

# *ARCHLine.XP® 2016*

## ***News***

### ***Release 1***

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# ***ARCHLine.XP 2016 is at the doorstep!***

ARCHLine.XP 2016 newest tools: powerful BIM solutions, wall framing, parametric beam and column extensions, recess in wall and slab, model to a photo, support of 3D printing makes the design process quicker easier and smoother. Last but not least: you should check out the brand new rendering modul!

Learn about new features and enhancements in the ARCHLine.XP 2016 release.

## **1. Interface evolution**

### **1.1. New Design Center categories and subcategories system:**

The items in the Design Center are arranged in major categories and subcategories system. Categories are intended to group together functionally similar items.

The number of major categories are fixed but any number of sub-categories can be created. The two-levels categorization system makes it possible to organize items into transparent structure to aid navigation.

#### **Compatibility:**

Opening projects made by ARCHLine.XP 2015 or earlier versions, the imported items are classified under the category of Other. The Other category is the only one displaying the items in ARCHLine.XP 2015 compatible structure. The sole purpose of this category is the compatibility with earlier versions. You can not create new items under the Other category.

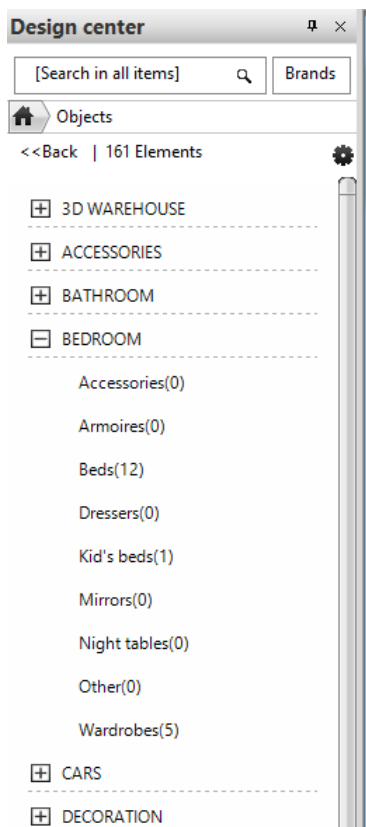
„My“ is a special category. Under the „My“ category you can arrange your own terms to create sub-categories, for example objects, textures, profiles are only used in a single project can be grouped here.

#### **Brands:**

The introduction of brands represents a new search facilities. Clicking the Brands button brings up the list of manufacturers belonging to the items in the Design Centre.

You can select one or more manufacturers which allows exclusive search for that items.

The structure of the Design Centre is shown below:



Clicking a category name brings up the subcategories of that category.

## 2. New tools

### 2.1. Professional Rendering quality

To create stunning images, ARCHLine.XP 2016 includes the first-class Redway3D Render engine. You can work with high level of quality, precision and material accuracy. You can easily render lifelike fabrics, textiles, leathers and wall finishes in daytime and night scenes. The new Render engine integrates on high level the interior lights with the sky and sun illumination.

Quick preview image, excellent light effects, the use of multi-core processors are all characterized to create photo realistic images just in a few minutes.

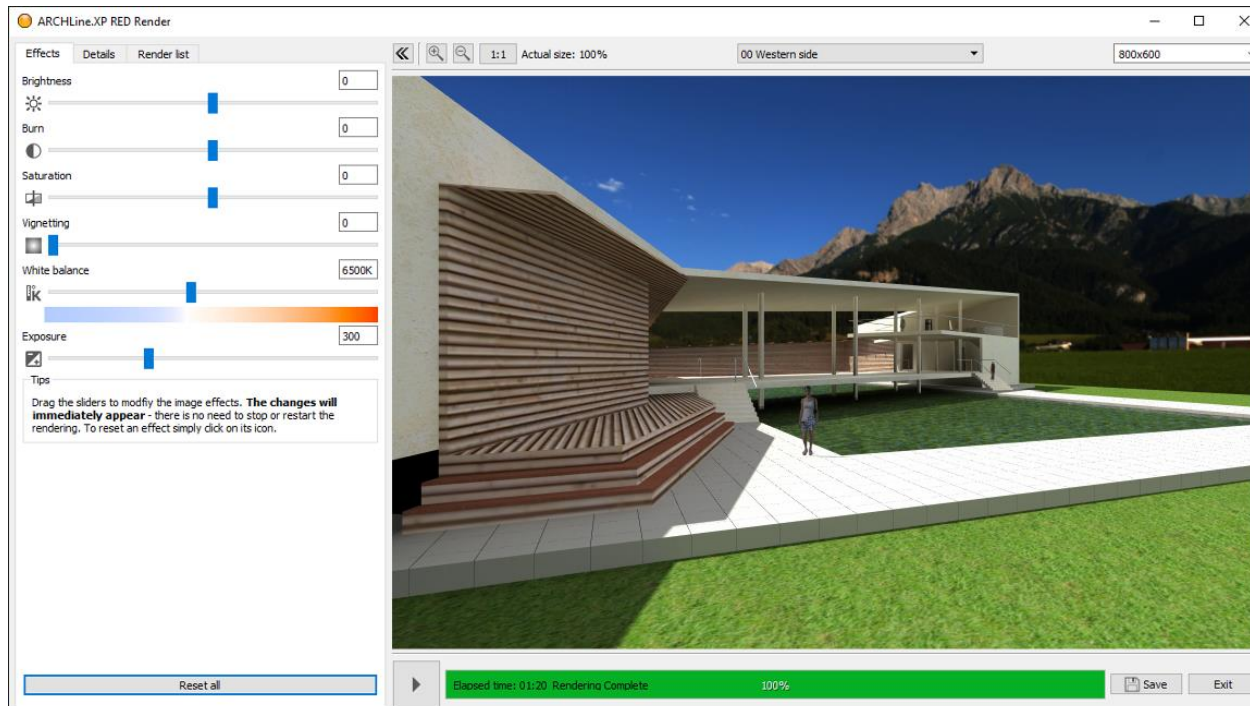


*Designed by: Andrea Nagy*



*Designed by: Gábor Scholtz*

The new rendering gives an answer for problems encountered in everyday design work as the Show hidden illumination or lights lit scenes mixed with a good balance. Due to the radically redesigned and treatment settings, the designer can receive in the first rendering enjoyable and lifelike images. Moreover, all this even without having to coordinate a variety of options.



*Designed by: László Péter*

The integrated 2D backgrounds and panoramic HDR images provides lifelike background. You can open your unique view photos and HRD background (so-called spherical panoramas) as well.

### 2.2. BIM That Works for You

The design based on BIM principles is rapidly gaining ground in the architectural and construction of the next generation of projects.

BIM is an intelligent design process. BIM is receiving and handling data for the efficient design and documentation of the project. The BIM-based design helps designers involved in the project, business co-operation.

The BIM standard IFC file format contains all of the building data in relation to information collected or added, and this format can be used during the entire life of the building.

The IFC format is a universal, neutral data format that is now considered as industry data exchange.

ARCHLine.XP 2016 supports the IFC 2x3 standard file format, that provides 3D and data exchange between different CAD / BIM design software.

