



USER GUIDE
VERSION 1.2.1.

BLENDER BASH | youtube channel

Window Maker Table of Contents

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Create the Windows

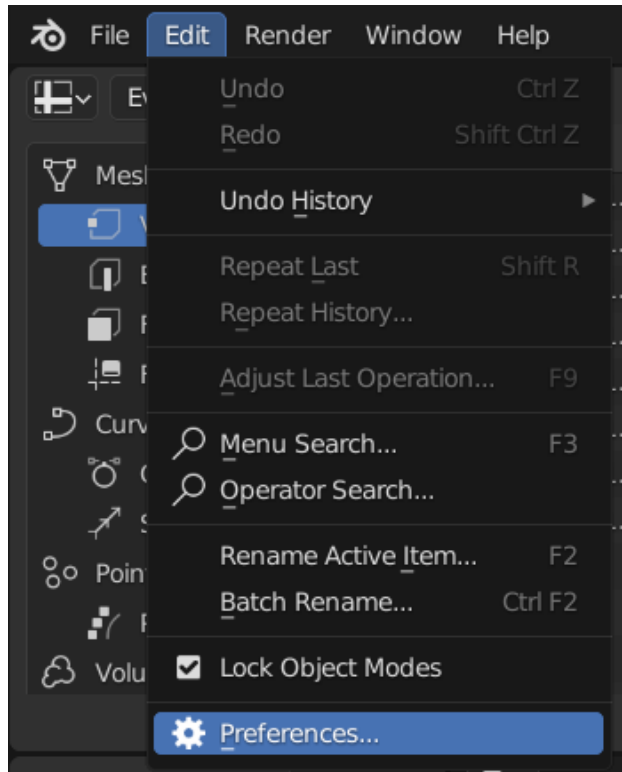
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Window Maker Add-on - Introduction

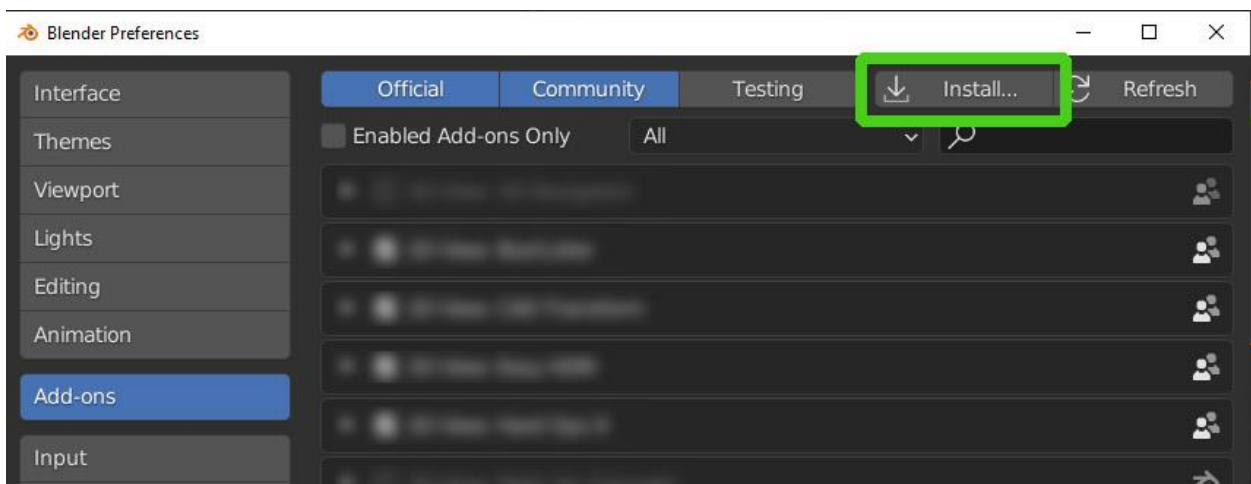
Window Maker is an addon for Blender that helps you create multiple highly detailed windows stairs with lots of different customizable options in just a couple of clicks.

Installation

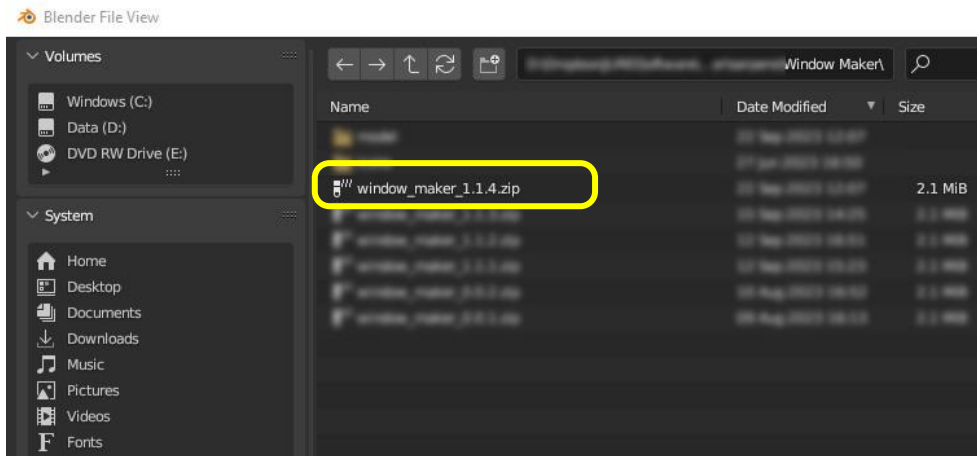
When you download the addon you'll get a simple zip file, **window_maker_1.x.x.zip**. To install the addon, once you open Blender, go under Edit and click on Preferences to open a new popup menu.



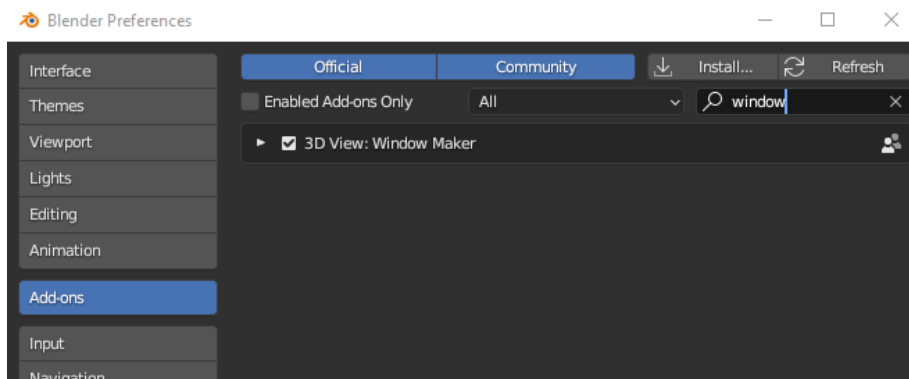
Inside Blender Preferences on the left side menu click on Add-ons, and in the upper right corner click the Install button



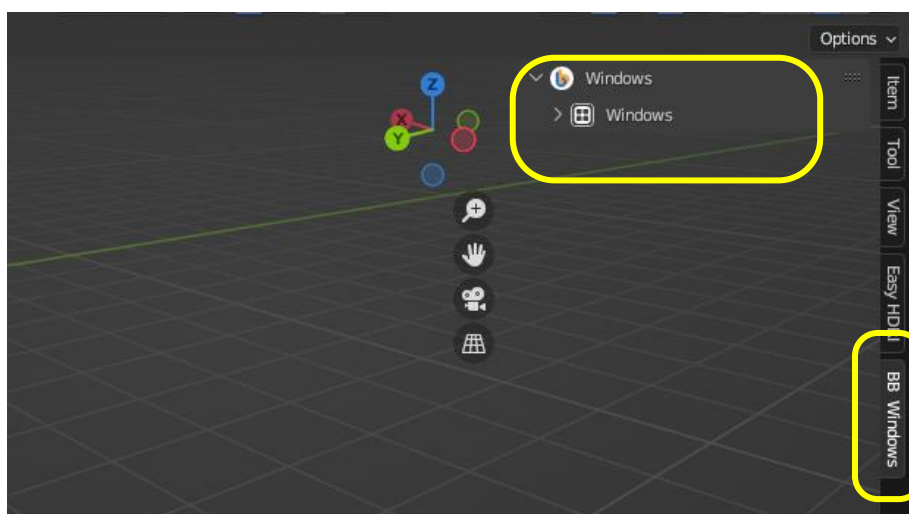
Select your **window_maker_1.x.x.zip** file and press enter.



Window Maker is now installed, you just need to check this checkbox to enable it.



After you enable the add-on, close the Preferences window, and go to the 3D Viewport Workspace.



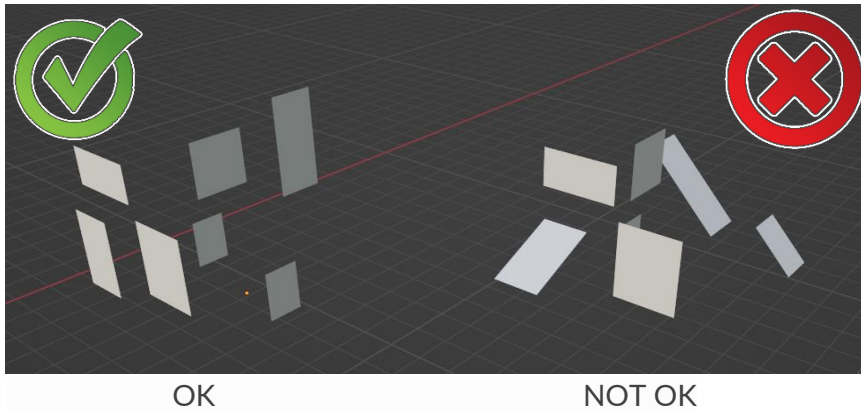
Expand the side panel by pressing N on the keyboard and here you'll find the **BB Windows** panel. You can now expand it and press Create Windows to create them with just a click.

Create the Windows

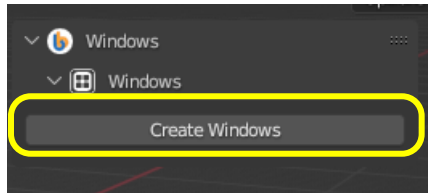
You need a mesh object to create your windows. This object's geometry needs to follow one simple rule to be able to create windows correctly:

All faces need to be perpendicular to the XY Plane. This means the Z value of the normal of any face can't be any other value than 0.

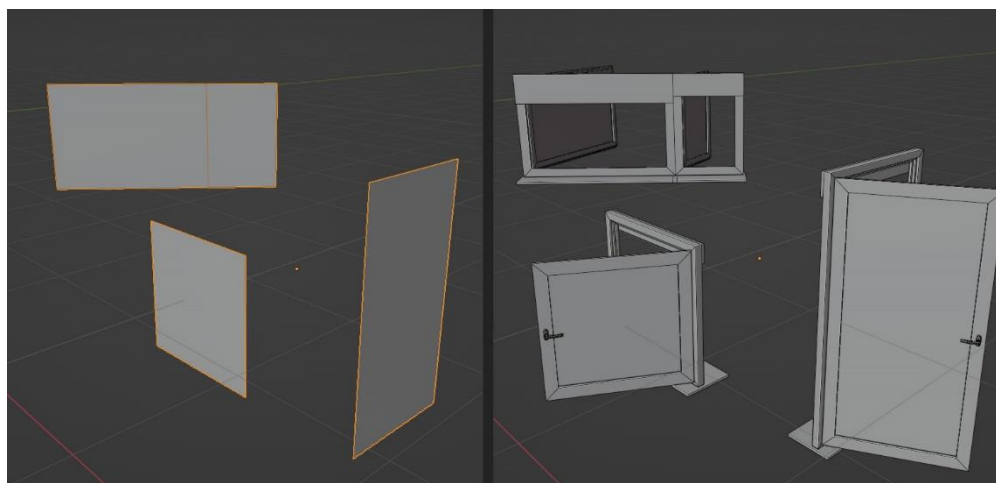
Look at the examples below to understand better.



So once you select your object, in the BB Windows Panel, press the Create Windows button. This will replace every face with a window of the same size the face was.

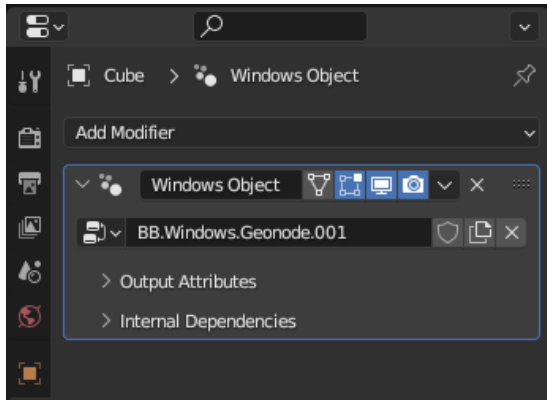


That's it. You've created your first windows object, and in the next pages you'll learn how to manipulate the parameters to edit the windows to your likings.



Start Geometry

Result of the Create Windows Action



How does this add-on work? Once the windows are created, you can see in the modifiers properties panel that a geometry nodes modifier gets applied to your object. You won't do anything in this modifier panel. If you remove this modifier from your object, the windows will disappear. But you can still create a new one whenever you want.

Once the windows are created, the Windows panel in the side panel of the 3D Viewport will populate with 11 new expandable panels.

Window Mode: Switch between 3 different modes.

