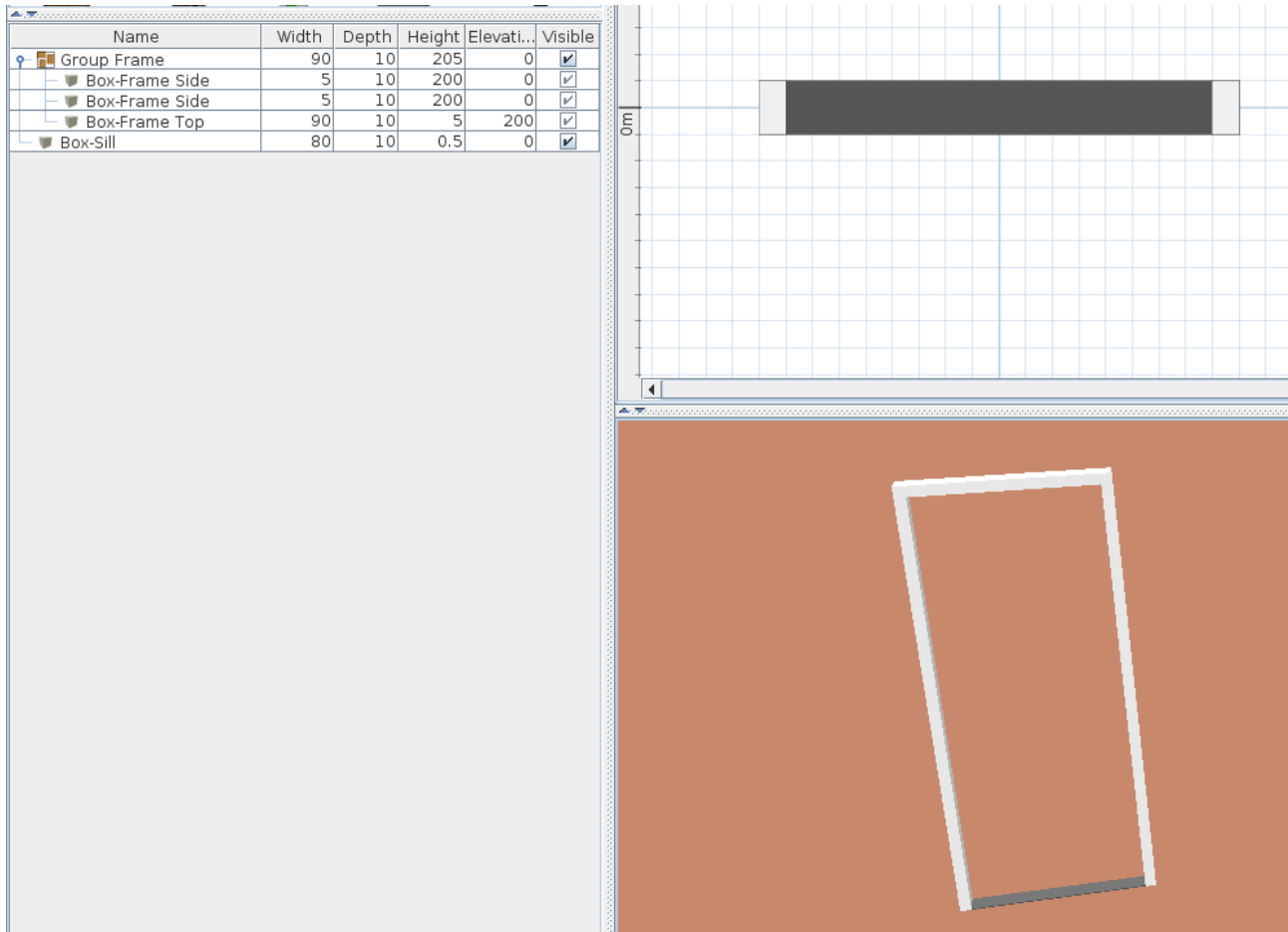


# How-To create Bifold Doors

This How-To takes you step-by-step through the process of creating your own bifold doors.

## 1. The frame



Drag three boxes in the 2D pane and resize them as displayed in the image. Rename each Box so you know what each box is.

Export the three frame boxes to Frame.obj. Using a plain text editor, edit the Frame.obj and Frame.mtl files:

In the obj file replace all lines starting with 'usemtl ' with 'usemtl Frame'. In the mtl file change the line starting with 'newmtl ' of the first block with 'newmtl Frame'. Remove the rest of the blocks. Import Frame.obj (drag it from your filemanager into the 2D pane).