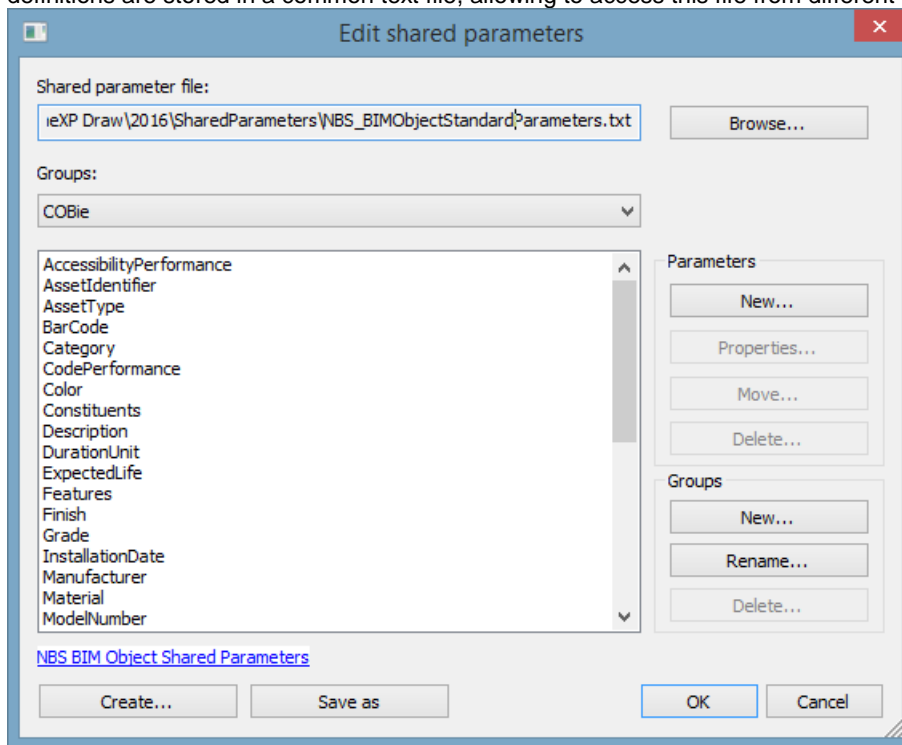
The most valuable feature of the IFC format to preserve the architectural elements of the IFC file types and their properties. The wall, ceiling, etc. properties remain the same, although a few compromise may occur at the level of today's technology.

THE IFC-based data exchange capacity is significantly higher than the content of the currently prevalent DXF and DWG-based data format information

### 2.2.1. Shared parameters

Shared Parameters have been developed in line with the BIM Object Standard. Shared Parameters allow the designer to create BIM objects. By using the BIM Object Shared Parameters the designer will gain consistency when scheduling and co-ordinating information.

Shared parameters are definitions of parameters that you can assign to styles or the project itself. Shared parameter definitions are stored in a common text file, allowing to access this file from different projects equally.

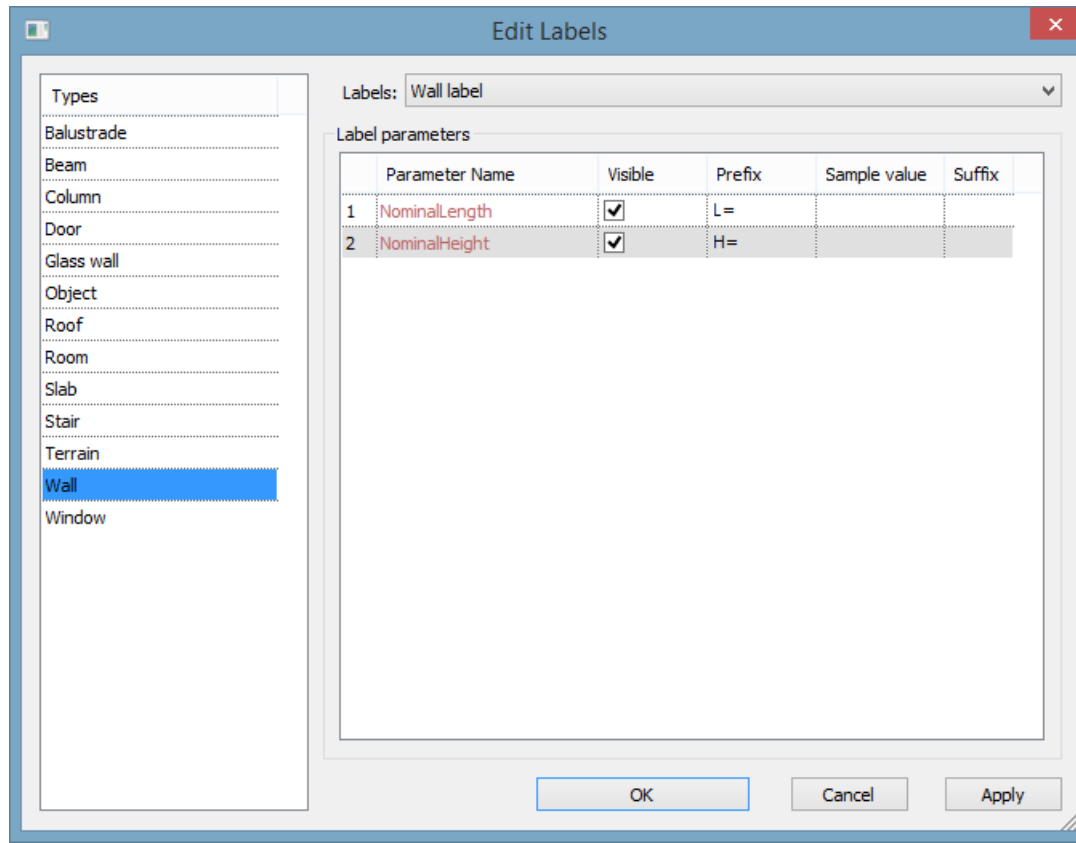


Note:

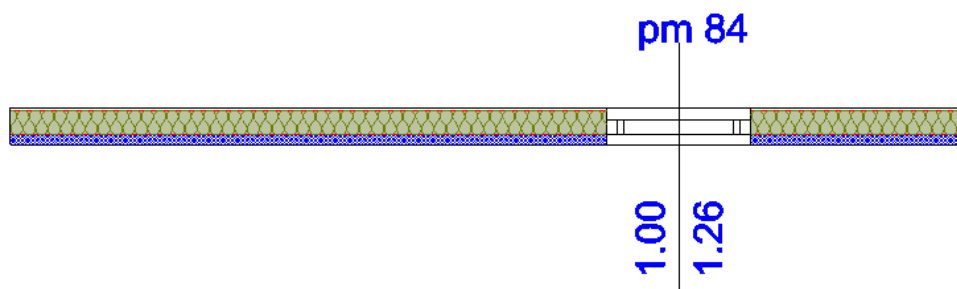
You can download a widely used standard NBS BIM Object Shared Parameters file from <http://www.nationalbimlibrary.com/nbs-shared-parameters>.

### 2.2.2. Annotation Labels

Annotation label is a powerful option for storing text (labels) to place on your drawing. Labels are associative so you can update the values displayed in the annotation labels on the drawing.



NominalLength L=6.615 m  
NominalHeight H=2.67 m



### 2.3. Wall Framing

The Wall Framing tool in ARCHLine.XP lets you generate timber structure for walls. Walls can be individually framed with the following framing parts, such as:

- Connections,
- Studs,
- Plates,
- Blocking,
- Cripple studs,
- Headers,
- Sills.

Wall Framing includes:



- Bottom plate
- Top plate,
- Wall stud – left,
- Wall stud – right,
- Inner stud,
- Cripple stud,
- Header,
- Saddle or sill,
- King stud,
- Horizontal bar"

The timbered buildings in the design you can specify the characteristics of the wall frame structure in detail. The allocation rules using settings according to the characteristics of the various systems work and of course arbitrary - you can use cross-sections too - even completely unique.

Doors and windows by changing the wall structure immediately create the necessary wall framing elements  
You can save the wall framing structures into style, so you can use them for new plans or you can even share the co-planners.