Frame: Set inner and outer frame size as well the position of the window inside the wall

Glass: Show or hide the glass and set its thickness

Opening: Control openings of the windows, angle, type and seed, flip opening inside out

Handle: Show or hide the handle, adjust its position or set a custom one

Sill: Show or hide the sill and set its thickness, position and overlap

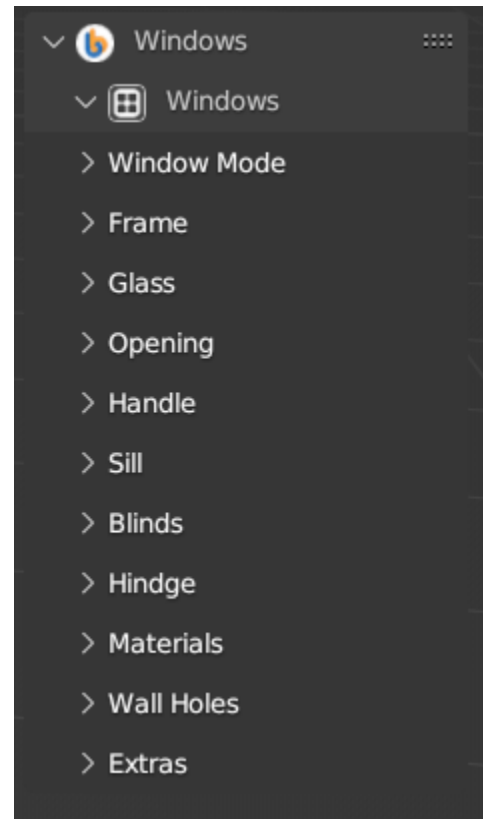
Blinds: Show or hide blinds and/or Blind box and control all their dimensions and position

Hindge: Show or hide the hinge, adjust its position or set a custom one

Materials: Set the materials and UV attribute

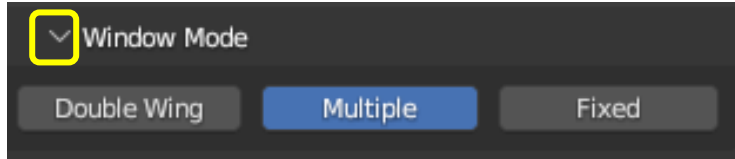
Wall Holes: Make procedural holes into your walls object(s) from your windows object

Extras: Some extra features, apply geometry, create holes in wall objects

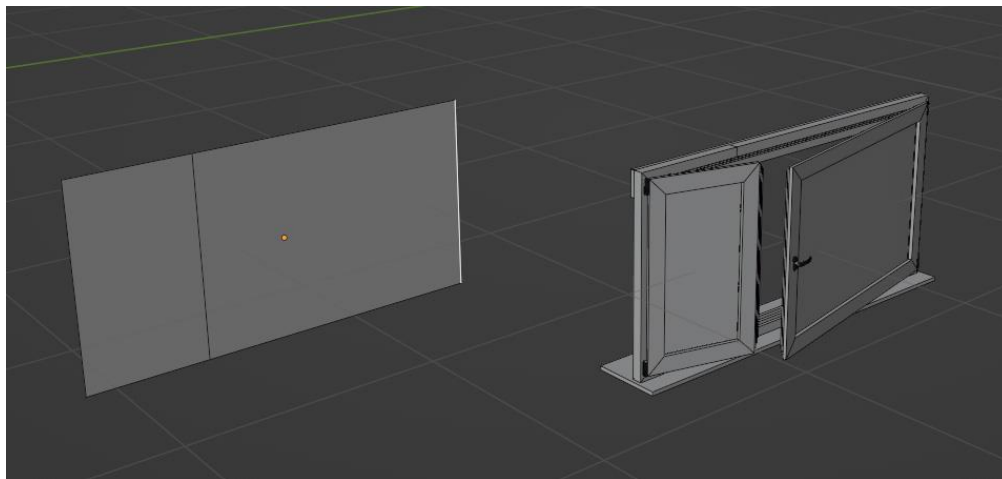


Window Mode

You need click on this small arrow to expand the Window Mode Panel



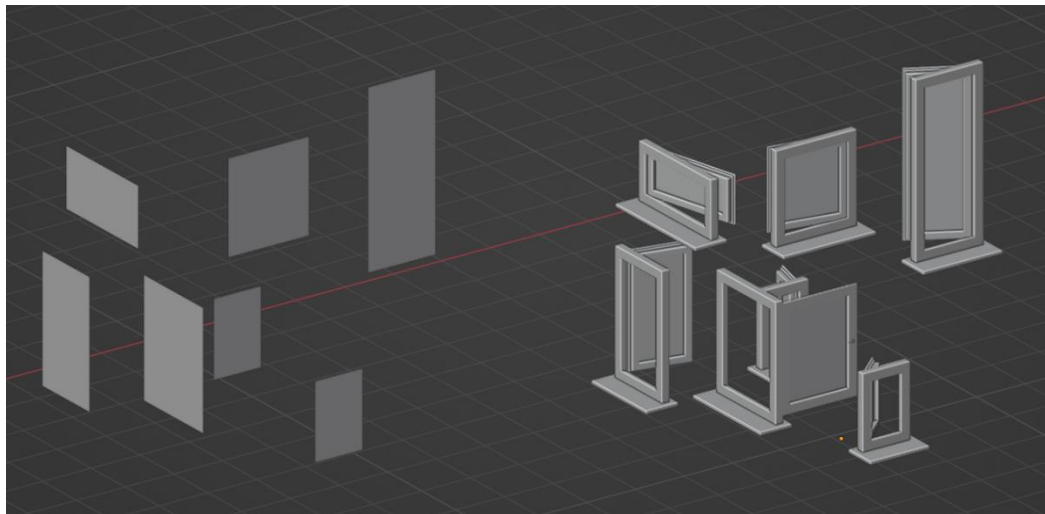
Double Wing Mode: Use this mode if you want to transform two coplanar faces sharing an edge to a single double wing window. This window can have wings of different sizes – it doesn't have to be symmetrical (see picture bellow).



Start Geometry

Result with Double Wing Mode enabled

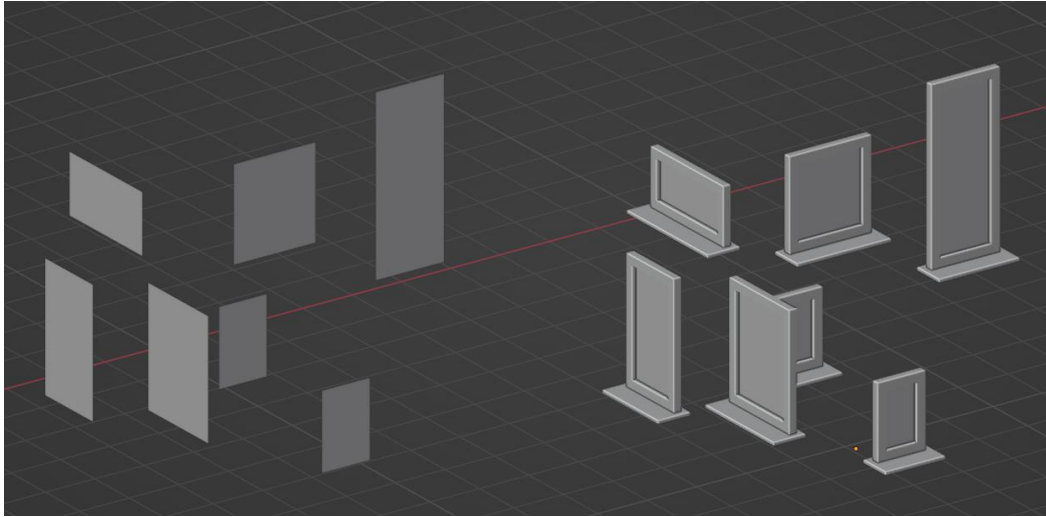
Multiple Window Mode: Use this mode if you want to transform each face into a window (see picture bellow).



Start Geometry

Result with Multiple Window Mode enabled

Fixed Window Mode: Use this mode if you want to transform each face into a fixed window – with no possibility to open (see picture bellow).

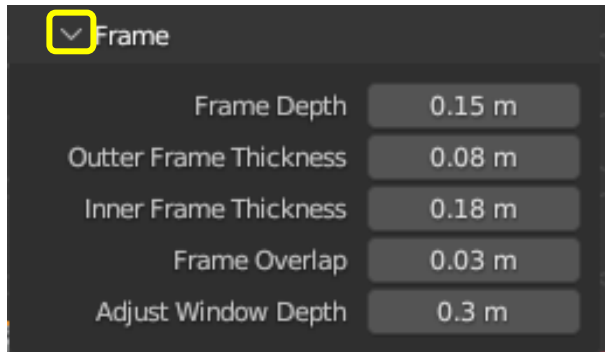


Start Geometry

Result with Fixed Window Mode enabled

Frame

You need click on this small arrow to expand the Frame Panel

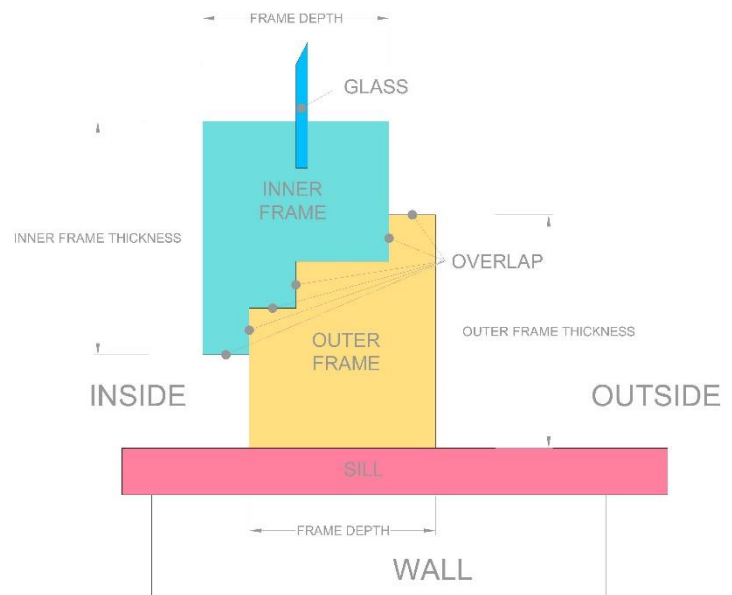
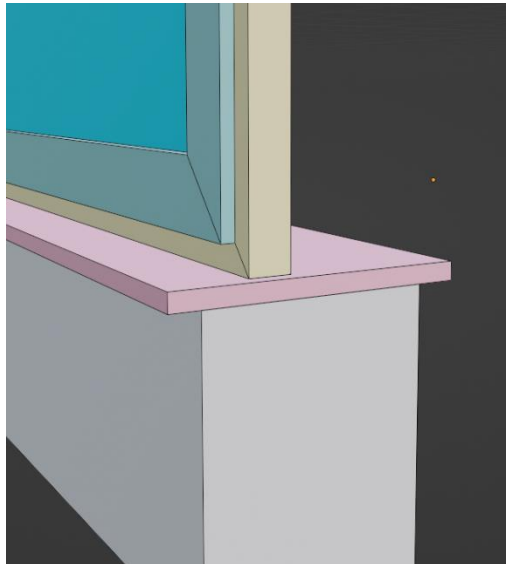


Frame Depth: Depth of the Frame (see picture bellow).

Outer Frame Thickness: Thickness of the Outer Frame (see picture bellow).

Inner Frame Thickness: Thickness of the Inner Frame (see picture bellow).

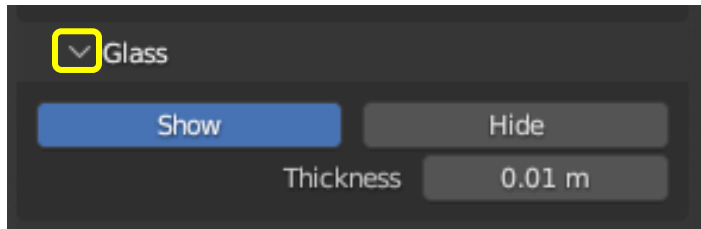
Frame Overlap: Size of the overlap of the frames (see picture bellow).



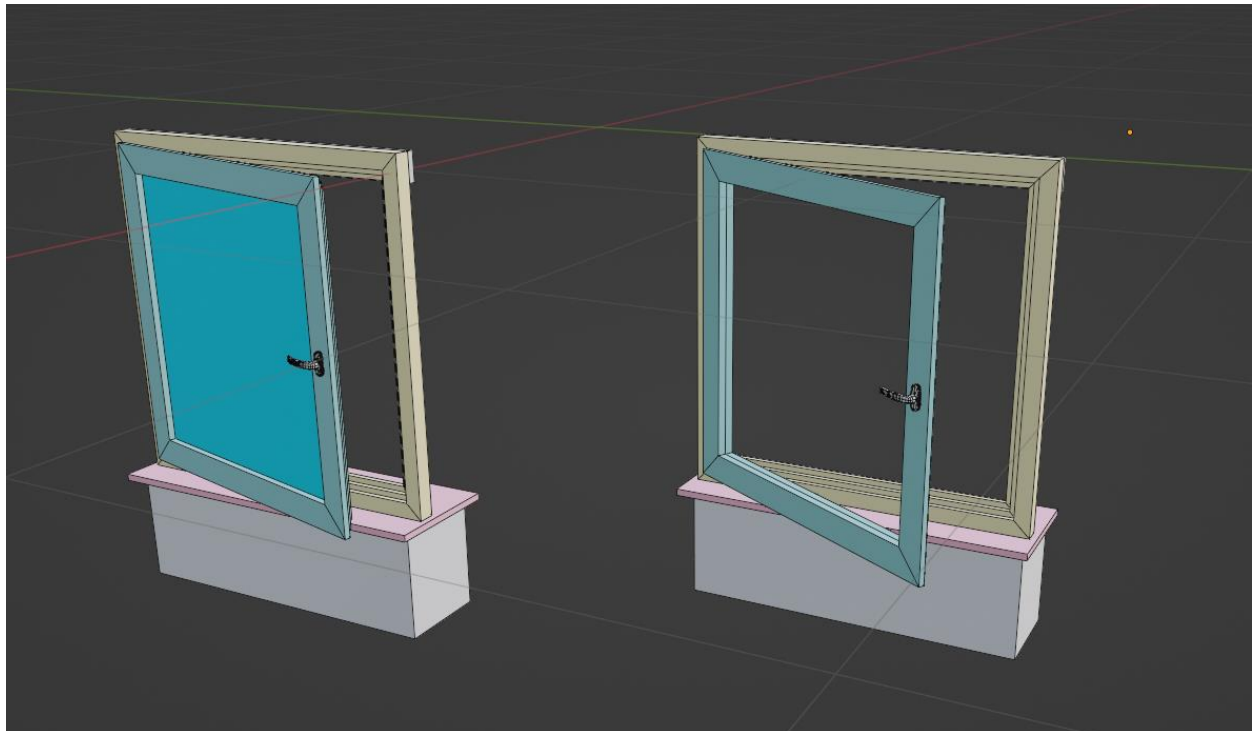
Adjust Window Depth: Position of the window inside the wall. Positive values move the window inside the wall, while negative values move it towards outside.