Export the sill box to Sill.obj. Edit the Sill.obj and Sill.mtl files:

In the obj file replace all lines starting with 'usemtl ' with 'usemtl Sill'. In the mtl file change the line starting with 'newmtl ' of the first block with 'newmtl Sill'. Remove the rest of the blocks. Import Sill.obj.

## 2. The doors

The space inside the frame is 80cm wide and 199.5 cm high (the sill takes away 0.5cm at the bottom). For bifold doors must be 40cm to make two doors fill the 80cm gap.

Drag a box in the 2D pane and rename it Box-Door. Resize it with the measurements we calculated. Make the depth 3cm.

Export the door box to DoorLeft.obj. Edit the DoorLeft.obj and DoorLeft.mtl files:

In the obj file replace all lines starting with 'usemtl ' with 'usemtl Door'.

Edit each line starting with 'g ' and prefix the name with

'sweethome3d\_opening\_on\_hinge\_1\_'

Each g line should look like this: 'g sweethome3d\_opening\_on\_hinge\_1\_...'

In the mtl file change the line starting with 'newmtl ' of the first block with 'newmtl Door'.

Remove the rest of the blocks. Import DoorLeft.obj.

Export DoorLeft again as DoorRight.

Edit the DoorLeft.obj and DoorLeft.mtl files: replace all string 'hinge\_1\_' with 'hinge\_2\_'.

Import DoorRight.obj.

## 3. The handle

Drag a cylinder in the 2D pane and resize it with width 1cm, depth 1cm, and height 15cm.

Drag another cylinder in the 2D pane and resize it with width 1cm, depth 1cm, and height 4cm. Set the X-axis to 90°. Copy and paste this cylinder. Elevate one 1.5cm and the other 12.5cm.

Align the two small cylinders with the bottom and left of the longer cylinder. Move the two small cylinder 0.5cm up. Group them and name the group GroupHandle.

Export GroupHandle to Handle.obj.

Edit the Handle.obj and Handle.mtl files: In the obj file replace all lines starting with 'usemtl ' with 'usemtl Handle'. Give all lines starting with 'g ' the prefix

'sweethome3d\_opening\_on\_hinge\_2\_'. Each g line should look like this:

'g sweethome3d\_opening\_on\_hinge\_2\_Cylinder\_...'

In the mtl file change the line starting with 'newmtl ' of the first block with 'newmtl Handle'.

Remove the rest of the blocks. Import Handle.obj.

## 4. The hinges

We need three hinges on the left door that attach to the frame and we need another three hinges to attach the right door to the left door. To make the doors open in Sweet Home 3D we need three types of hinges: for the frame side two hinges that 'do nothing', and one hinge that is the deformation hinge\_1 for the left door. For the hinges between the two doors we need 2 hinges that open on hinge\_1 and one hinge\_2 that opens on hinge\_1.

Drag a cylinder in the 2D pane and resize it to width 0.5cm, depth 0.5cm and height 6 cm. Name it Cylinder-Hinge.

Export the cylinder to HingeLeft.obj (the 'do nothing hinges')

Export the cylinder to HingeLeft1.obj (the deformation hinge\_1)

Export the cylinder to HingeRight.obj (the hinges opening on hinge\_1)

Export the cylinder to HingeRight2.obj (the deformation hinge\_2 opening on hinge\_1)

Edit the HingeLeft.obj and HingeLeft.mtl files:

In the obj file replace all lines starting with 'usemtl ' with 'usemtl Hinge'. In the mtl file change the line starting with 'newmtl ' of the first block with 'newmtl Hinge'. Remove the rest of the blocks. Import HingeLeft.obj.

Edit the HingeLeft1.obj and HingeLeft1.mtl files:

In the obj file edit the line starting with 'g Cylinder\_' and that is followed by the line with 'usemtl cylinder'. Add 'sweethome3d\_hinge\_1\_' before 'Cylinder\_...':

The line should look like this: 'g sweethome3d\_hinge\_1\_Cylinder\_32\_2'.

We use that specific line because that g group is the cylinder part of the object. The other two parts are the top and the bottom. The cylinder becomes the deformation hinge.

Now change all lines starting with 'usemtl ' with 'usemtl Hinge'.

In the mtl file change the line starting with 'newmtl ' of the first block with 'newmtl Hinge'.

Remove the rest of the blocks. Import HingeLeft1.obj.