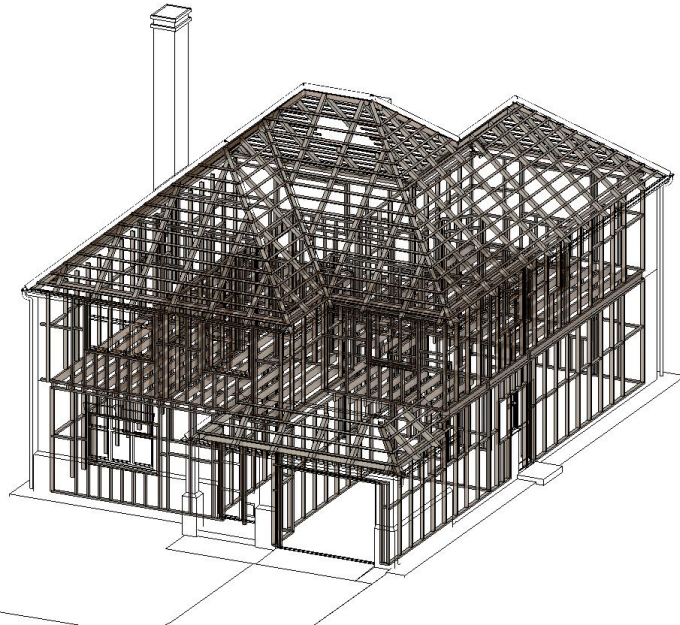
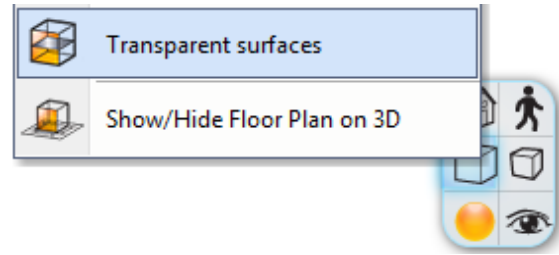
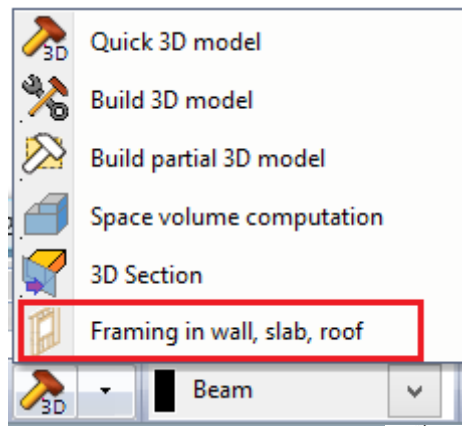


## 2.4. New 3D visual: Framing in wall, slab, roof

The Framing mode displays wall, slab and roof framing together with the entire building. When you work in this mode you can visualize the framing elements with colours and the building is behind them in wireframe.

To visualize the Framing structure of the building in 3D view, click on Transparent surfaces command in the 3D Navibar.





## 2.5. Cutout - Recess - Attachment

Recess or niche is a void element hosted in the wall, slab, column and beam, where the thickness of the recess is smaller or equal than the thickness of the wall, slab, column and beam. Recess in wall works similar to window or door when you place it into the wall. You can edit its profile, sill height, texture and distances from the wall endpoints.

### 2.5.1. Recess in wall

Recess or niche placement is very similar like placing window or door in the wall. The profile parameters can be set individually or edit later. You can edit the niche elevation, the profile shape and size, the texture and the distance from wall endpoints.

A niche formed by recessed lighting trim function fills the room and provides a spectacular appearance.



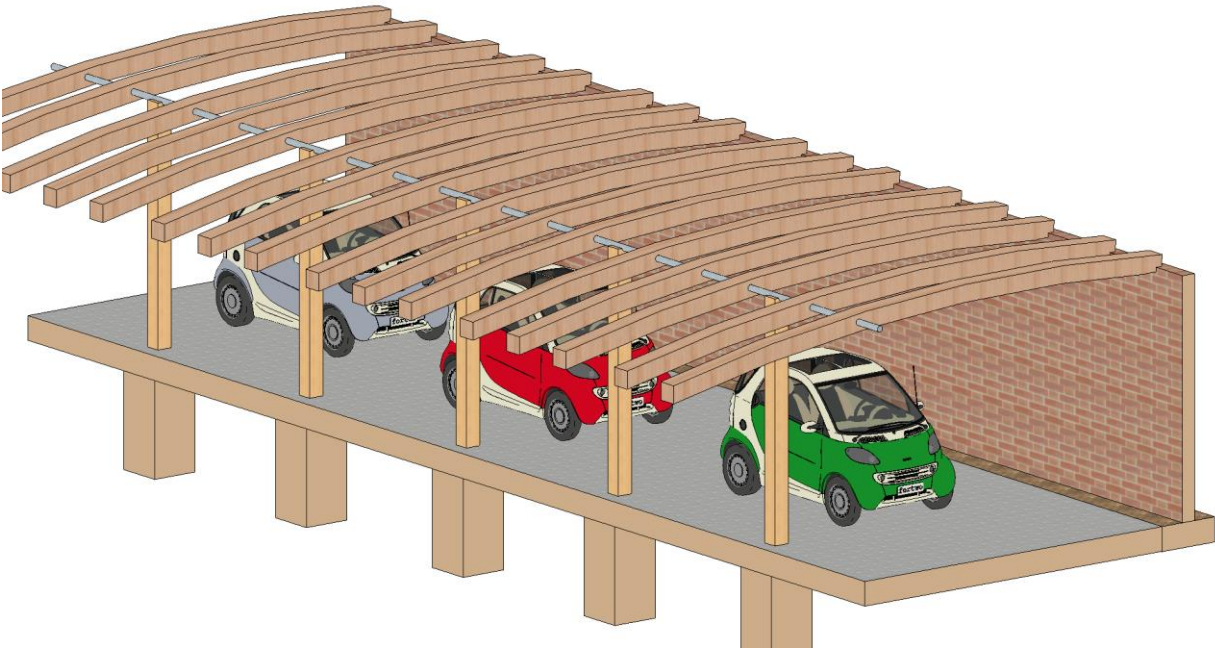
### 2.5.2. Recess in slab

In the case of slabs the recess contours are freely editable. The lowering, cover material can be freely adjusted or breakthrough can be made.

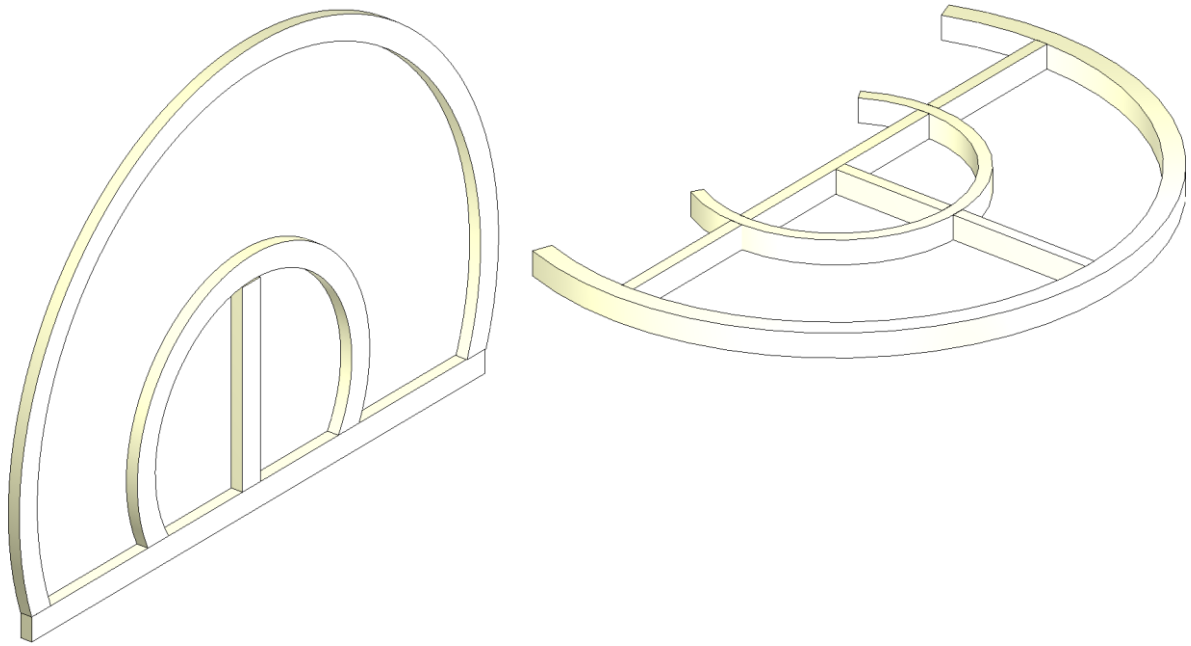
## 2.6. Beam and Column extensions

### 2.6.1. Arched beam

Custom Arched Beams are commonly used as a design element in trusses. Arched beams allow you to create structural or wood designs on vaulted ceilings or archways.