Glass

You need click on this small arrow to expand the Glass Panel



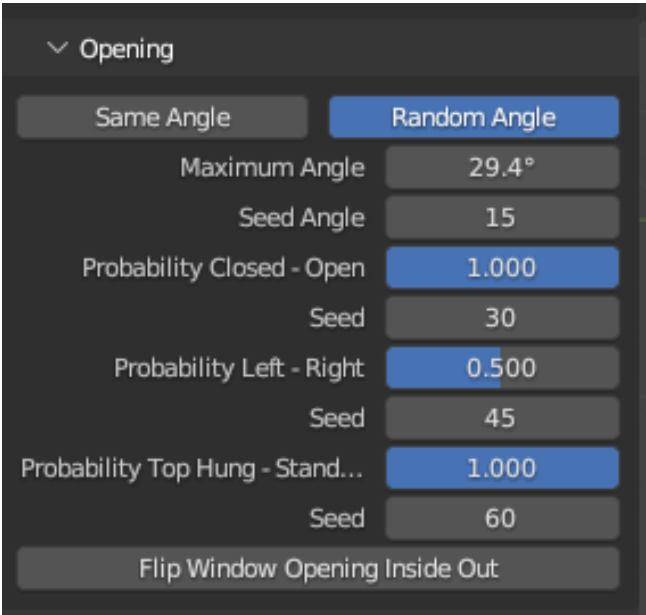
Glass Show / Hide Switch: Enable this to show or hide the glass.



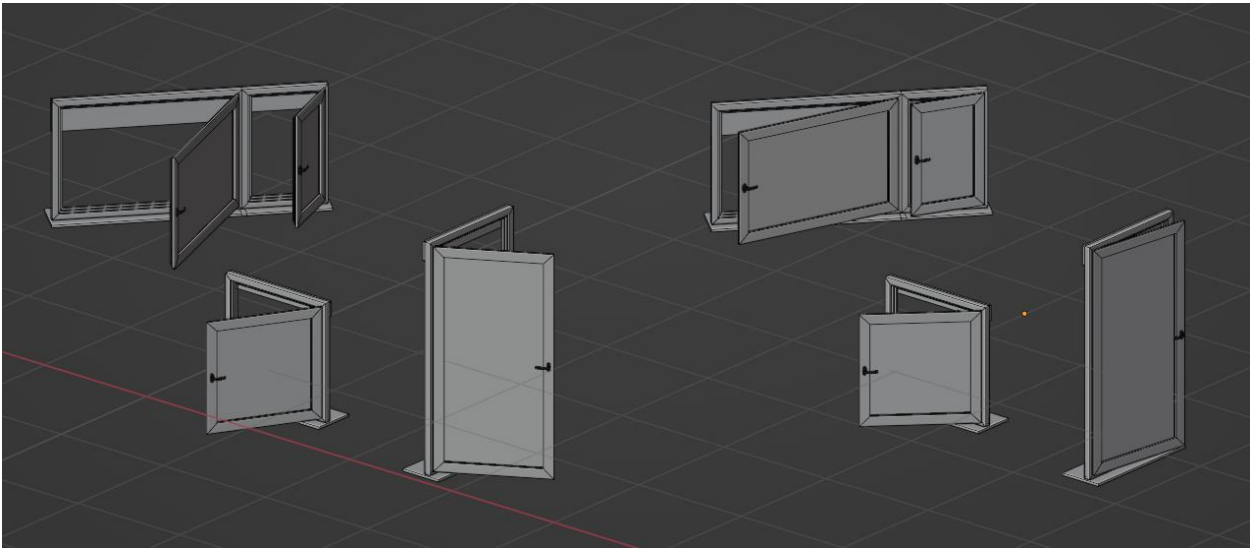
Opening

* This submenu is not visible in [Fixed Window Mode](#)

You need click on this small arrow to expand the Opening Panel



Same Angle / Random Angle Switch: Enable this if you want all windows to have random angle of aperture. This switch is only visible when [Multiple Window Mode](#) is enabled



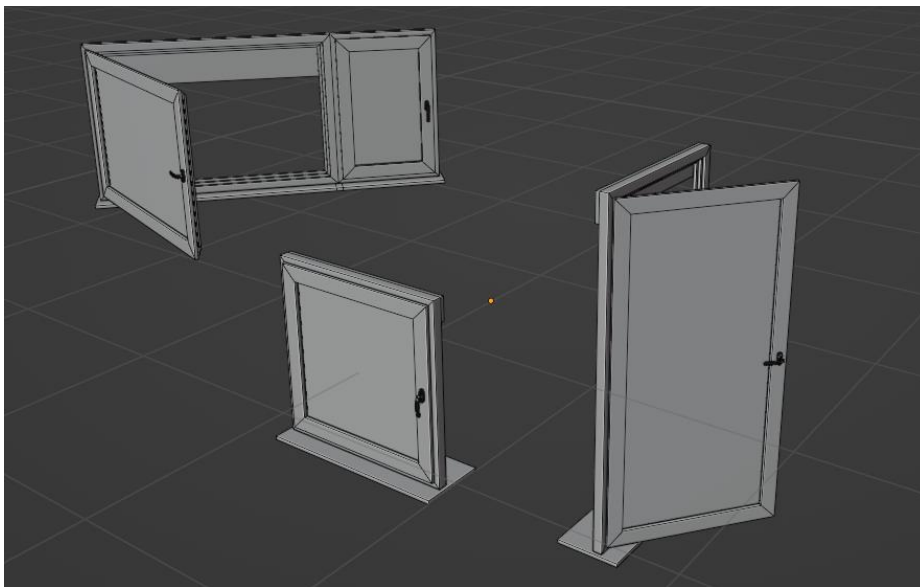
Angle: Size of the angle of window aperture (if Same Angle enabled)

Maximum Angle: Maximum size of the angle of window aperture (if Random Angle enabled)

Seed Angle: (visible only when [Multiple Window Mode](#) is enabled). Set the seed to change randomly the value of the angle (that will result in a value between 0 and Maximum Angle).

Probability Closed/Open: (visible only when [Multiple Window Mode](#) is enabled). Values between 0 -1. When set to 0, all windows will be closed, when set to 1, all will be open. All the values between will behave proportionally, for example value 0,5 will leave more or less 50% of the windows open.

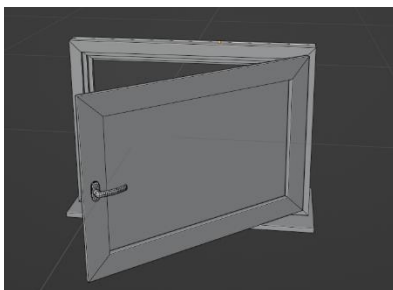
Seed: (visible only when [Multiple Window Mode](#) is enabled). Set the seed to change randomly which windows will be open or closed



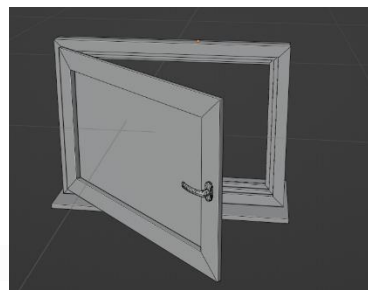
Probability Closed/Open set to 0.5, with 2 windows open and 2 closed out of total of 4 windows

Probability Left/Right: (visible only when [Multiple Window Mode](#) is enabled). Values between 0 -1. When set to 0 all windows will open on their left side, when set to 1, all will open on their right. All the values between will behave proportionally, for example value 0,5 will have approximately 50% of the windows left and the rest right.

Seed: (visible only when [Multiple Window Mode](#) is enabled). Set the seed to change randomly which windows will be left or right



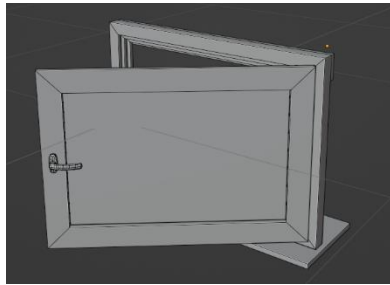
Left Opening



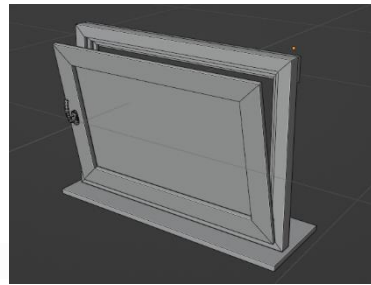
Right Opening

Probability Top Hung/Standard: (visible only when [Multiple Window Mode](#) is enabled). Values between 0 -1. When set to 0 all windows will open in Top Hung Mode, when set to 1, all will open in Standard Mode. All the values between will behave proportionally, for example value 0,5 will have approximately 50% of the windows will open in Top hung Mode.

Seed: (visible only when [Multiple Window Mode](#) is enabled). Set the seed to change randomly which windows will open in Top hung Mode.

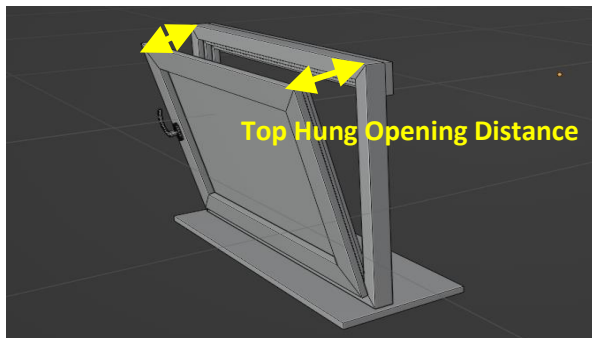


Standard

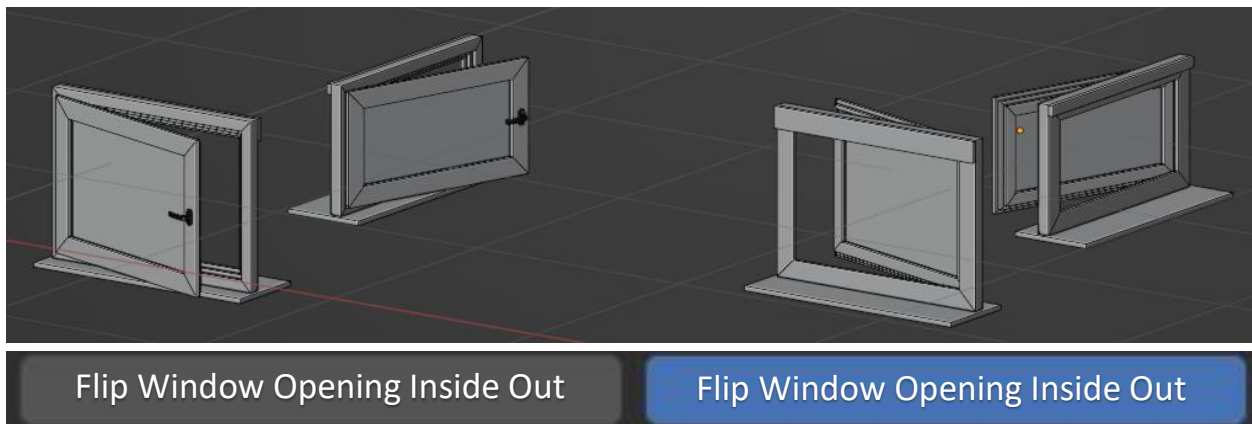


Top Hung

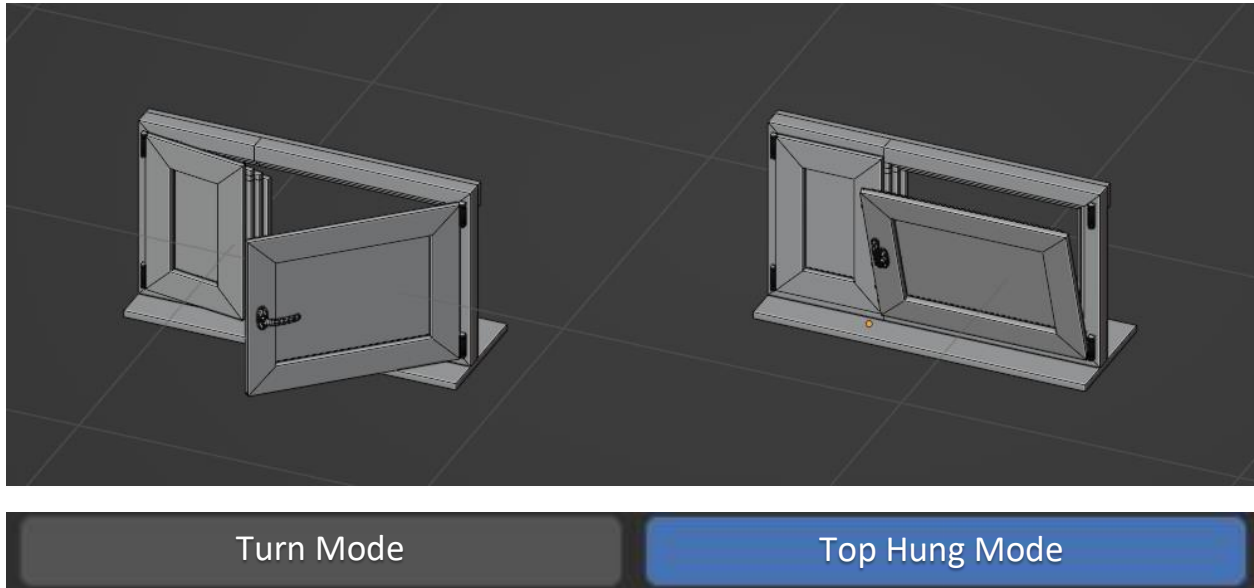
Top Hung Opening Distance: (visible only when [Multiple Window Mode](#) is enabled, and Probability Top Hung/Standard is not 1) When in top hung Mode this value is the distance of the upper part of the opened wing from the outer (fixed) frame of the window.