Edit the HingeRight.obj and HingeRight.mtl files:

In the obj file edit each line starting with 'g ' and prefix the name with 'sweethome3d\_opening\_on\_hinge\_1\_'

Each g line should look like this: 'g sweethome3d\_opening\_on\_hinge\_1\_Cylinder...':

sweethome3d\_hinge\_2\_and\_sweethome3d\_opening\_on\_hinge\_1\_

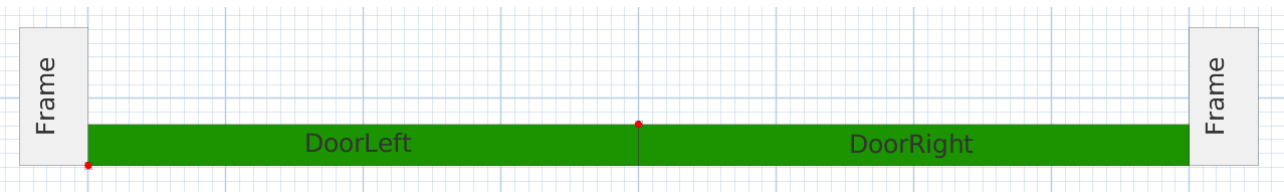
Edit the HingeRight2.obj and HingeRight2.mtl files:

In the obj file edit the line starting with 'g Cylinder\_' and that is followed by the line with 'usemtl cylinder'. Add 'sweethome3d\_hinge\_2\_and\_sweethome3d\_opening\_on\_hinge\_1\_' before 'Cylinder\_...':

The line should look like this:

'g sweethome3d\_hinge\_2\_and\_sweethome3d\_opening\_on\_hinge\_1\_Cylinder\_32\_2'.

## 5. Combining all parts



The image shows where hinges should be placed.

If you haven't imported all the parts you created then do that now. Import HingeLeft and HingeRight twice.

Start with the Frame and place it at the 0,0 location. Add the Sill also at 0,0.

Align the doors by using the 'align side by side' function from the context menu.

Group the doors and place them at the X location 0, then align them with the bottom of the frame. Elevate the doors group by 0.5 so they are on top of the Sill and not at the same elevation. Ungroup the doors.

Elevate the Handle to 100cm and place it on DoorRight. A few cm from the left.

Elevate one of the HingeLeft objects 20cm, the other HingeLeft 174cm. Elevate HingeLeft1 97cm.

Select the two HingeLeft objects and the HingeLeft1 object and align them top and left. Group them and name the group GroupHingesLeft.

Elevate one of the HingeRight objects 20cm, the other HingeRight 174cm. Elevate HingeRight2 97cm.

Select the two HingeRight objects and the HingeRight2 object and align them top and left. Group them and name the group GroupHingesRight.

Align the GroupHingesLeft with the bottom and left of DoorLeft. Select only the GroupHingesLeft and move it 0.25cm to the left and 0.25cm down.

Align the GroupHingesRight with the top of DoorRight. Set the X location to 0. Move it 0.25cm up.

(You will not see two decimals after you set them but as long as you don't move them they will retain their position.)

Select all parts and group them. Name the group GroupBifoldDoorParts.

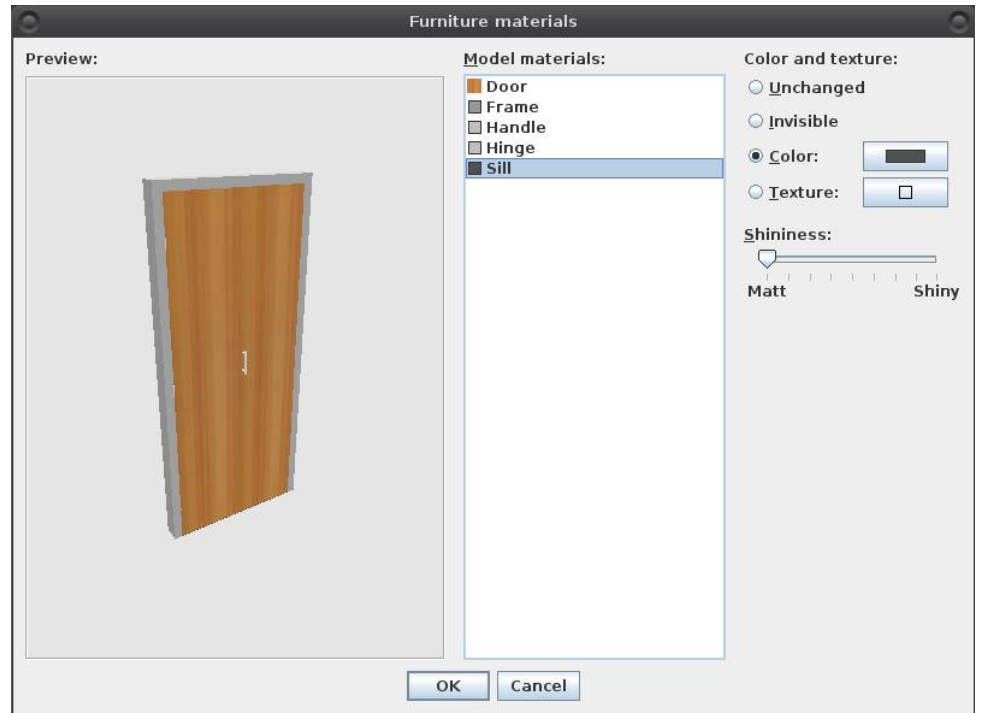
Export GroupBifoldDoorParts to BifoldDoors.obj.