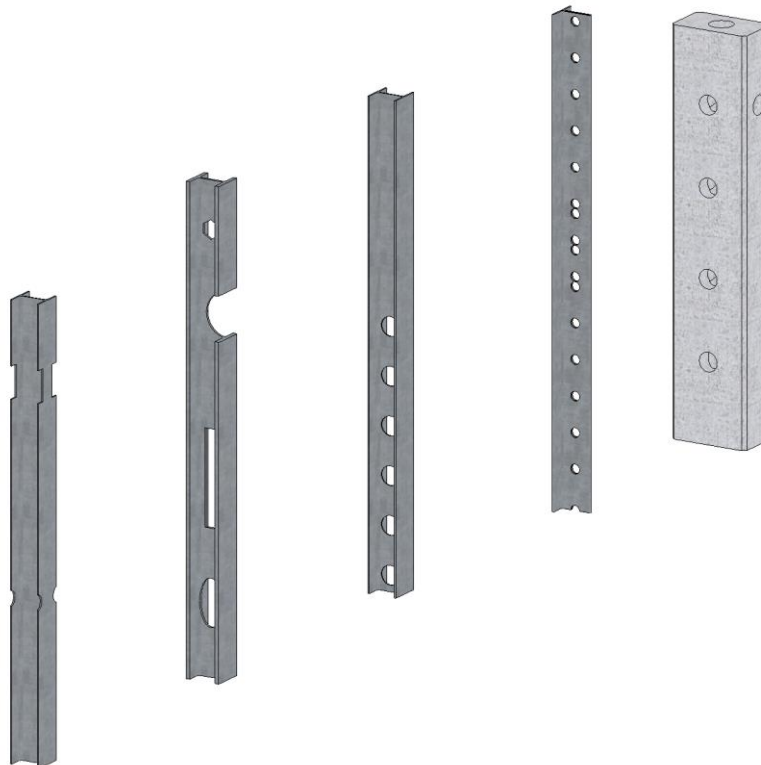


You can create arched beams in vertical and horizontal direction as well.

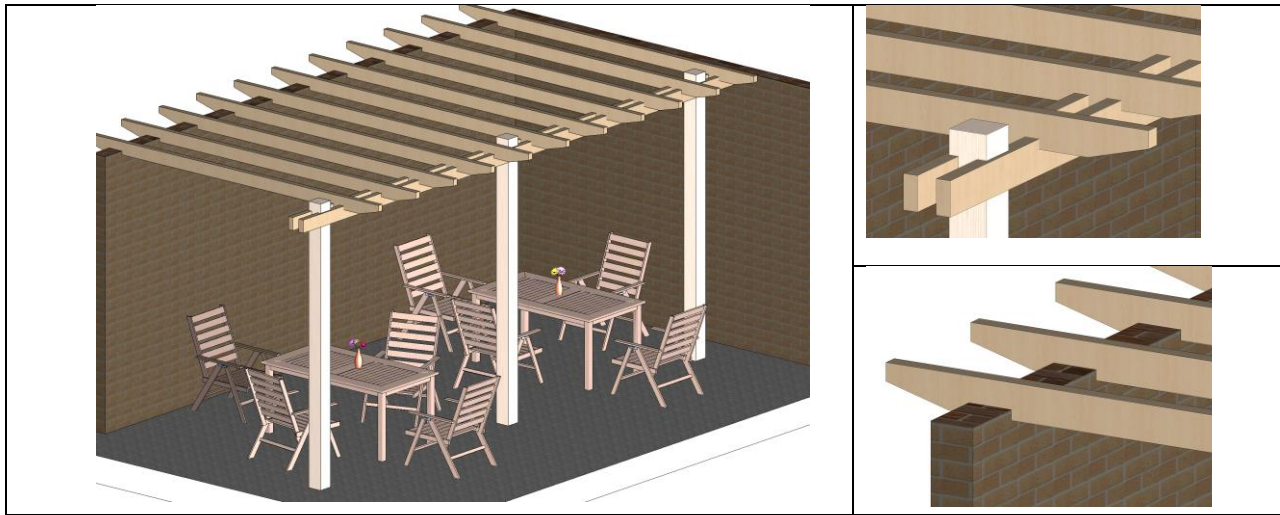


### 2.6.2. Column and Beam with parametric recess and cutouts

Column and Beam has been greatly improved with a completely parametric implementation of recess and cut-out. Using the subtraction operations you can have greater control over your wood or reinforced concrete structures..



### 2.6.3. Beam and column node example:



## 2.7. 3D Printing support

You can export the 3D model in the .STL file format compatible with stereo lithography.

This file format is widely used for rapid prototyping, 3D printing and computer-aided manufacturing to create physical parts and models.

STL files describe only the surface geometry of a three-dimensional object without any representation of color, texture.



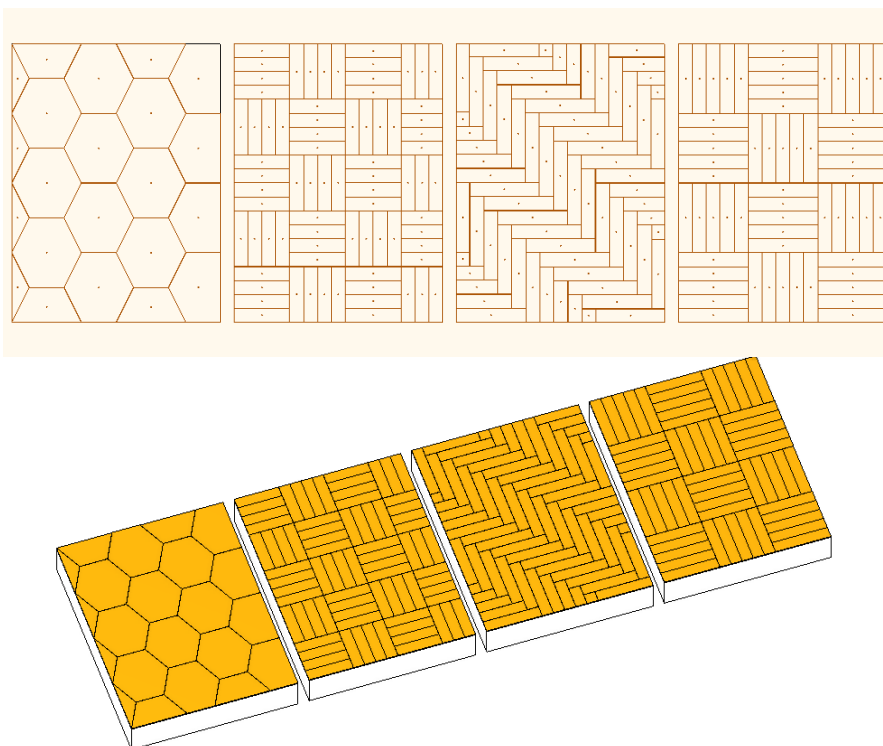
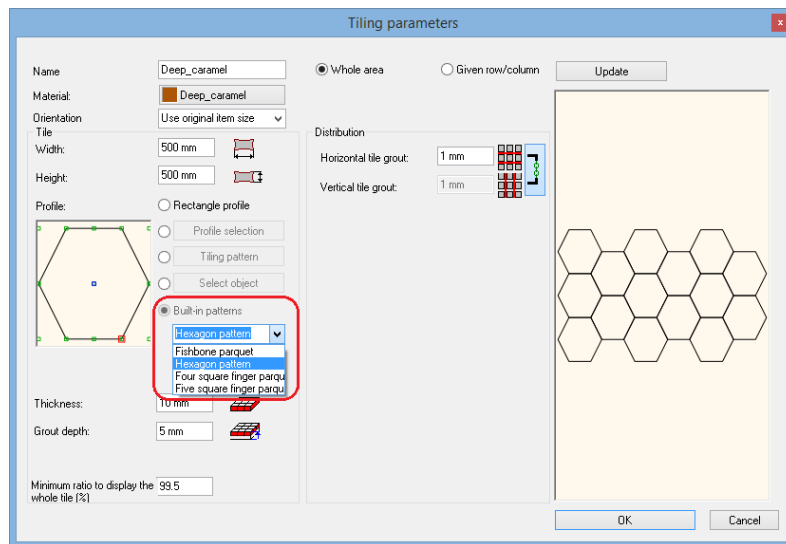
## 2.8. Tiling with predefined patterns