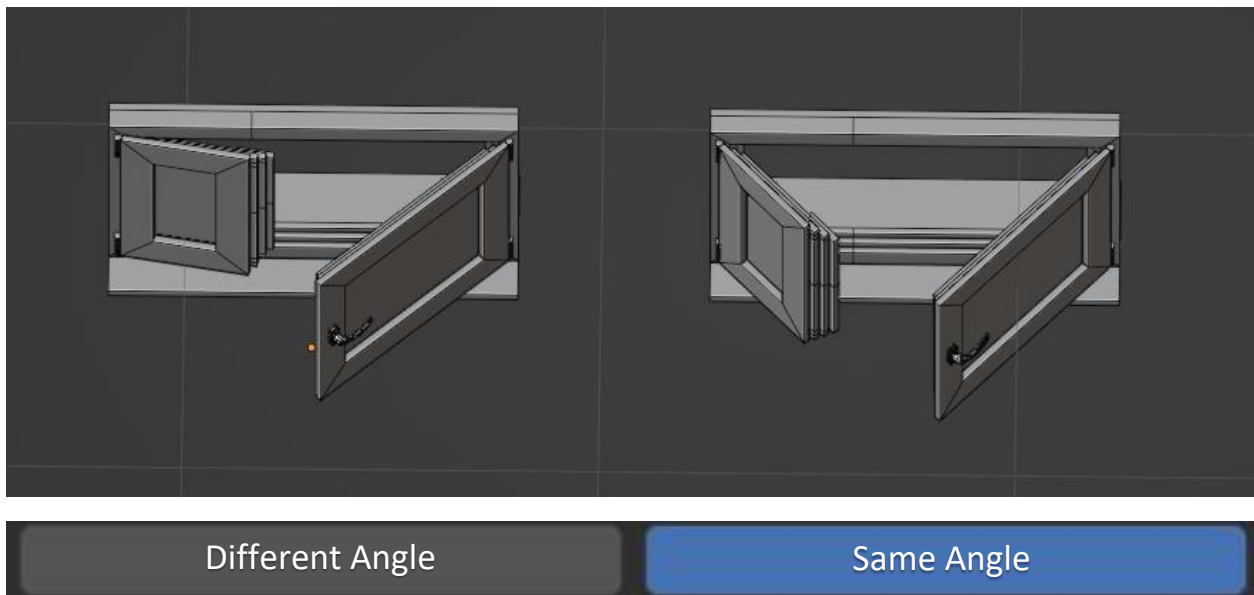
Flip Window Opening Inside Out Switch: Switch to turn windows inside out.



Turn / Top Hung Mode Switch: (visible only when [Double Wing Mode](#) is enabled). Switch between Standard Turn Mode and Top Hung Mode.

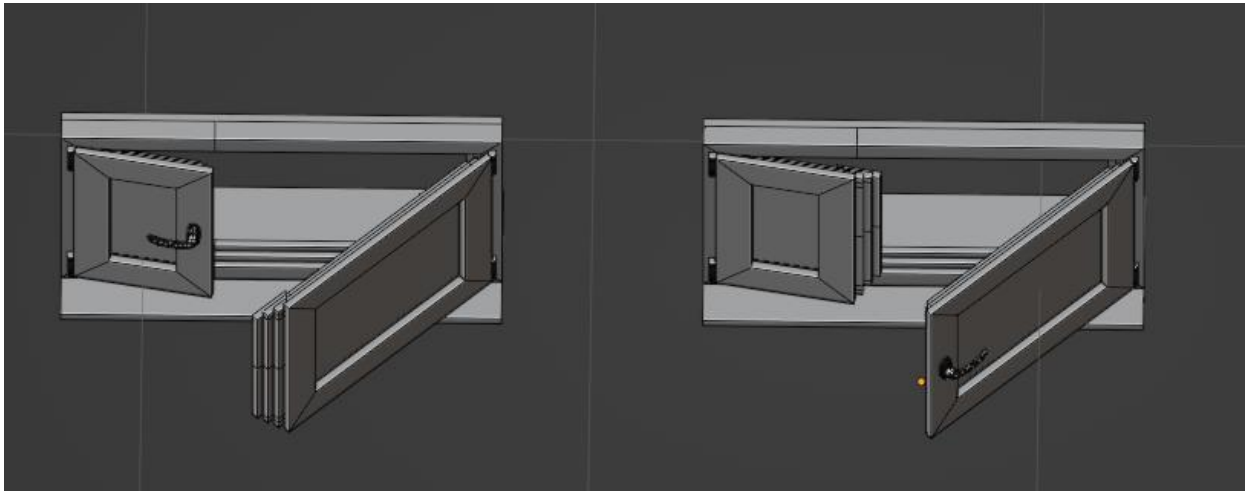


Different Angles/ Same Angle Mode Switch: (visible only when [Double Wing Mode](#) is enabled). Switch between having different angle of aperture for the two wings instead of having the same angle.

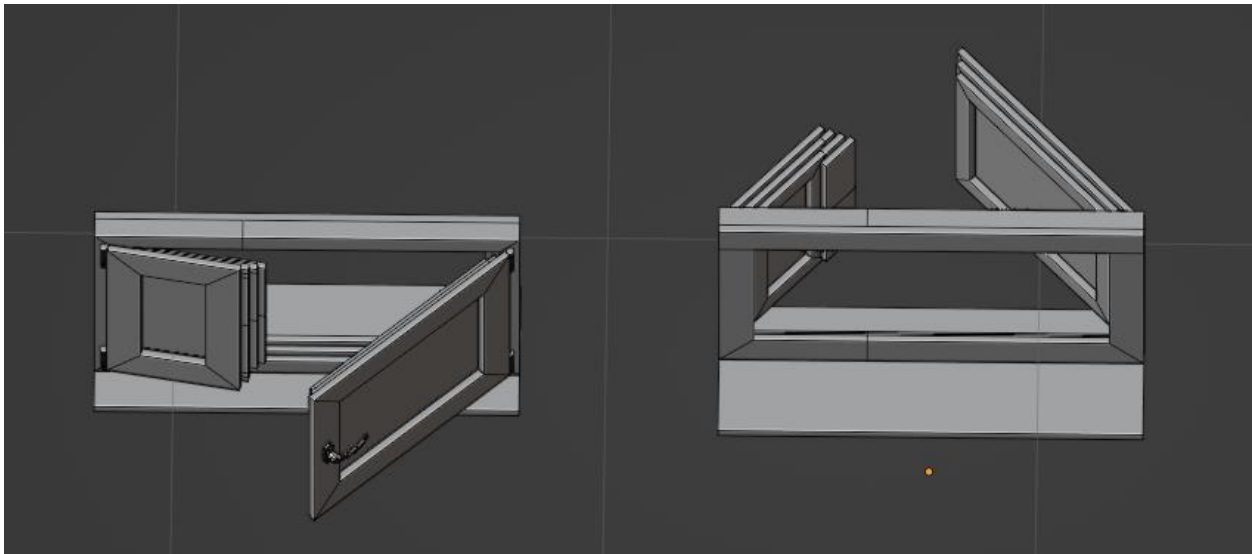


Angle 2: (visible only when [Double Wing Mode](#) is enabled, and if Different Angle Mode is Enabled): sets the size of the other angle in degrees

Flip Left - Right Switch: (visible only in [Double Wing Mode](#)) This Switch switches which of the two wings will have the handle (see picture bellow).

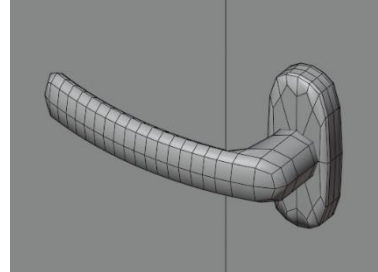
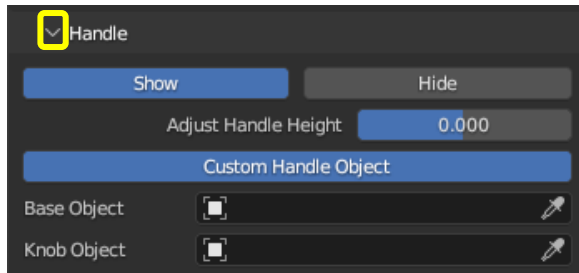


Flip Window Opening Inside Out Switch: This Switch switches the windows inside out (see picture bellow),

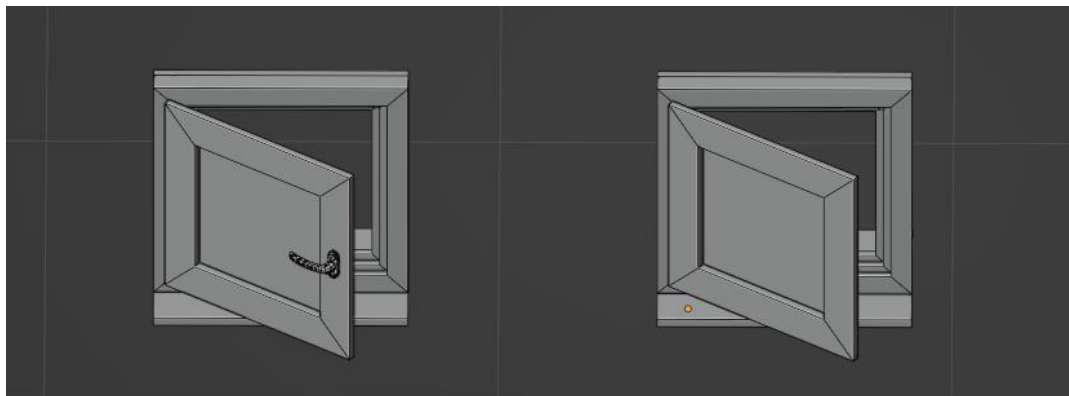


Handle

You need click on this small arrow to expand the Handle Panel



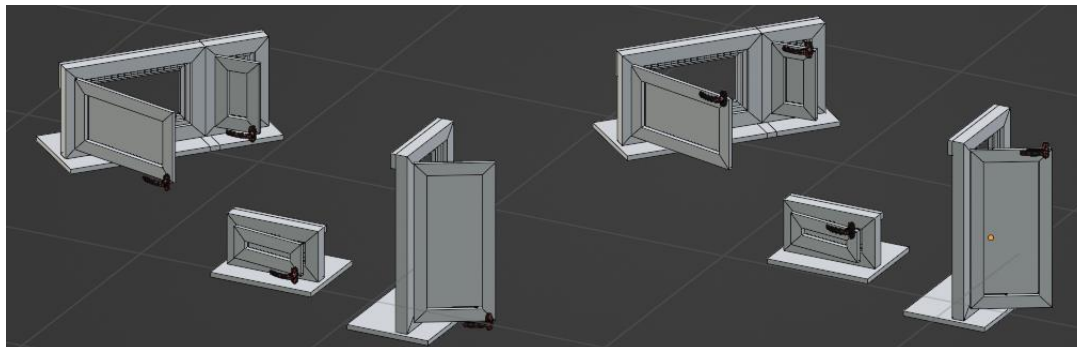
Show / Hide Handle Switch: Enable this to be able to see the handle and disable it if you want to hide it. See Picture below



ENABLED

DISABLED

Adjust Handle Height: Slider from -1 to +1 to set the height of the handle. 0 will put the handle in the middle of the window, - 1 will place it on the lowest point and 1 on the heighest.



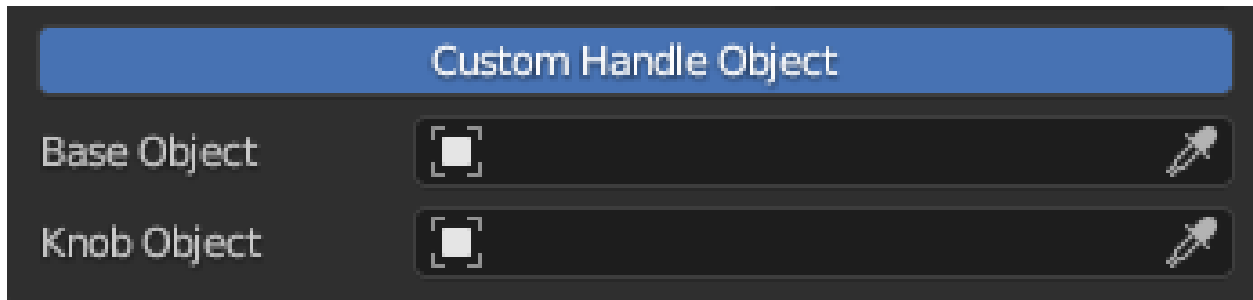
Value set to -1

Value set to 1

Custom Handle Object: By enabling this you can select a custom objects as handles

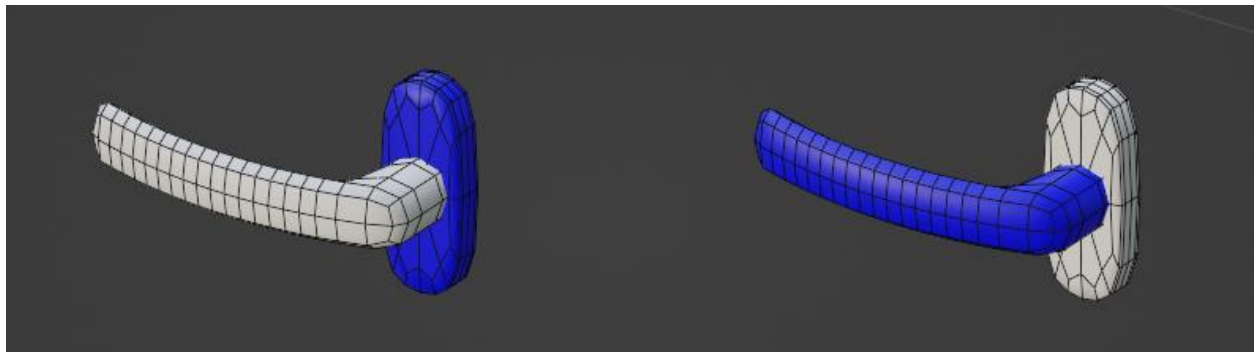


When this is enabled 2 new parameters appear:



Base Object: Here You select the custom object as base of the handle

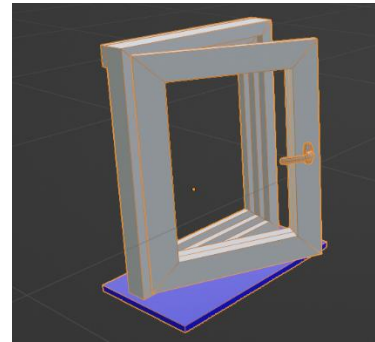
Knob Object: Here You select the custom object as knob of the handle



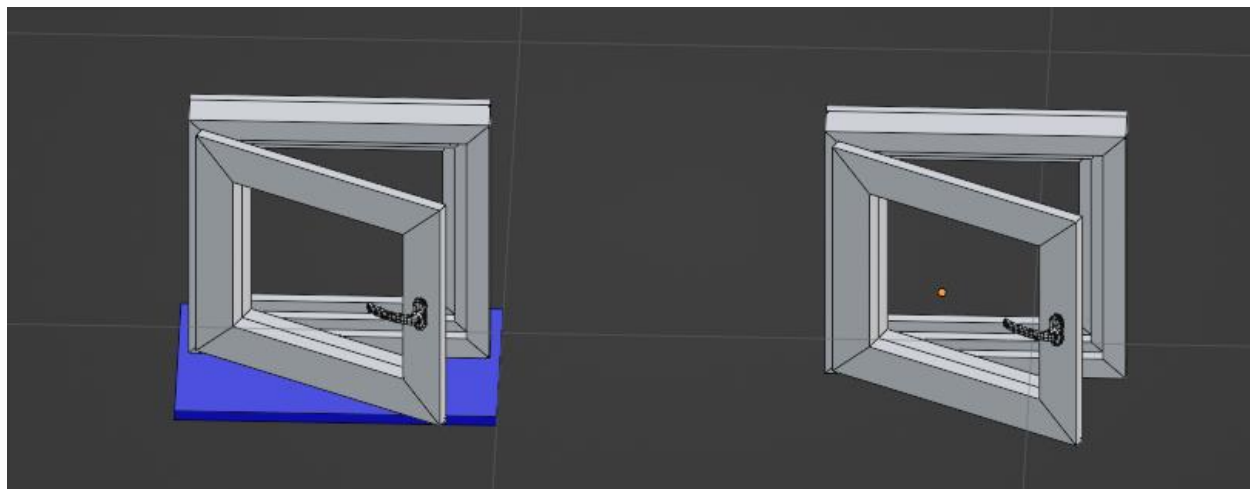
On the left Base object in blue, on the right knob object in blue

Sill

You need click on this small arrow to expand the Sill Panel



Show / Hide Sill Switch: Enable this to be able to see the sill and disable it if you want to hide it. See Picture below

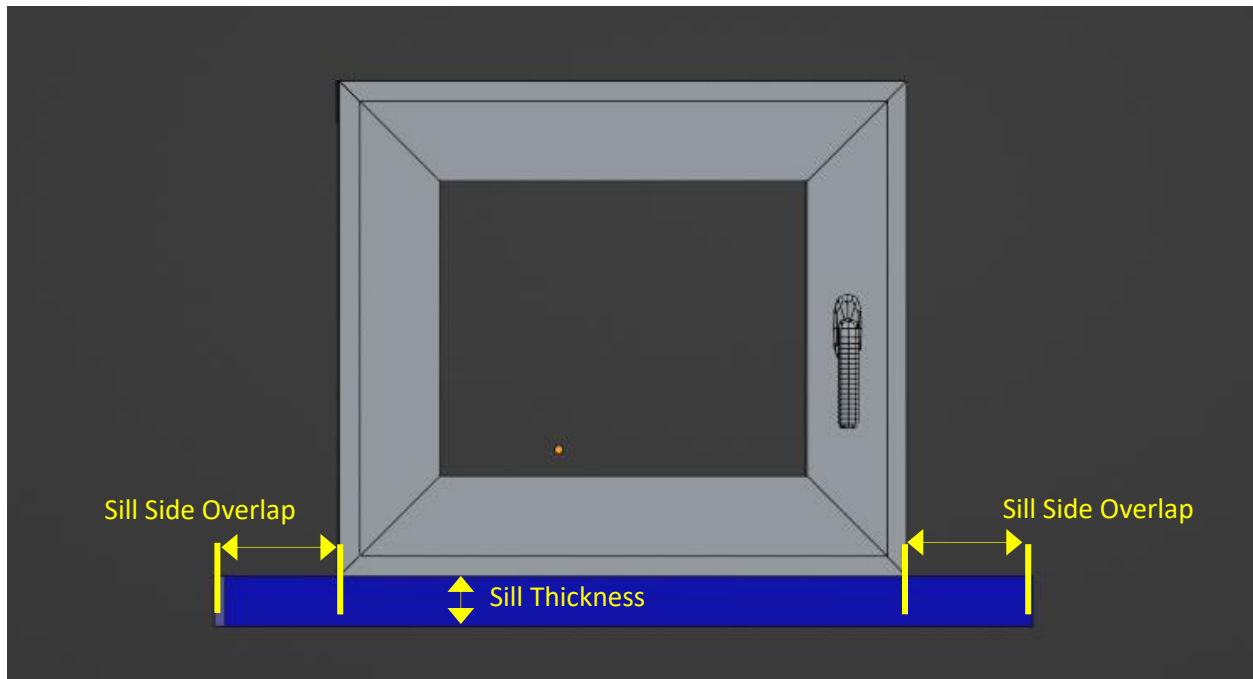


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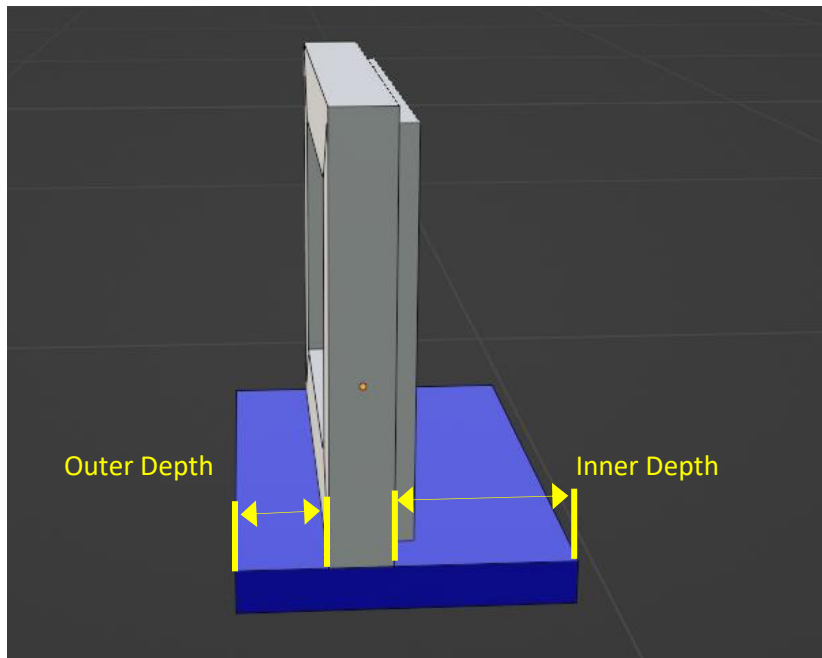
Sill Thickness: Set the thickness of the sill. See picture below

Sill Side Overlap: Set the size of the side overlap of the sill. See picture below



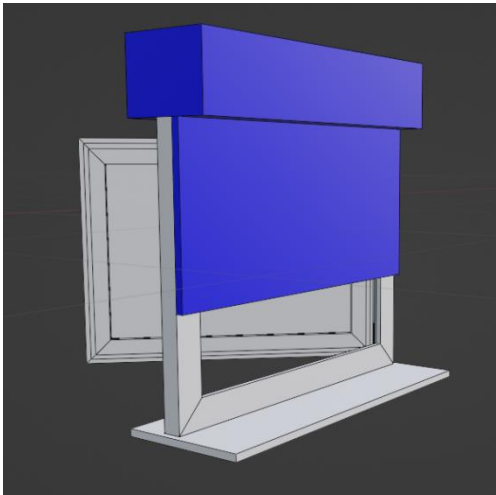
Inner Depth Sill: Set the inner depth of the sill. See picture below

Outer Depth Sill: Set the outer depth of the sill. See picture below

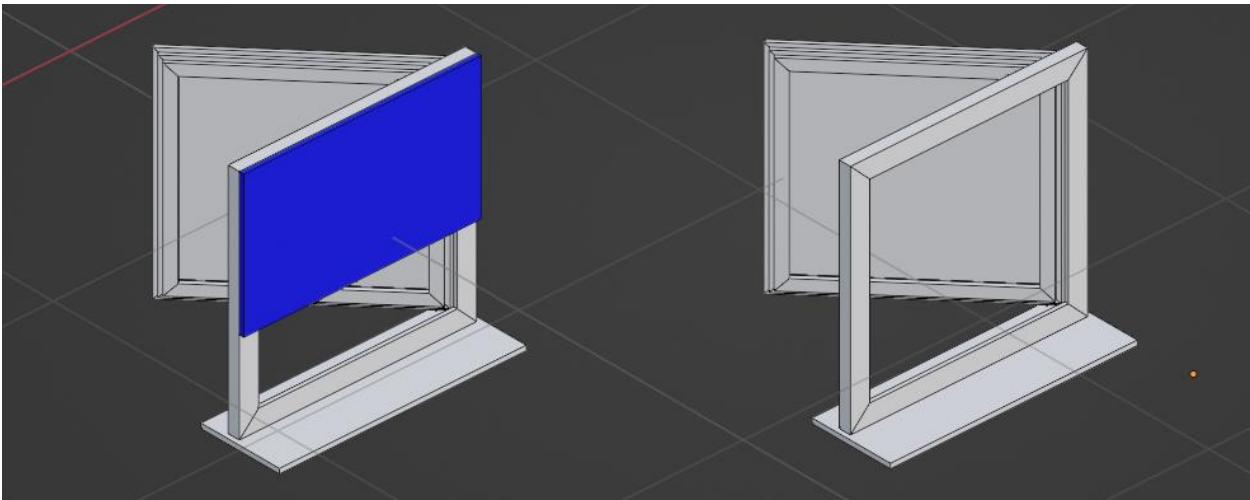


Blinds

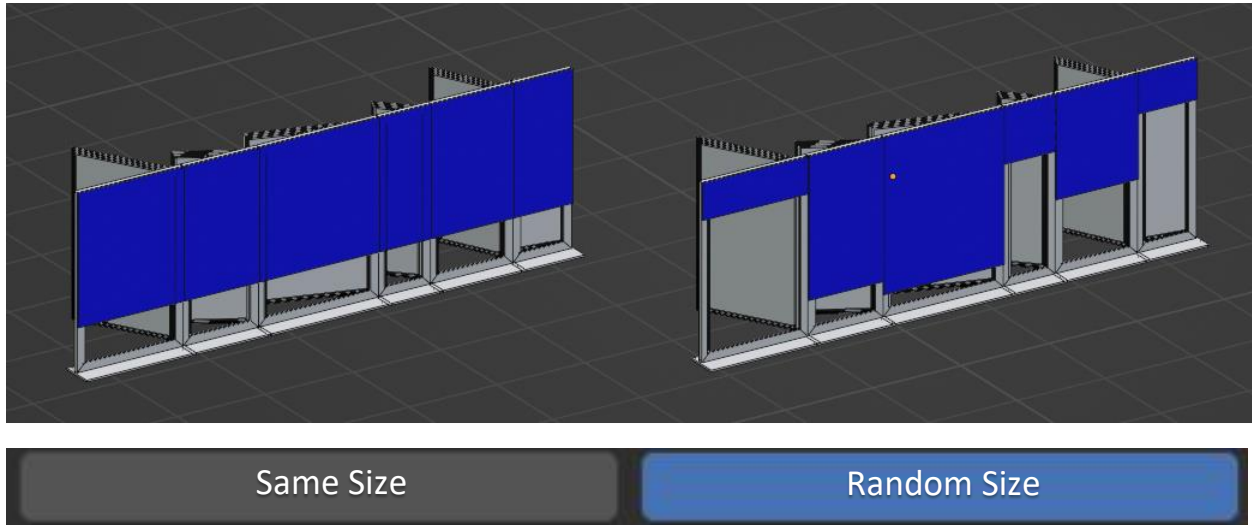
You need click on this small arrow to expand the Blinds Panel



Show / Hide Blinds Switch: Enable this to be able to see the blinds and disable it if you want to hide it. See Picture below



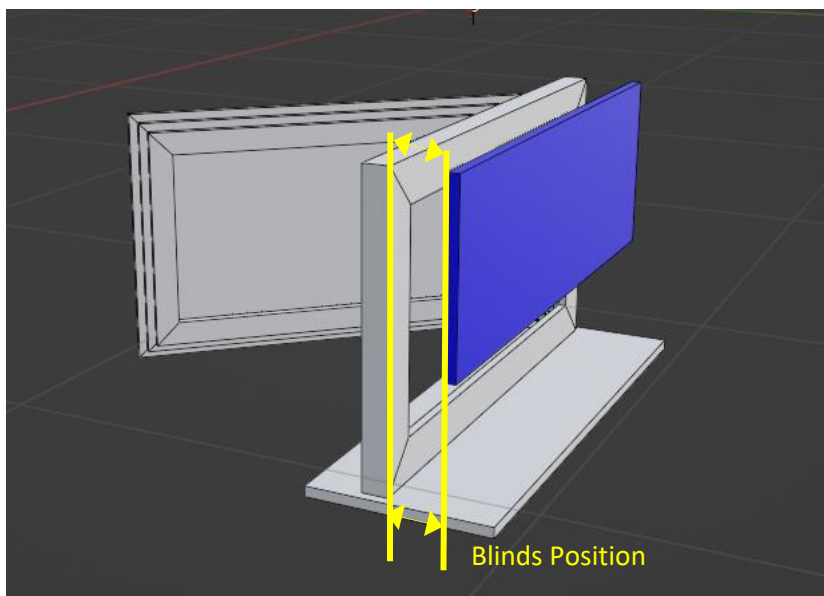
Same / Random Size Switch: Set “Same size” if you want all blinds open at the same percentage, set it to Random if you want them all different. See picture below