Import BifoldDoors.obj.

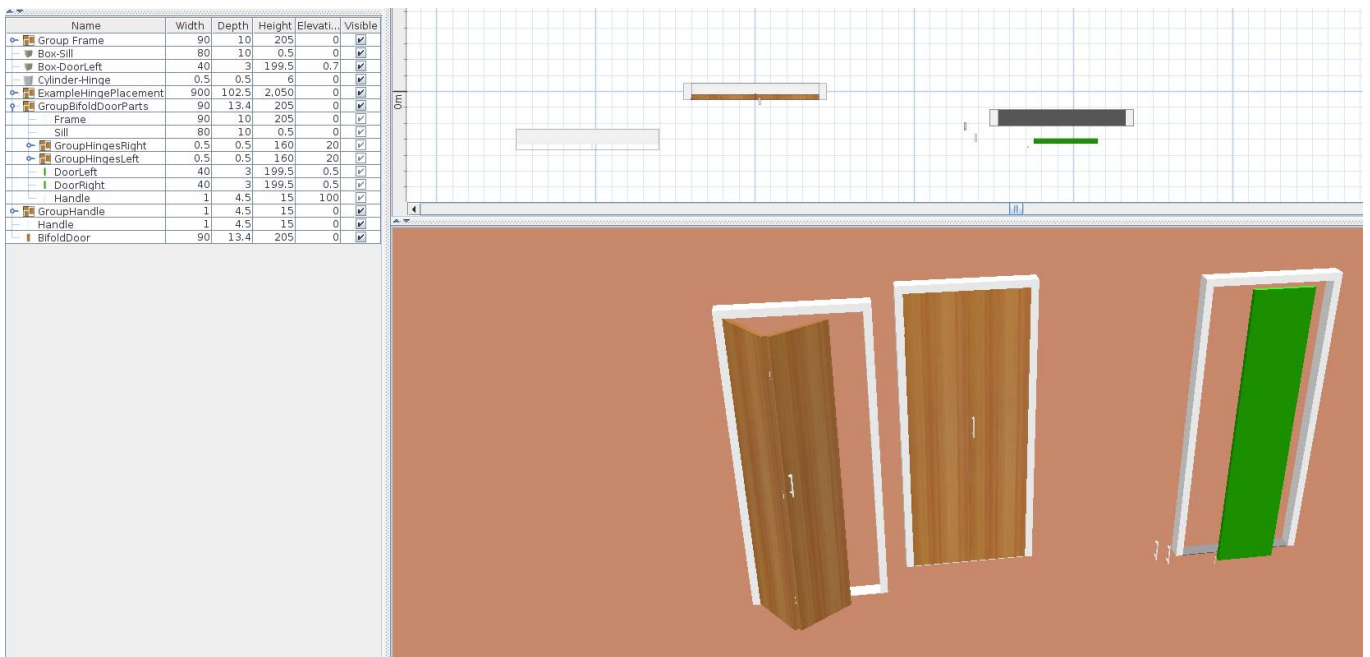
Modify the door with the colors and/or textures you want.

Export the door again to BifoldDoors.obj.

When you import it again you have the choice to check 'Door or window'. For a closet that is probably not necessary but if you want to place the doors in a wall you must check it. That way the doors will cut a hole for it.



And there is you bifold door.



This is just a basic door. You can create much fancier doors in place of DoorLeft and DoorRight but the principles remain the same.