Laying wall and floor tiles are extended with 4 popular patterns:

### **Tips:**

- ❖ Herringbone : each rectangular tile is laid at 90 degrees to the one next to it, creating a "fish bone" pattern
- ❖ Hexagon three hexagons meet at each vertex
- ❖ Four square finger parquet
- ❖ Five square finger parquet





## 2.9. Model to a photo

Model to Photo tools enable you to align a photo of an architectural site with the 3D model.

This method requires a set of point correspondences between characteristic edges of the 3D model and their respective depictions on the photo you want to match to.

There is no need for exact distances.

It means the following steps to perform:

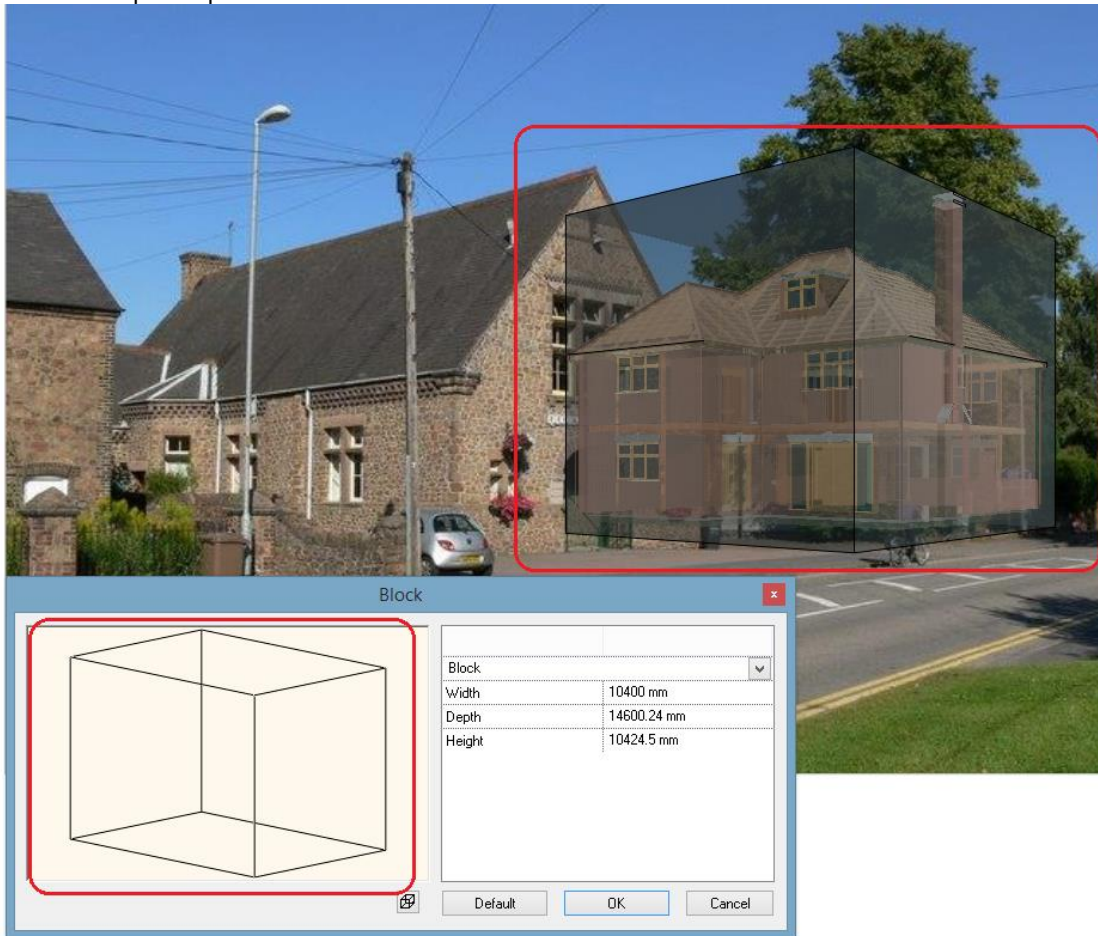
- ❖ Import Raster Image
- ❖ Define a reference box and use it later to find the approximate viewpoint on the photo.
- ❖ Set up perspective view.
- ❖ Refine perspective view
- ❖ Create the photorealistic image
- ❖ Edit matched photo

### 2.9.1. Model to a Photo: Define a reference box

Select *Add-on/ Method I. - Estimation / Set up Reference 3D model* command.

This command is a necessary step prior work on aligning 3D models to photo.

It is recommended to define the reference box with the size of the enclosing box of the 3D model. Later you will align this box to the imported photo.



### 2.9.2. Model to a photo : Set up Perspective

The established correspondences is in turn allow to find an approximate viewpoint of the 2D depiction with respect to the 3D model.

This command works with perspective guide lines.

1. **Vanishing point bar:**

The two red bars with dashed lines should match characteristic edges on the photo on one side, and the two green bars with dashed lines should match lines on the other side. You find square marker on each end. Click and drag the grips to align these bars with characteristic edges on the photo.



Use the zoom in and out commands with the mouse wheel to make sure your lines are as accurate as possible.

2. **Horizon line:**

This blue horizontal line aligns with the horizon in your model. You can move up and down the horizon line according to the photo but most of the times the horizon line takes care of itself.

3. **Axis bars:**

The solid green, red, and blue lines represent each axis. As you adjust the vanishing point bars, the axis bars move automatically

4. **Axis origin:**

The origin is where the three axes meet. Click on this marker and drag to align this point to locate the 3D model properly on the photo.

5. **Scale marker:**

Click on this marker and drag up and down the blue axis bar to scale the 3D model on the photo.

6. **Turn and move marker:**

Click on this marker if you wish to rotate the model with 90 degrees or relocate it with a specific point.



### 2.9.3. Model to a photo: Refining perspective

You can continue to find more precisely the approximate viewpoint of the 2D depiction any time by selecting *Add-on / Model to a Photo / Method I. - Estimation / Refine perspective* command. The command offers the same tools like described in the previous chapter.

### 2.9.4. Model to a photo: Edit matched photo

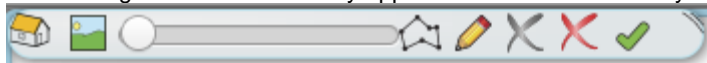
This command allows you to make the necessary corrections on the rendered image. You can often face typical problems such as for example when the side of the building covers the adjacent building in the photo. To overcome these obstacles, you need to edit the image.

Click on the images to start the editing.

Now you have two images on the drawing in a group. The first file contains the photo with the model in it and the second one contains only the photo. The size and the colour of the second image correspond to those of the first one.

#### Image editing floating toolbar

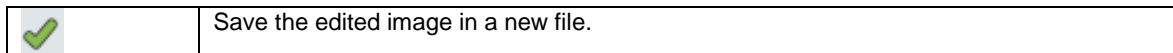
The floating toolbar automatically appears on the screen when you click on the images to start the editing.