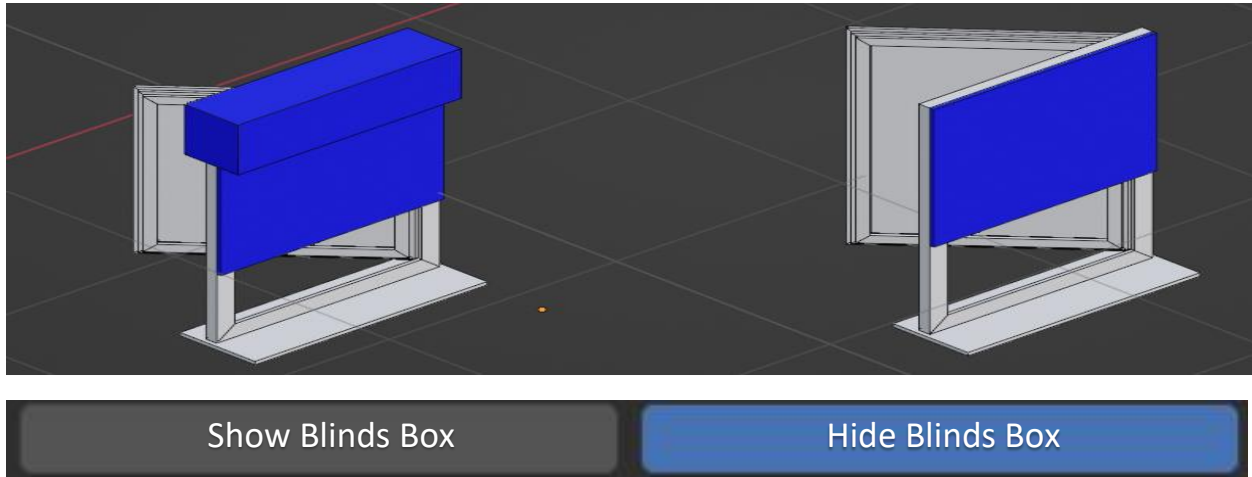
Size Blinds (this parameter is visible only if Same Size is enabled): This value is percentage of opening of the blinds. For example 0 will give us a fully open blinds, 0.3 will set it to 30% open, and 1.0 will close it completely.

Maximum Size Blinds (this parameter is visible only if Random Size is enabled): This value is the maximum percentage of opening of the blinds. For example 0 will give us all blinds fully open blinds, 0.6 will set all blinds open **up to a maximum** of 60% open, so they can be fully closed or any percentage between 0 and 60% open. This value can be randomly shuffled with the **Random Seed Value**.

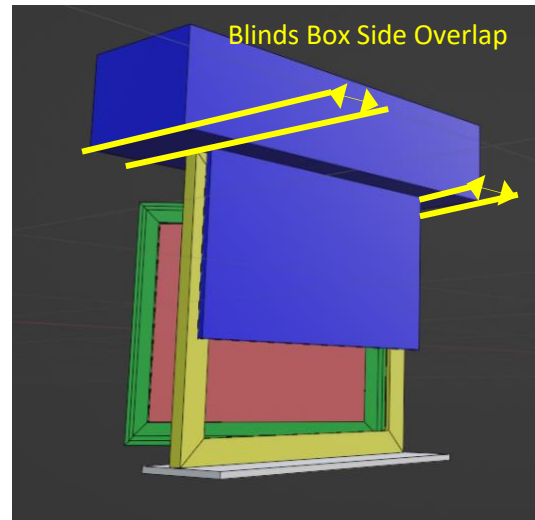
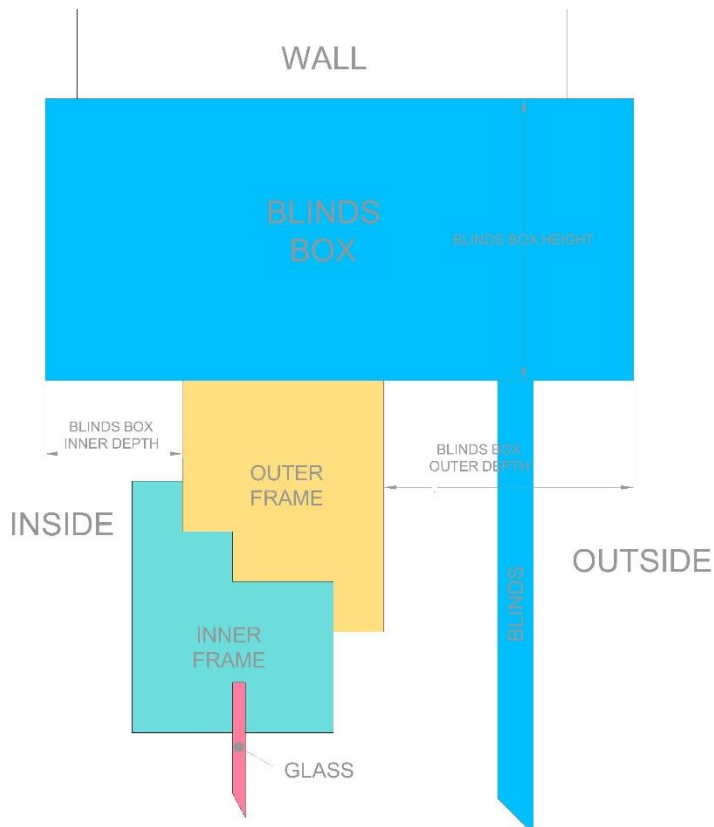
Adjust Blinds Position: this value is the distance of the blinds from the outer frame of the window, see picture below.



Show / Hide Blinds Box Switch: Enable this to be able to see the blinds box and disable it if you want to hide it. See Picture below



Blinds Box Side Overlap: Set the size of the side overlap of the blinds box. See picture on the right



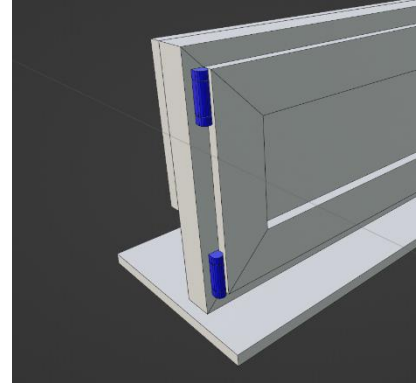
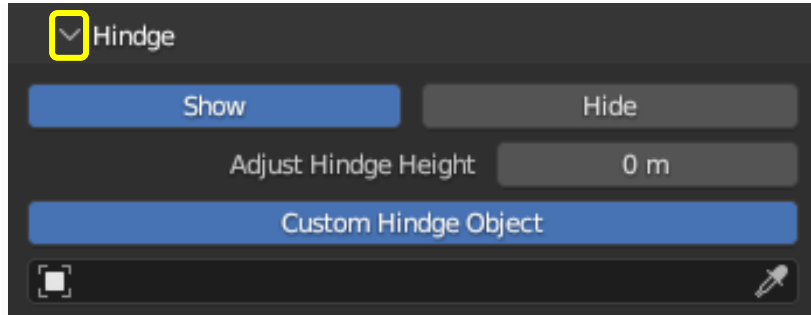
Blinds Box Height: Set the height of the blinds box. See picture on the left

Blinds Box Outer Depth: Set the outer depth of the blinds box. See picture on the left

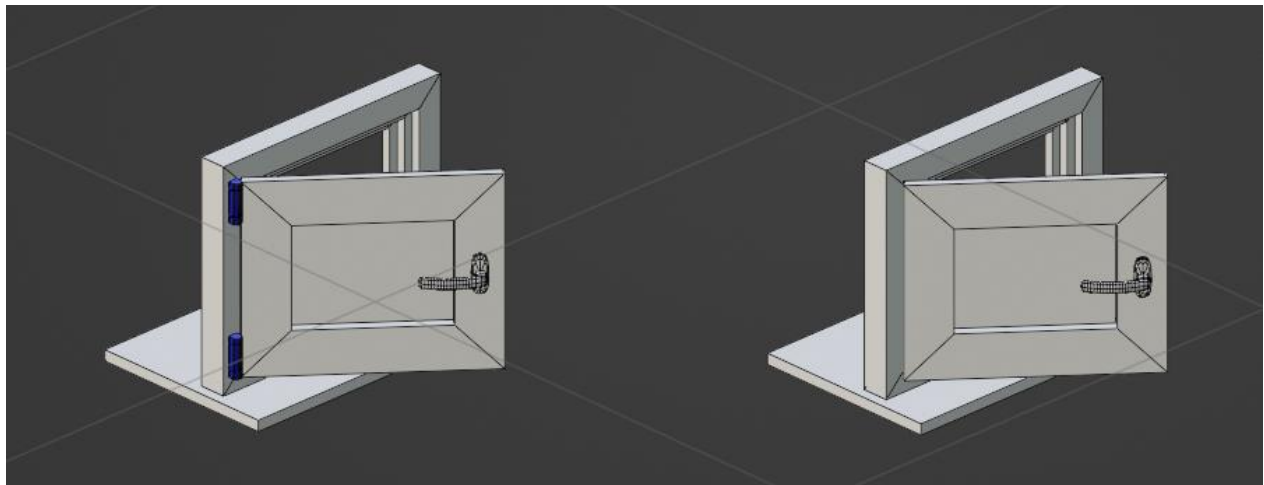
Blinds Box Inner Depth: Set the inner depth of the blinds box. See picture on the left

Hindge

You need click on this small arrow to expand the Hindge Panel



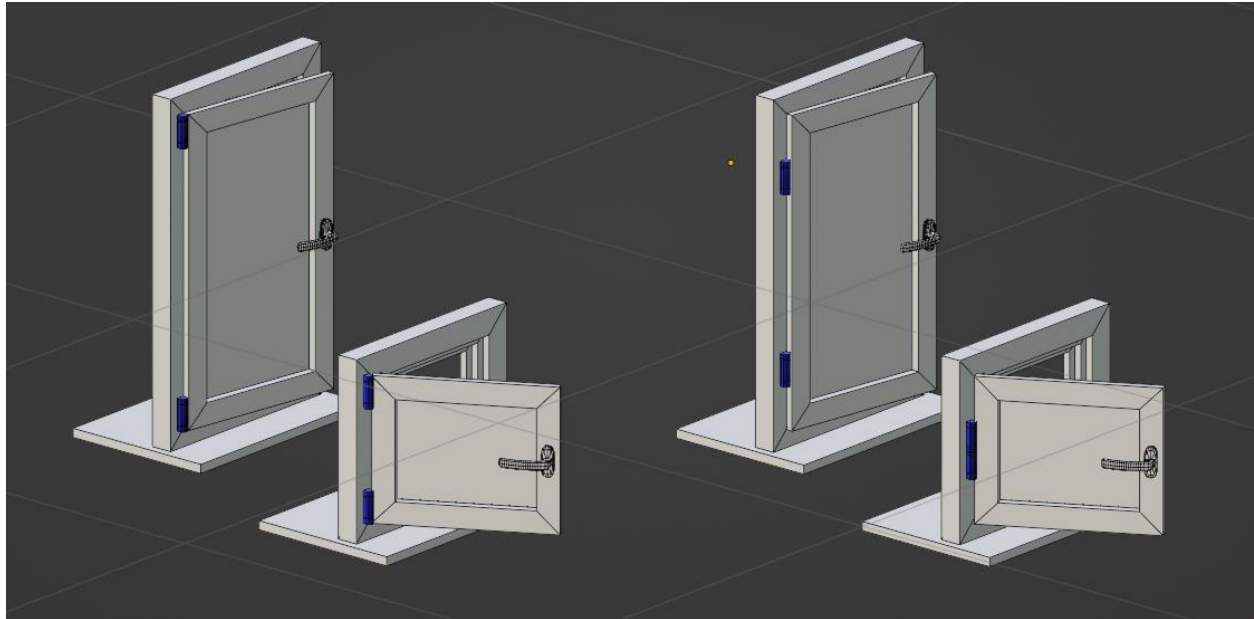
Show / Hide Hindge Switch: Enable this to be able to see the hidges and disable it if you want to hide them. See Picture below



ENABLED

DISABLED

Adjust Hinge Height: 2 hinges by default are placed on top and bottom of the inner frame of the windows. This parameter controls the position these hinge in a way so that the upper hinge gets positioned down by the value set and the bottom one gets positioned up the same amount. See picture bellow



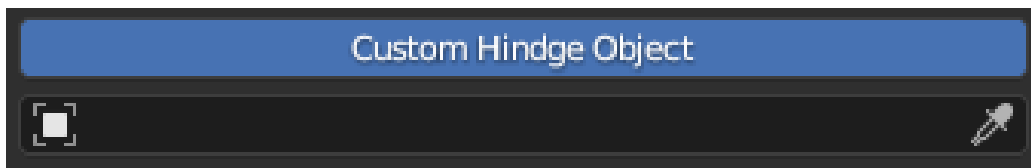
Value set to 0

Value set to 0,1 m

Custom Hinge Object: By enabling this you can select a custom objects as hinges



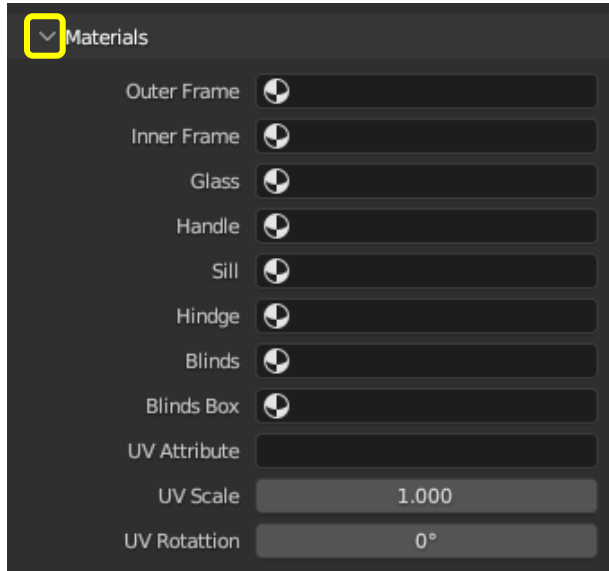
When this is enabled 1 new parameters appears:



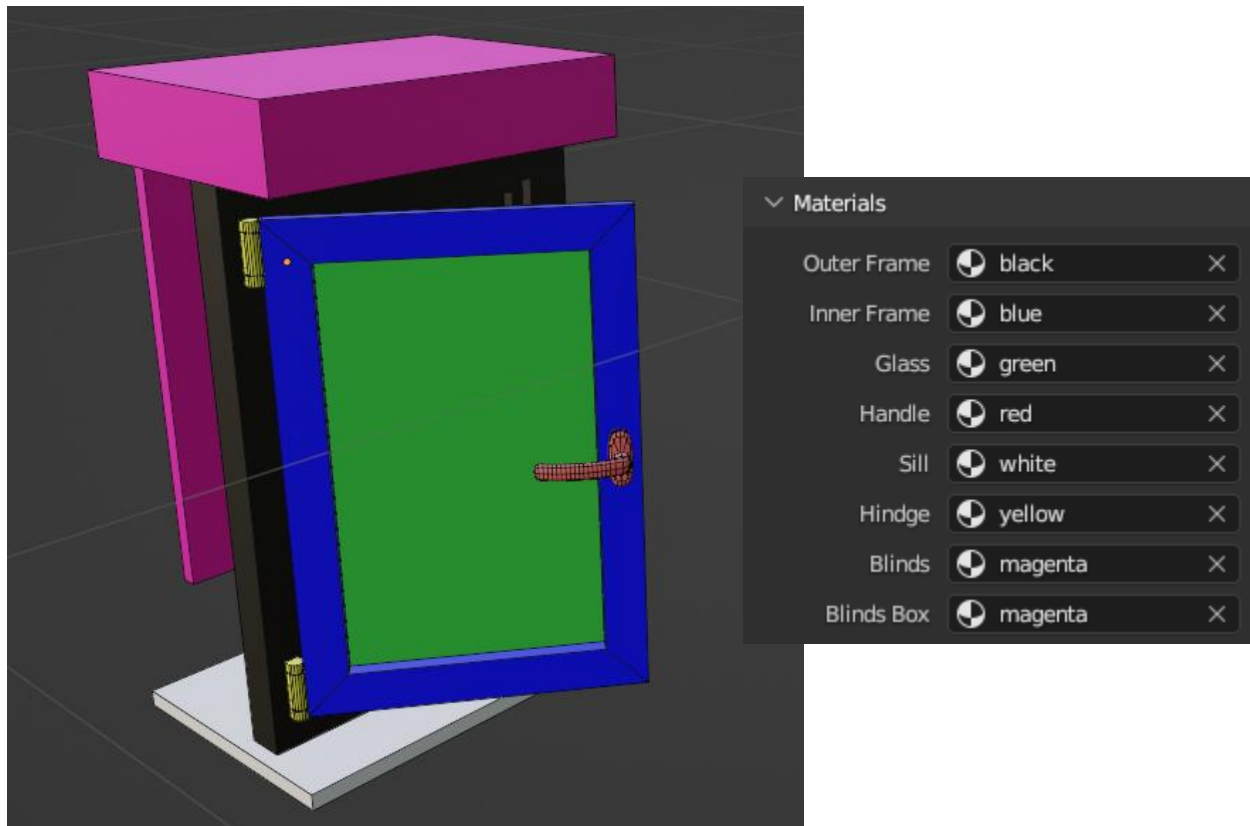
Empty Box: Here You select the custom object as the hinge

Materials

You need click on this small arrow to expand the Materials panel



Empty Boxes: Here, for each part of the windows, you can select a material of your choice from the list of materials present in your scene.

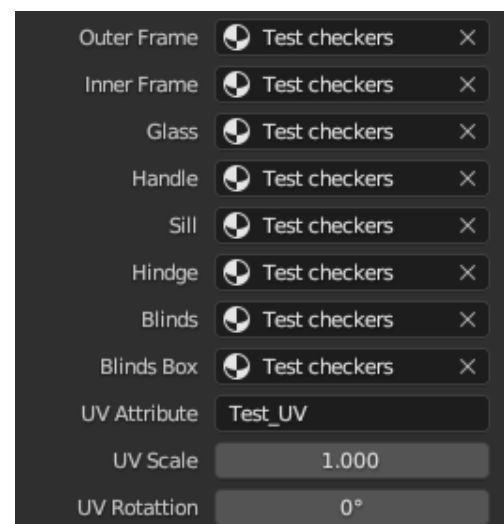
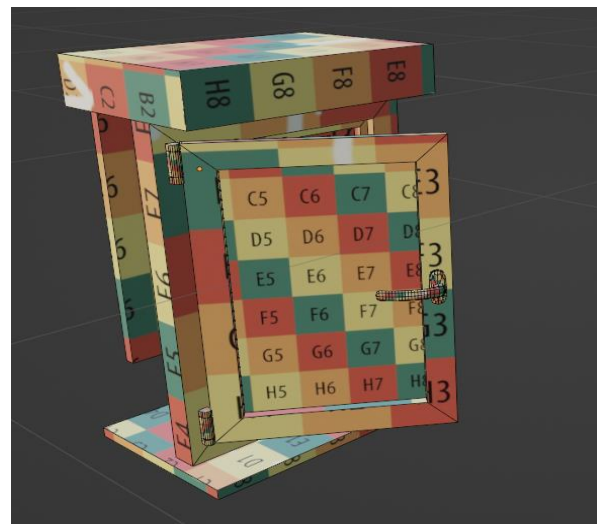
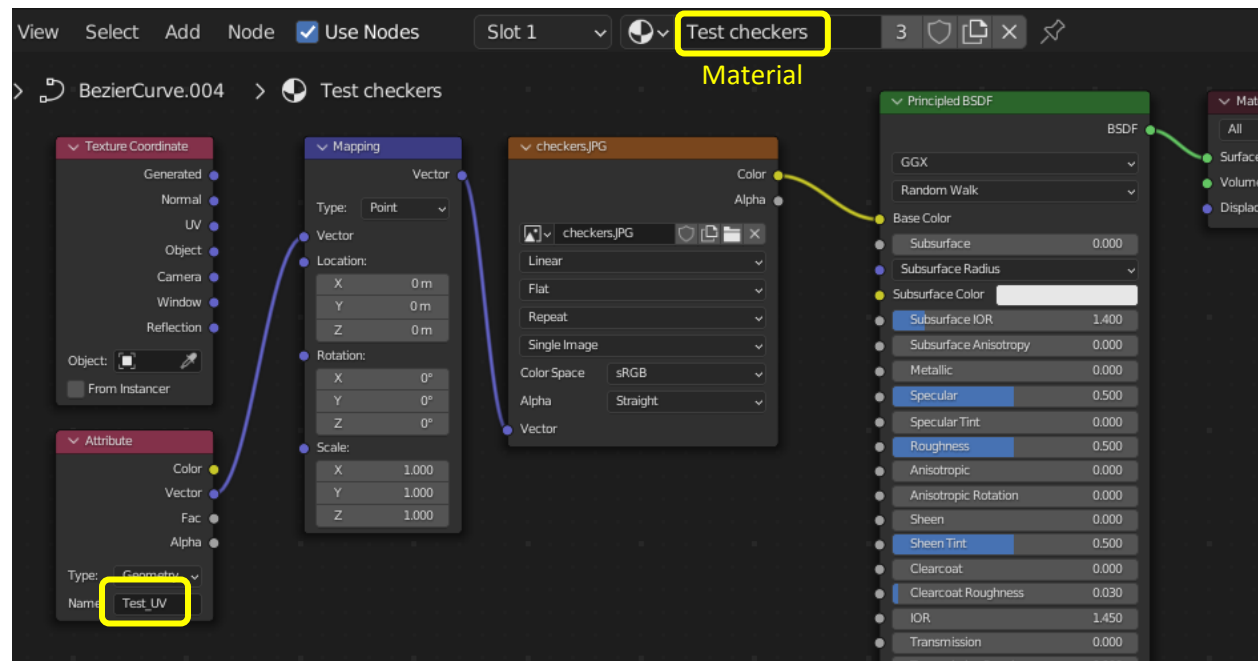


If your materials have a texture there are 2 things you need to do.



1. In this UV Attribute box you need to type a string, let's write "Test_UV" for this example

2. In the Shader editor of the material you want, you need to add an Attribute Node, and in it, in the Name box you need to type the same string you put in the UV Map box above ("Test_UV") paying attention to the lower-upper case. And lastly, you need to connect the output vector socket of the attribute node to the input vector socket of the mapping node. See Picture

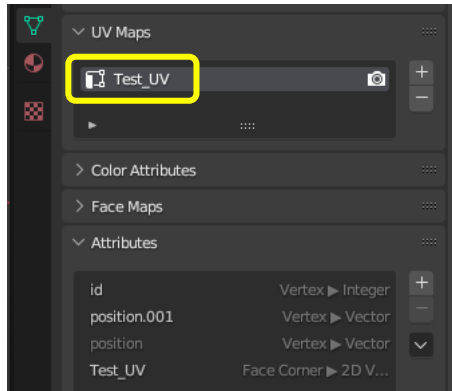


UV Scale: This parameter will simply scale the texture of all applied materials.

UV Rotation: This parameter will simply rotate the texture of all applied materials.

Export UV Map

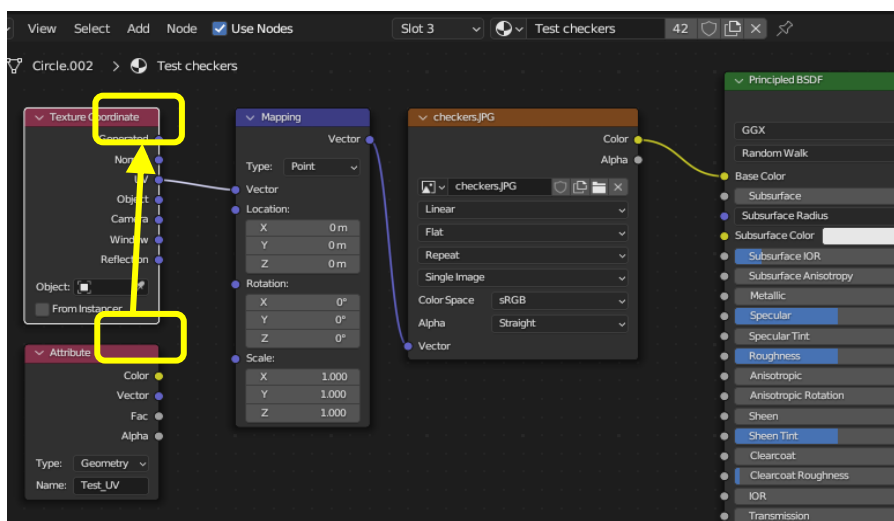
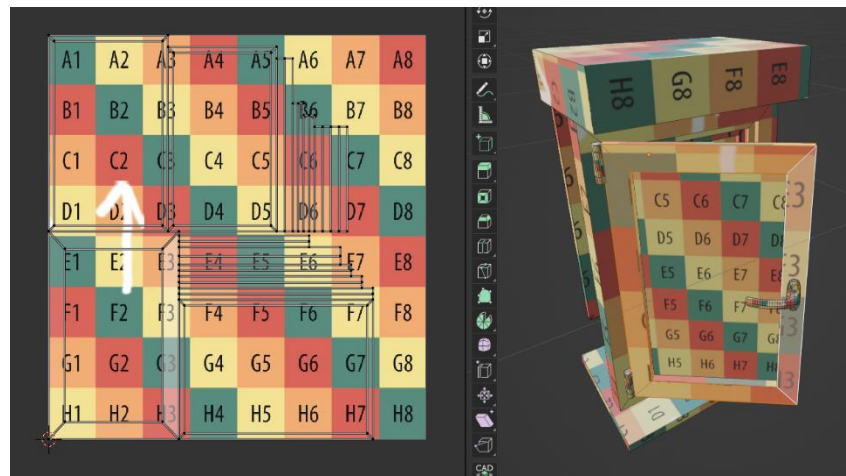
How to create a real UVMap exportable into other 3d software?



Once you press the [Apply Geometry button](#), this addon will create automatically a new UVMap.

It will be named the same name you gave it in the UV Map Box (in this case it's named Test_UV), or, if you left this Box empty, it will be named "BB.UV.Map"

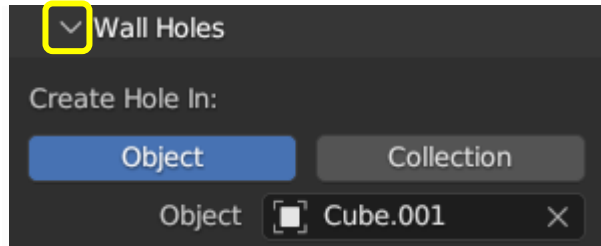
This is all, you can now edit the UVMap in the UV Editor.



