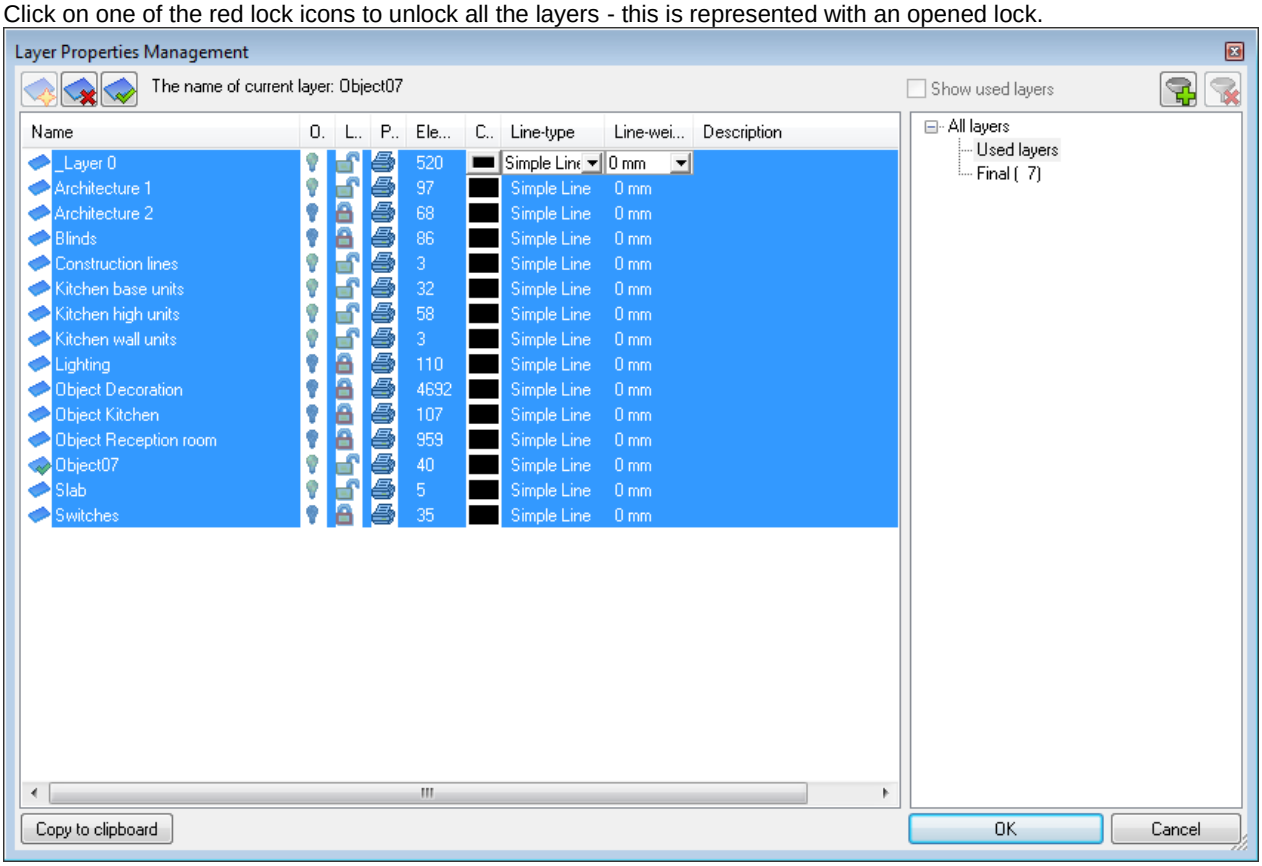
There are other objects placed on this drawing with the same methods described above. You can enable their visibility if you click on the Layer Manager.