The following table explains the individual functions on the Image editing toolbar

Icon	Command
	Use this function to move forward the rendered image
	Use this function to move forward the the result of the two images
	The degree of transparency of the rendered image can be adjusted between 0% (fully transparent) and 100% (opaque)
	Use Polygon to draw and copy a part of the background image to the rendered image.
	Edit any of the polygons. Click inside the polygon to start editing.
	Choose a polygon to delete
	Delete all polygons





1. Rendered image on top



2. Transparency slider to adjust the transparency of the rendered image.



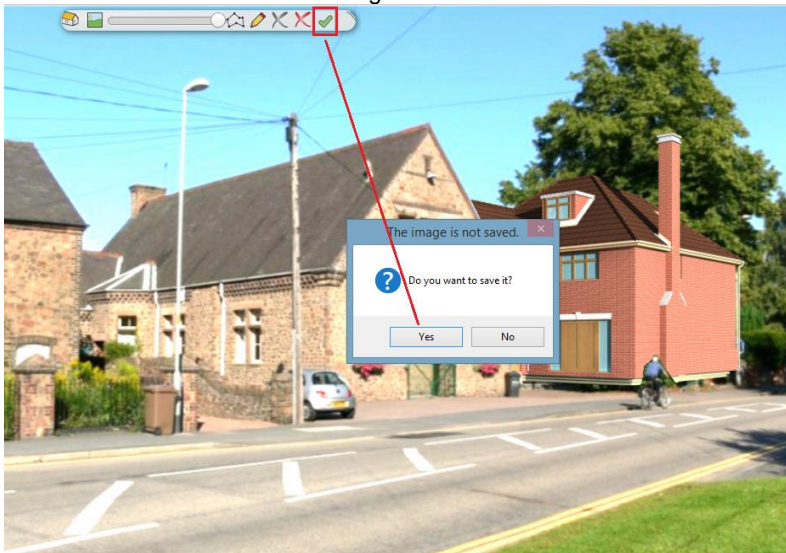
3. Polygon tools to move forward a part of the background image. Draw, edit, delete and delete all polygons.



4. Display the result of the two images



5. Save the result of the two images.

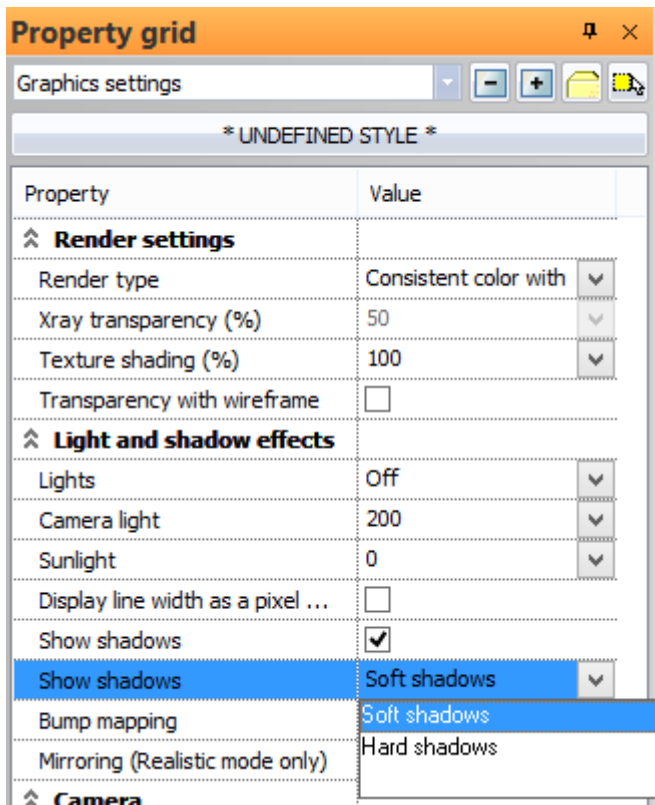


## 3. Other improvements

### 3.1. 3D views: real time mirroring, soft shadow

In DirectX 11 video mode ARCHLine.XP 2016 can display the 3D model in two shadow modes .

- Soft shadow
- Hard shadow







3D modell with hard shadow



3D modell with soft shadow

### ***Real-time reflections***

Displaying reflection on the glass and mirror surfaces of the 3D model image makes it more realistic.

The reflection is a visual effect that gives the appearance, but not a true reflection. Do not confused it with a high-resolution photo-realistic image calculated with real reflections.

The mirroring feature is available using the default DirectX 11 graphics engine with the textured representation mode.

3D without mirroring:



3D with mirroring



### 3.2. Bump Mapping on materials:

The new predefined bump mapping patterns can be assigned to pure colors and textures either. It appears to be surface roughness. If you look closely, you see lots of detail on it. You can choose among wood, stone, plaster, textile, leather, etc. effects.

Bump mapping effect results infinite number of variations. You can save lot of time because it does not require time-consuming search for the right images on the Internet.

The bump-mapping feature is available using the default DirectX 11 graphics engine with the textured representation mode.