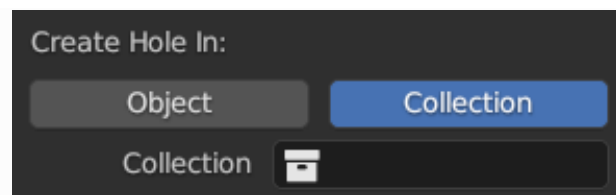
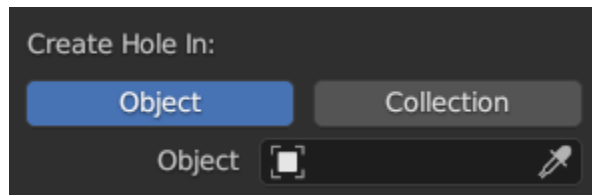
But when you want to export the model into other 3d software you'd probably also want to change the input of the Vector of the Mapping Node from the Attribute Vector to the standard UV Texture coordinate (for every used material)

Wall Holes

You need click on this small arrow to expand the Wall Holes panel

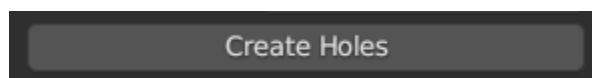


Create Hole in Object/Collection Switch: This button will give you the option to choose whether you want to create holes for windows inside an object or collection of objects. If you select Object, then an empty object box will appear, while if you select Collection, an empty collection box will appear. See picture bellow

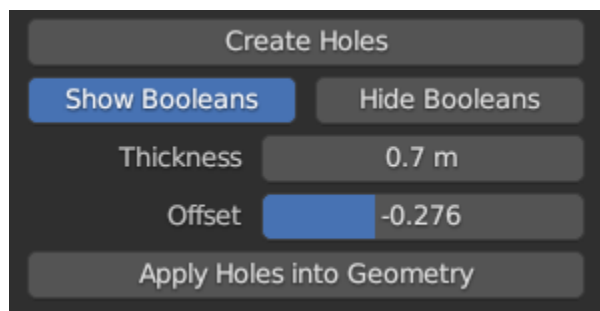


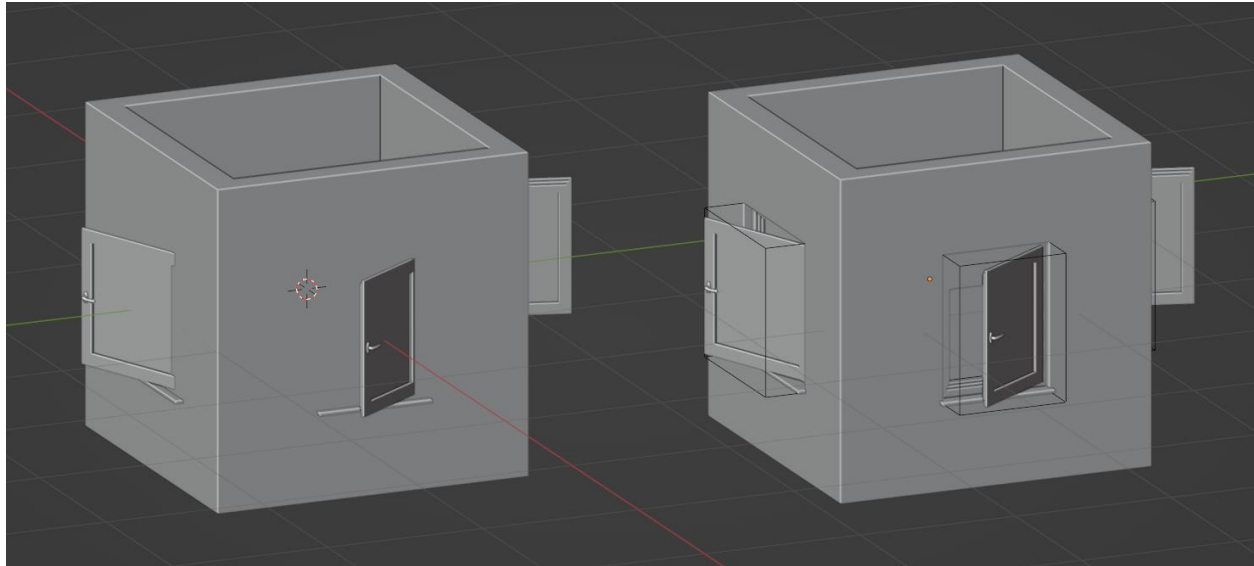
In this Empty box you can select your wall object (or Collection of wall objects) in which you want to create holes from windows.

Once you select one or the other, this Create Holes Button will appear:



When you click on it holes inside the selected object will be created and these new options will appear inside the panel

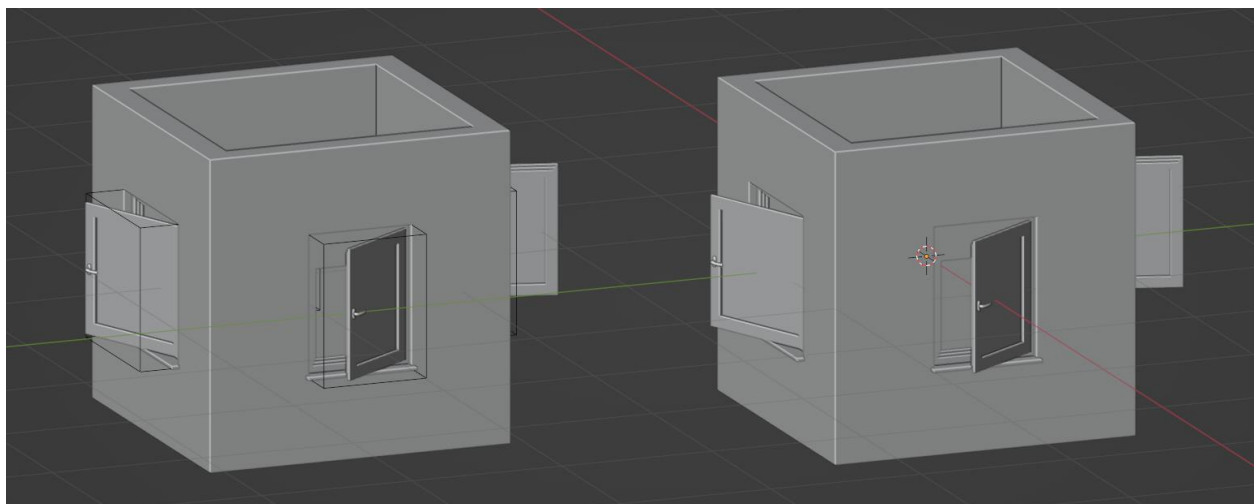




Start Geometry

Result after creating Holes

Show/Hide Booleans Switch: Show or hide the boxes (booleans) that procedurally create holes inside the wall object(s). The holes will still be there but these wireframe boxes that create them will not be visible. See picture bellow



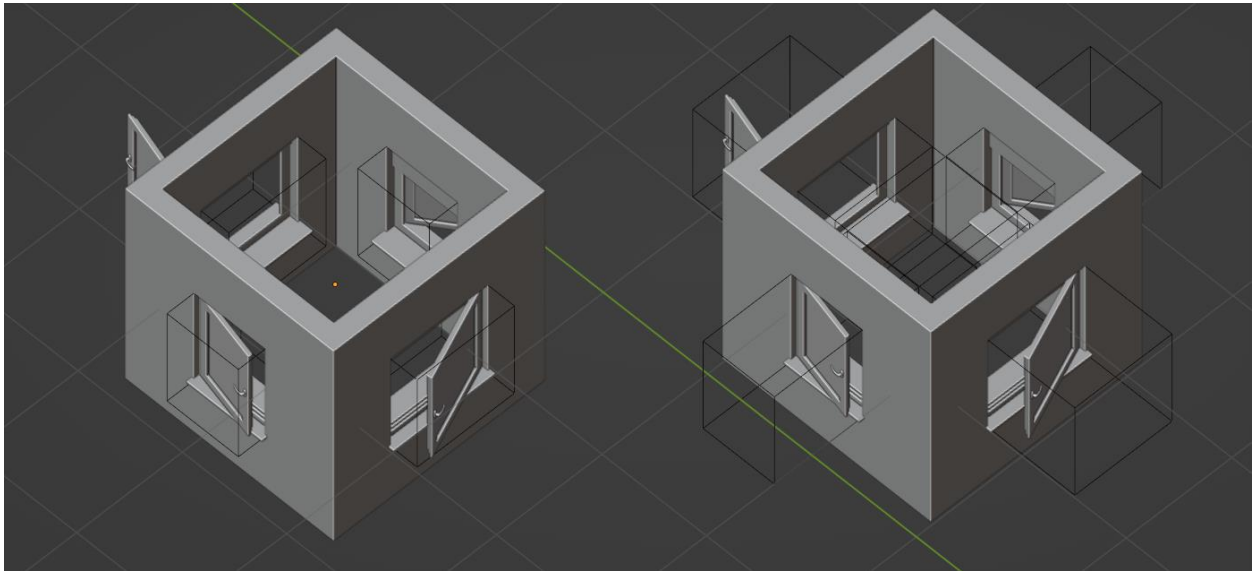
Show Booleans

Hide Booleans

ENABLED

DISABLED

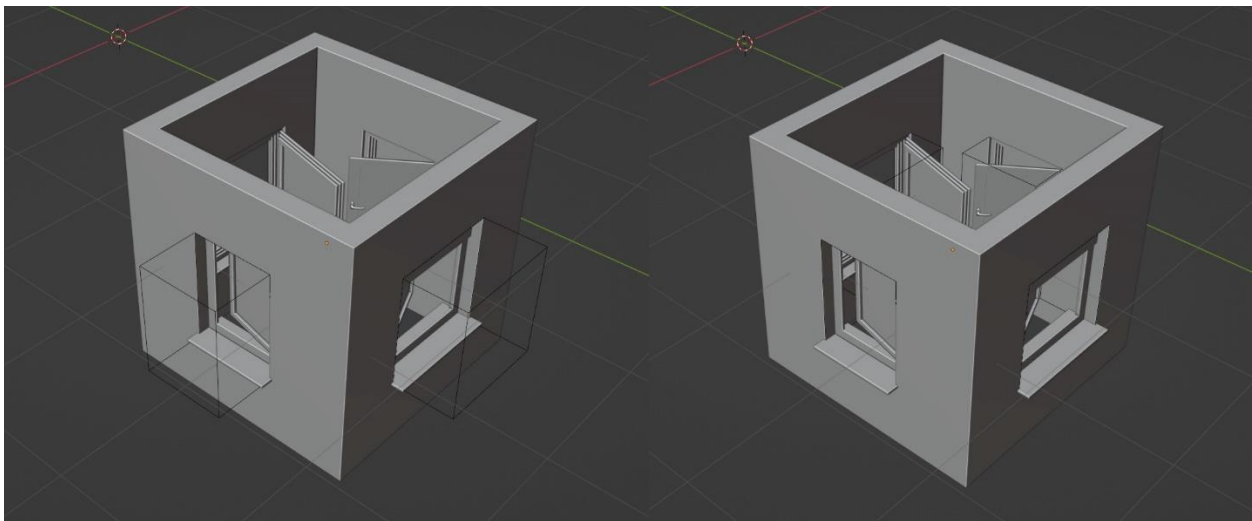
Thickness: This value defines the depth (thickness) of the boolean box. See picture below



Thickness set to 0,5 m

Thickness set to 1,5 m

Offset: This slider value from -1 to 1, if set to 1 pushes the entire boolean boxes in front of the plane window, towards the outside the wall, while if set to -1, it will push the entire boolean boxes behind of the plane window, towards the inside of the wall. All the values between -1 and 1 will place the box proportionally between these two extremes. See picture below



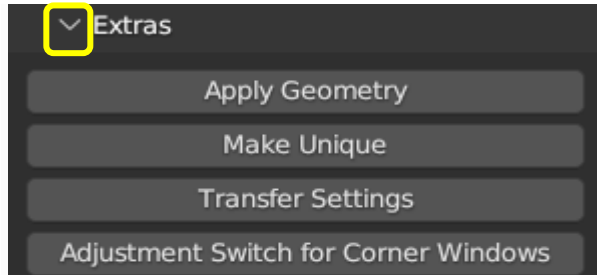
Offset set to 1

Offset set to -1

The holes will behave procedurally, which means that if you add new windows by adding new planes inside the mesh geometry, new boolean boxes will appear and create holes of their own automatically. Same thing happens if you move these planes around. Holes will move accordingly. But once you press the **Apply Holes into Geometry Button**, the holes become part of wall geometry and don't behave that way anymore.

Extras

You need click on this small arrow to expand the Extras panel

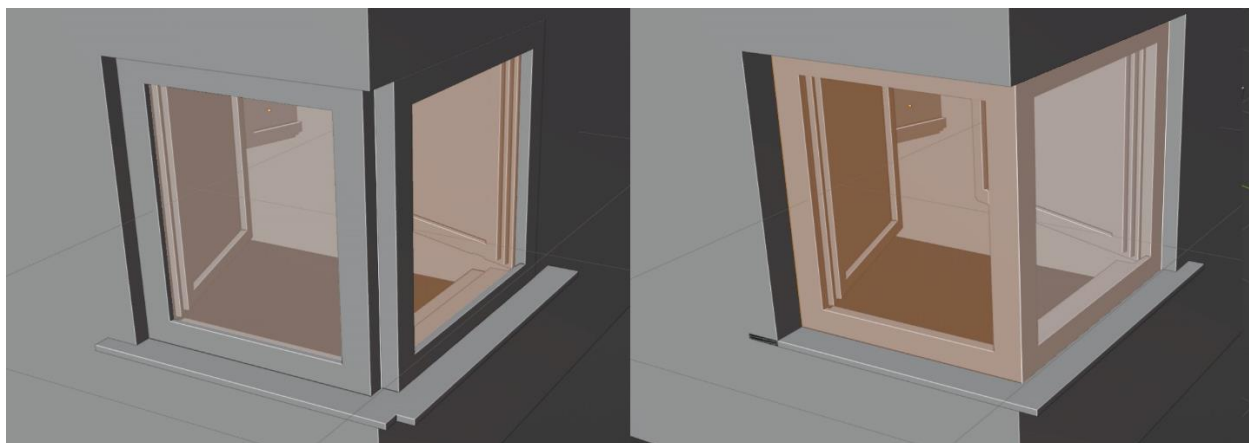


Apply Geometry: This button will apply the geometry of the windows and you'll be able to enter into edit mode and edit the geometry the "traditional" way. Once you apply the geometry all the parameters will disappear and you won't be able to edit the windows with any of the parameters you see in this manual but it will behave like an ordinary part of geometry.

Transfer Settings: If you already designed the windows you wanted but then added a windows object that you want to have the same exact parameters (frame width, height, custom objects, certain other settings, etc...) you can use this button. You just need to select both windows objects but the one you're copying the settings from needs to be the active one (so selected last). This button simply copies modifiers.

Make Unique: Once you transfer settings from one stairs object to another, you've actually created a clone, and by editing one you'll be editing the other one too. So this button will break the link and create a unique copy of the windows object that you can now edit differently from the first one. The same thing happens if you duplicate a windows object (Shift + D), it will create a clone, so in this case also, this button will make a unique copy.

Adjustment Switch for Corner Windows: If you have corner windows, because of the way window geometry is created, the frame geometry will intersect, use this switch to correct weird intersections. Enable it if you're looking at the windows from outside the building and disable it if your camera is inside the building. See picture below.



Adjustment Switch for Corner Windows

Adjustment Switch for Corner Windows