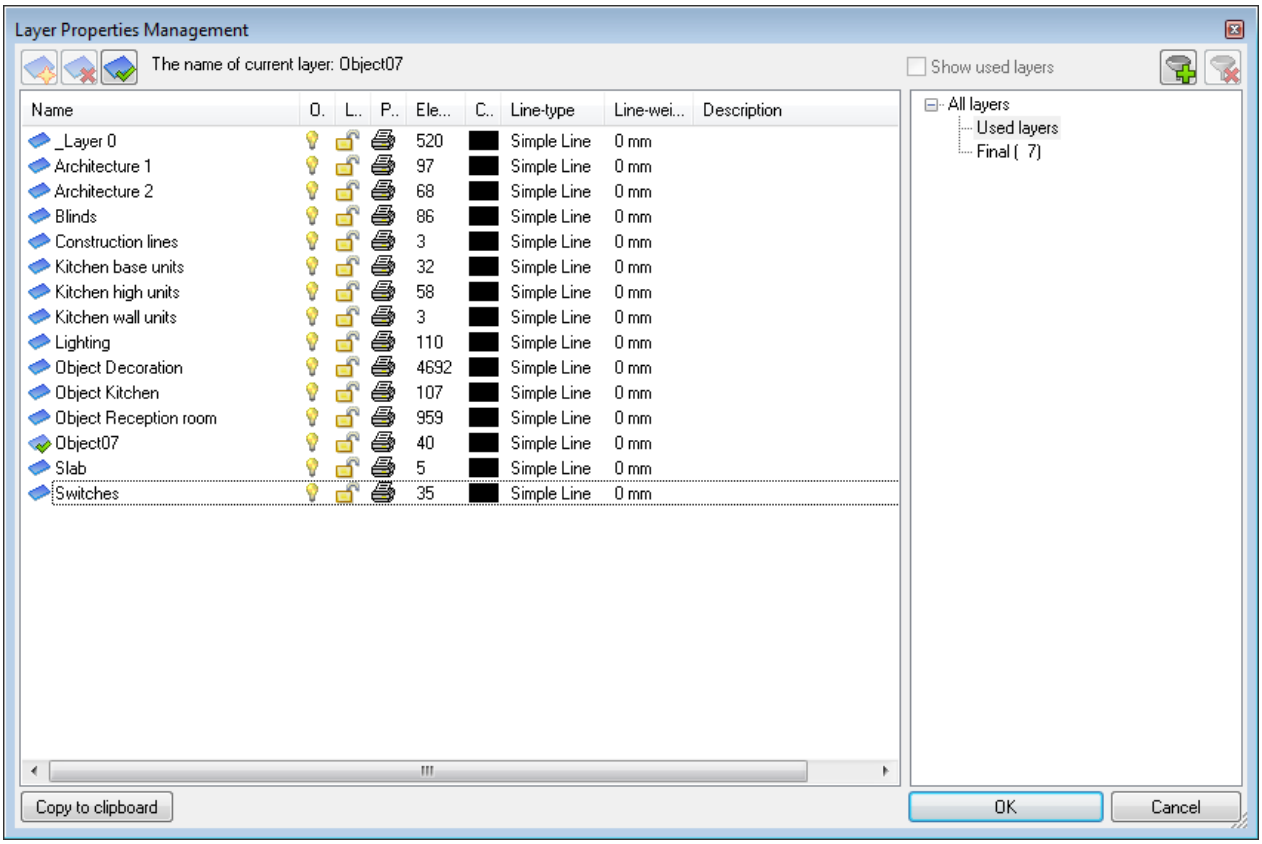


Enable the visibility of all the layers:

- 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.

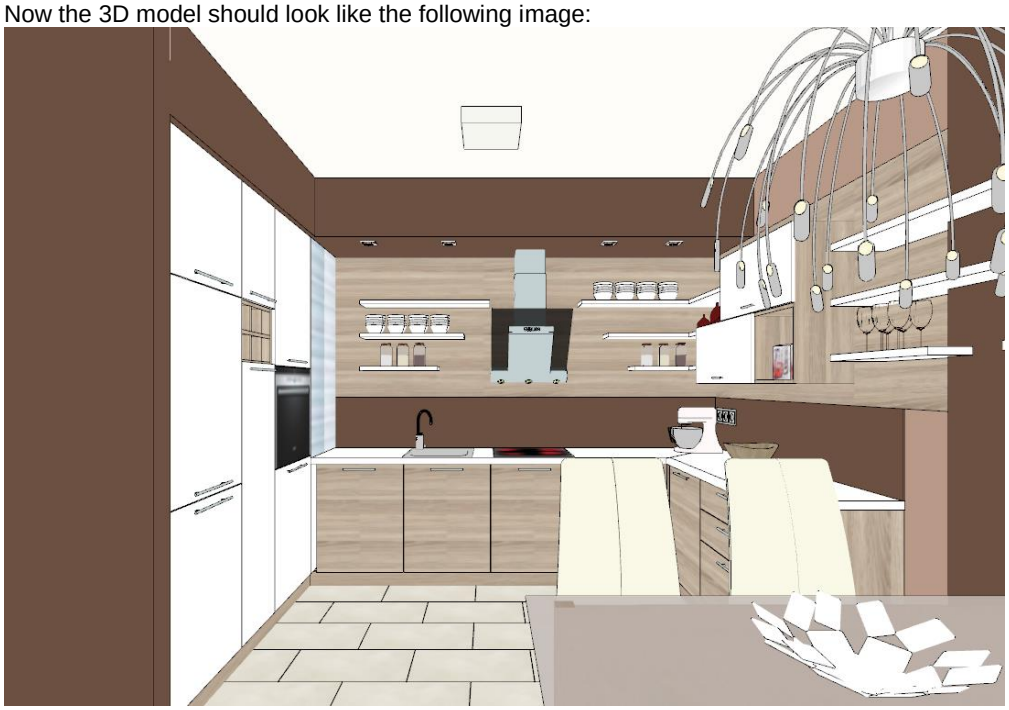




The 2D layout now represents all the objects.

- 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