Without bump-mapping

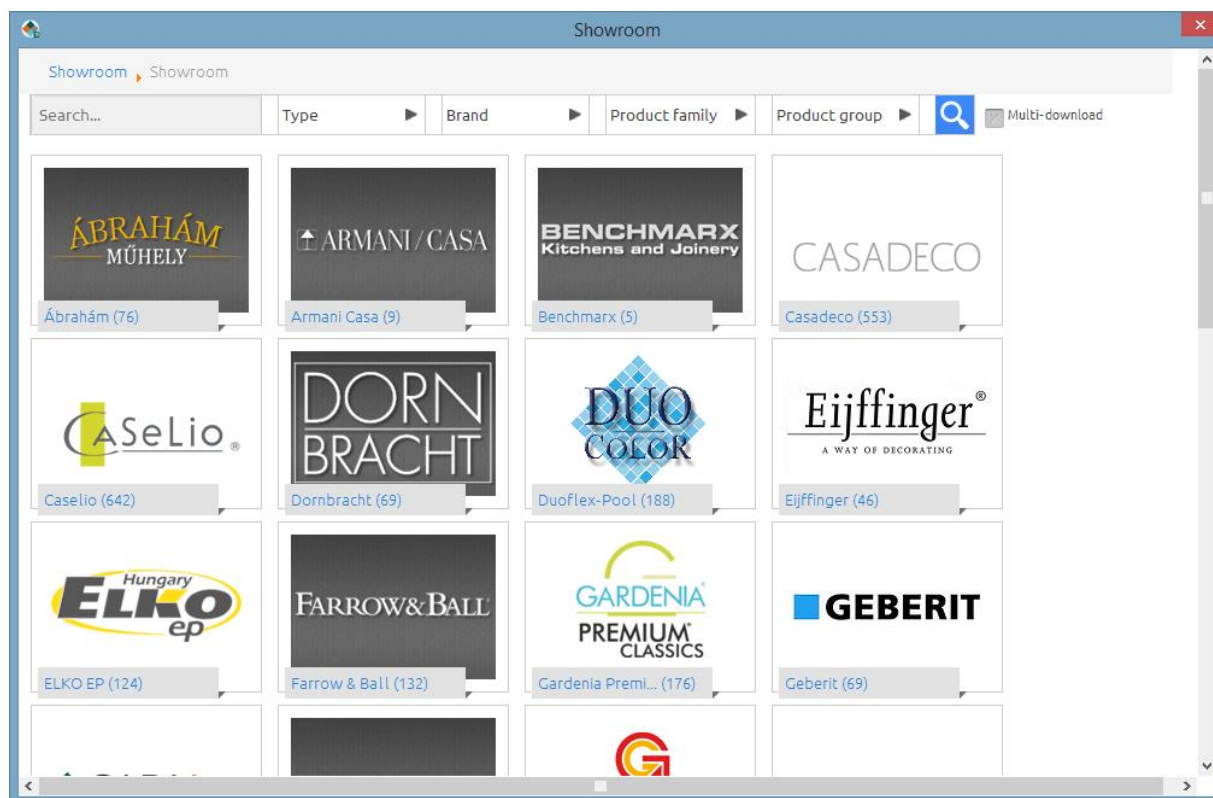


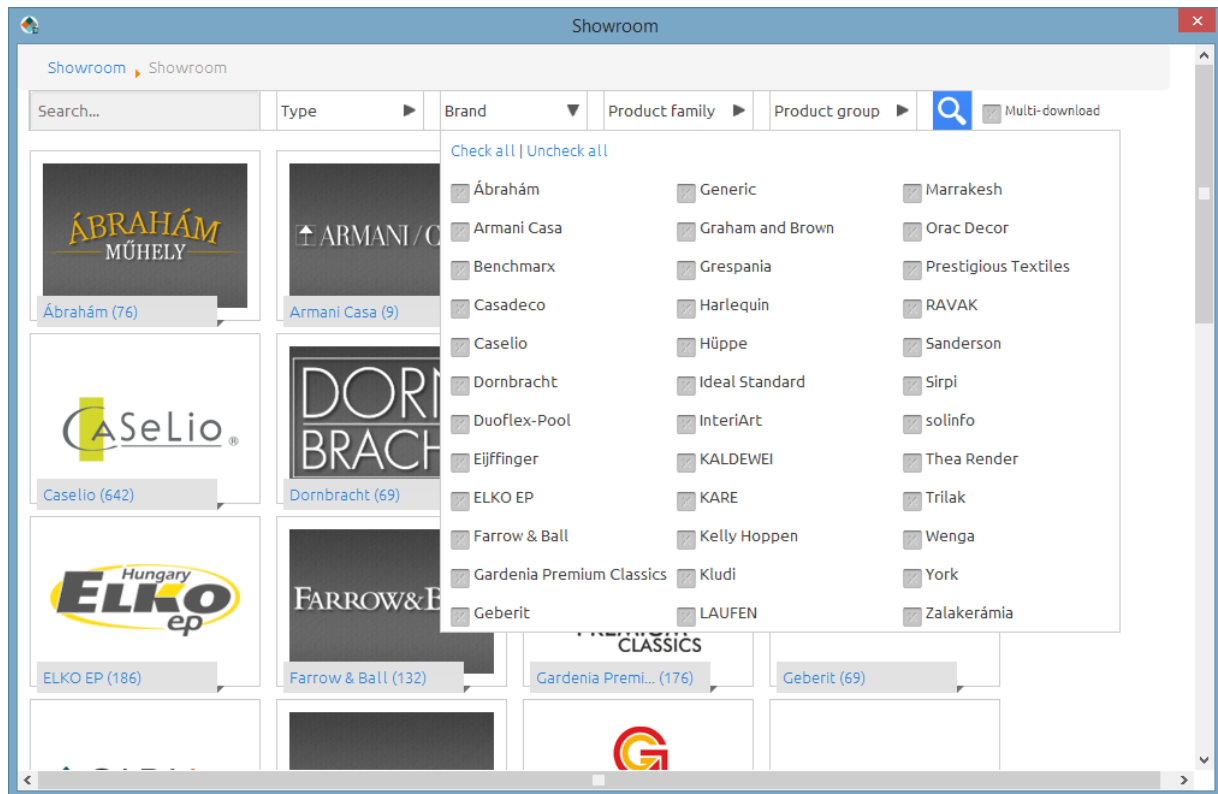
Bump-mapping applied



### 3.3. A new look for Showroom

You'll also find a completely rebuilt Showroom, the online repository containing high-quality fabrics, 3D models from leading product manufacturers and retailers. The new Viewer displays and enables to select on one webpage the whole collection of Product types, Manufacturers and Product families.





### 3.4. PDF printing – – new property

The PDF printing, the margin widths can be adjusted individually

### 3.5. Furniture views in 3D

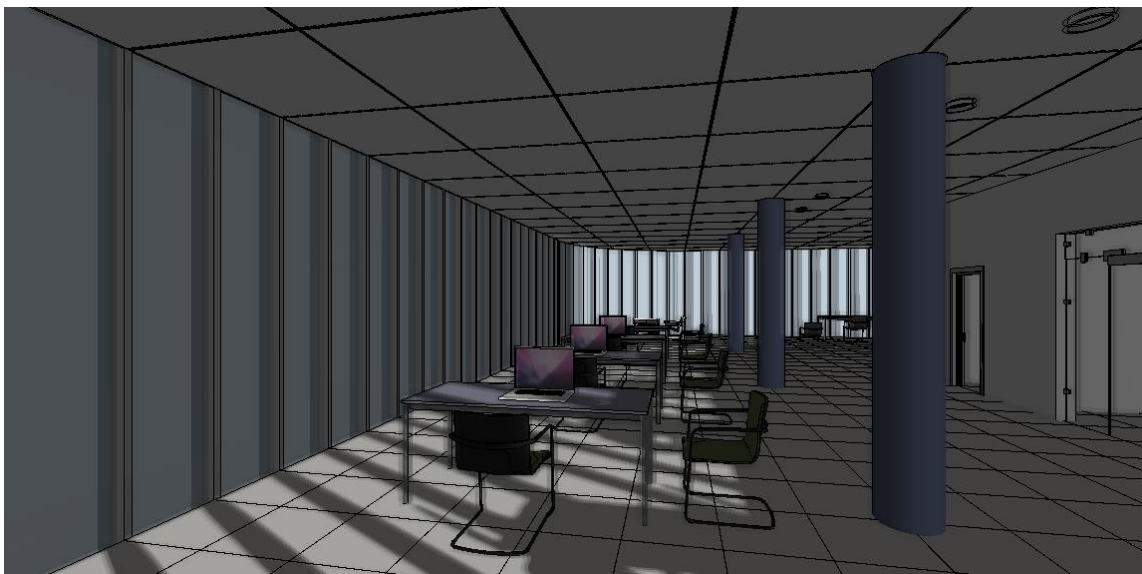
The parametric cabinets can be open and closed in 3D with different representation one by one: Closed, slightly open, fully open, and can be displayed without a front .



### 3.6. Curtain wall – new properties

The glass, the frame and mullion properties has been further refined, the relative position of the components (a direction perpendicular to the wall) can be adjusted.

<b>⤴ Mullion properties</b>	
Mullion thickness	50 mm
Mullion width	5 mm
Mullion placement	Middle <span>▼</span>
Offset of mullion (>0: away from reference side)	0 mm
Mullion material	Steel <span>■</span>
<b>⤴ Glass wall</b>	
Glass width	6 mm
Offset from middle of frame (>0: away from ref...	0 mm
<input type="checkbox"/> <b>Fixed Distance</b>	
Horizontal Spacing	...
Vertical Spacing	...
No. of glasses in horizontal:	3
No. of glasses in vertical:	3
<input checked="" type="checkbox"/> <b>Glass Transparency</b>	
Glass material	Glass26 <span>□</span>
<b>⤴ Frame properties</b>	
Frame Thickness	50 mm
<input checked="" type="checkbox"/> <b>Top frame</b>	
<input checked="" type="checkbox"/> <b>Bottom frame</b>	
<input checked="" type="checkbox"/> <b>Left frame</b>	
<input checked="" type="checkbox"/> <b>Right frame</b>	
<input checked="" type="checkbox"/> <b>Corner column exists</b>	
Frame material	Steel <span>■</span>
<input type="checkbox"/> Mullion on right side when frame is OFF	
<input type="checkbox"/> Mullion on left side when frame is OFF	



### 3.7. Ramp with cross section profile

The ramp comes with a new feature. You can define the cross-sectional profile and later can be edited freely.





User defined stairs

Preferences

- Stair properties
- Support**
- Step geometry
- Balustrade settings

Support

Elevation	0 mm
<input checked="" type="checkbox"/> 3D creation	
Cut the walls	No cutting
<input checked="" type="checkbox"/> Ramp	Waist slab material: concrete
<input checked="" type="checkbox"/> Section Profile	User profile ... Edit profile ...
<input type="checkbox"/> Waist slab	Thickness: 300 mm
<input type="checkbox"/> Construct the landing like a slab	
<input type="checkbox"/> Tread	Material: Concrete3 Noising depth: 20 mm Tread thickness: 40 mm
<input type="checkbox"/> Riser board	Riser board material: Wood66 Riser board thickness: 20 mm
<input type="checkbox"/> Support	Support material: Wood66

Connection to the upper slab

A: 100 mm B: 100 mm C: 300 mm

Connection to the bottom slab

A: 100 mm B: 100 mm D: 150 mm E: 200 mm C: 300 mm

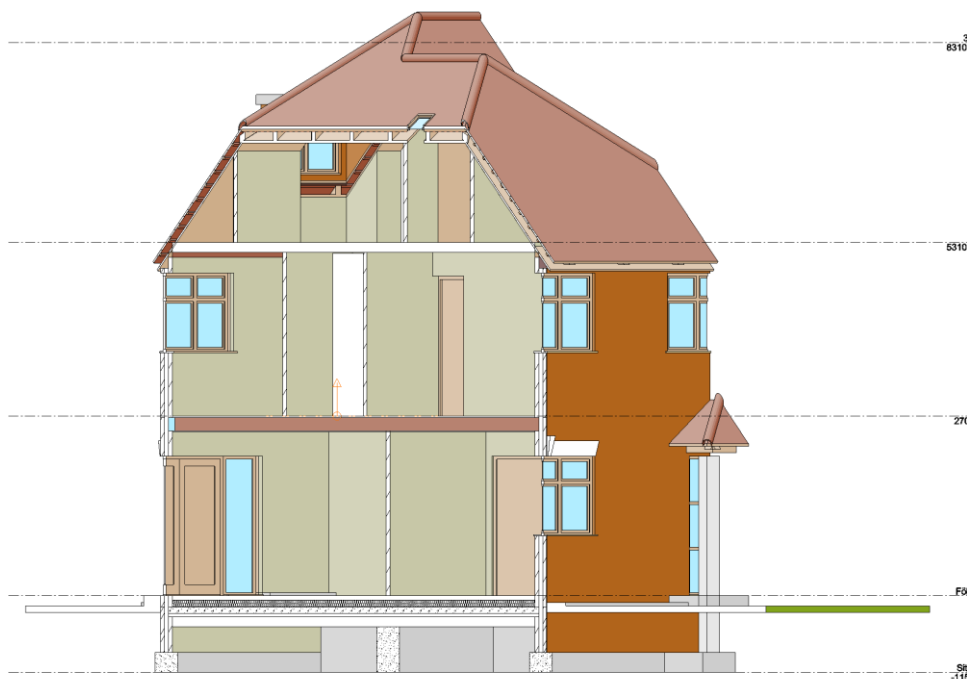
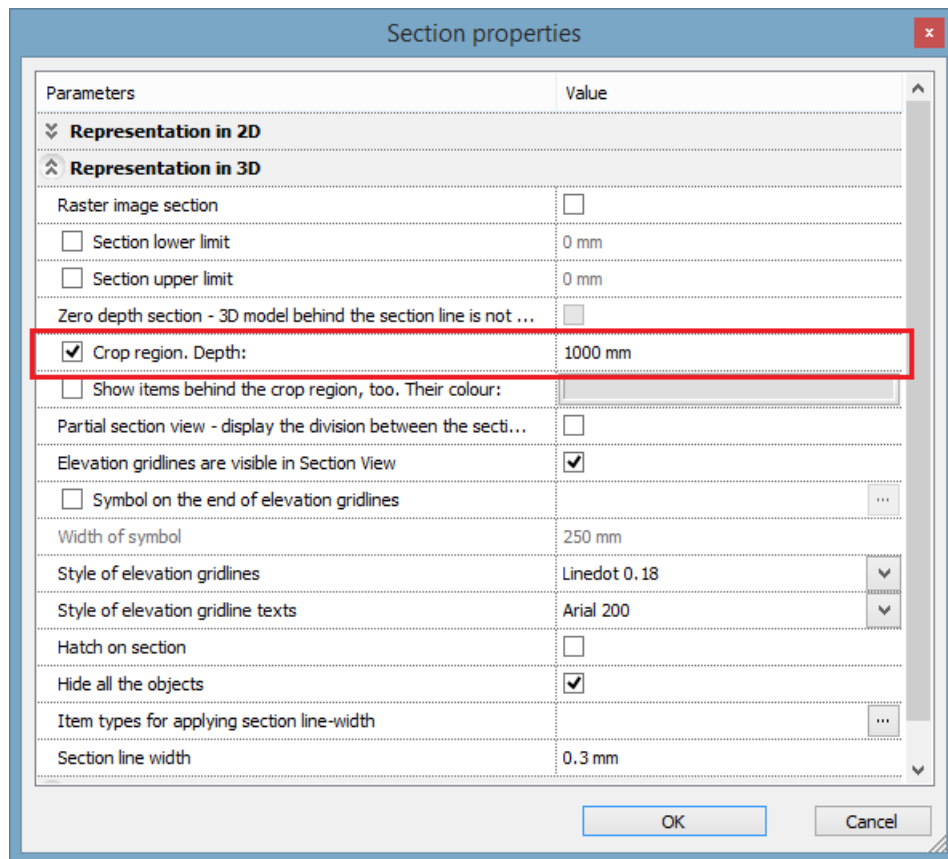
BIM Parameters

No style

OK Cancel

### 3.8. Section: crop region

The region displayed behind the section line can be adjusted.



### 3.9. Raster image selection modes

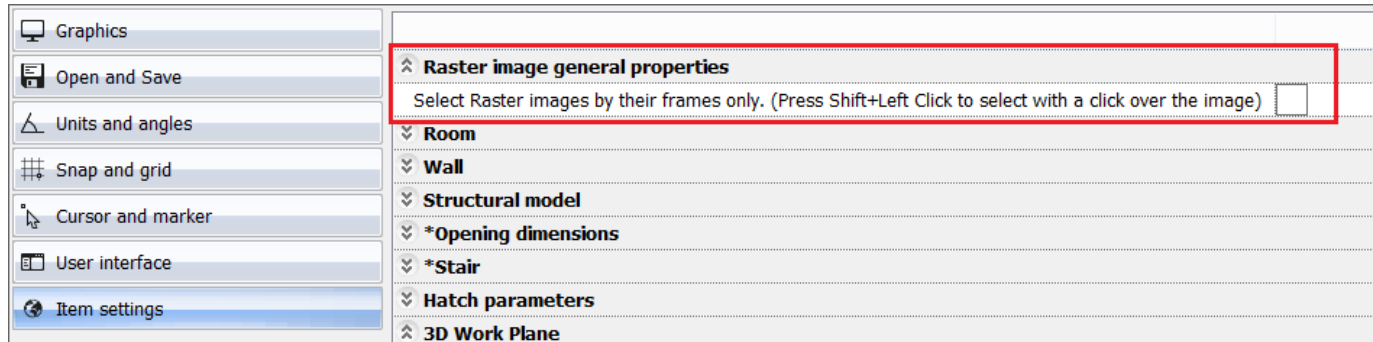
For raster images you can choose between two selection modes. By default the raster image is selectable if you click over an image or on the frame either.

You can configure the selection mode in the Option dialog > Item settings tab > Raster Image General Properties.

If you wish to switch off the selection by a left click over the image activate the **Select Raster images by their frames only** mode.

Applying this mode you have to press Shift+Left Click to select with a click over the image.

This mode is useful when you trace over an imported raster image and you do not want to click on the raster image.



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