

## How to use the DTILE SketchUp template

Sketchup free, relatively easy to operate and small design program.

The DTILE template contains all the available tiles and helps you to design your object.

In addition, it is, within this template, easy to determine the dimensions of the underlying structure and to count the needed tiles

This manual will explain, step by step, how it is done.

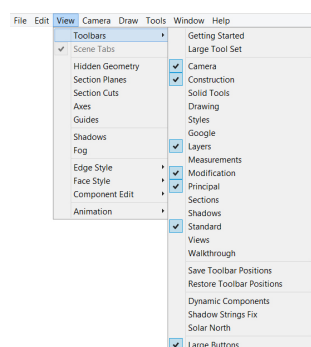
### General settings.

Since all objects are already created, you will need only a few tools. You could make unnecessary buttons invisible and the ones you work with, visible.

Click on the tool bar "View" and look under "Tools".

Check the following components:

Camera, Construction, Layers, Modification, Principal and Standard.



The following features will be visible in the tool bar



Principal



Camera



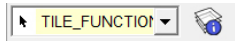
Modification



Construction



Standard



Layers

Because the DTILE system is based on the tile size of 15 by 15 cm, the template is set in such a way, that the tiles can be shifted within pattern (To check: click "Windows", "Model Info". Then click "Units", and make sure "enable length snapping" is checked, and is set to 150 mm.)

### How to view

To edit your object property you must, from time to time, change your viewpoint.

In the tool bar you will find a series of tools that make this possible.



Left click one of the symbols and hold the right mouse button. Move with the mouse over the object and the viewpoint will change.



Orbit; allows the viewpoint to rotate



Pan; this moves the viewpoint



Zoom; move the mouse forwards to zoom in, backwards to zoom out



Zoom Window; drag a frame, holding the left mouse button, over which you wish to zoom in



Zoom Extend; Zooms to the whole object



Previous; to go back to the previous viewpoint



Next; to go forwards to the next viewpoint


## How to stack the tiles.

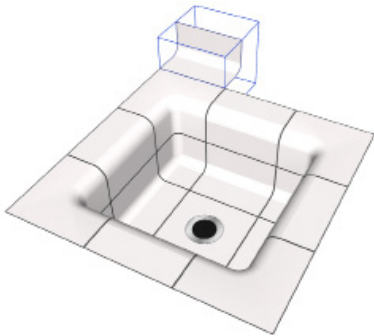
You do not need to start from scratch or create objects. To build your object, simply move, copy, stack, rotate and mirror the objects in the template.

You can use tools from the tool bar, but it is also possible to call these functions with the keyboard, the so-called short-cuts.

To edit a tile or tiles it needs to be selected first.

Click in the tool bar  or press:  (space bar).

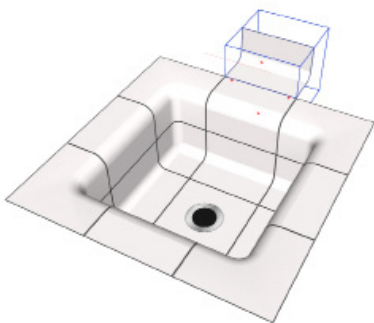
Select a tile by clicking on it. This is now caught in a blue wire frame and can be edited. To select multiple objects, hold  and click to select the tiles. (Click again the object will de-select) To select multiple objects, hold down the left mouse button and drag a rectangle to select the tiles.




## How to move

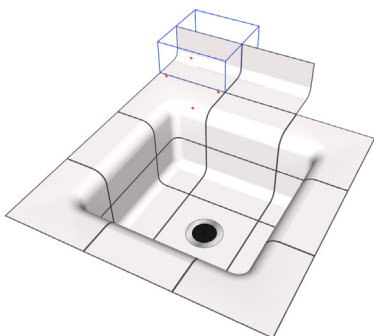
Select the tile. Click in the tool bar  or press .

The mouse pointer will turn into a cross with arrows. Click on the selected tile and move it using the mouse. Because the grid is set to 150 mm, the tile will automatically move within the pattern. Make sure the tiles are moved in a straight line. This is shown by the coloured (red, green or blue) dotted line. If the tile is at the desired location, click the left mouse button.



## How to copy

Press  while moving. A copy of the tile will appear. With the left mouse button, the tile can be placed in the desired position.

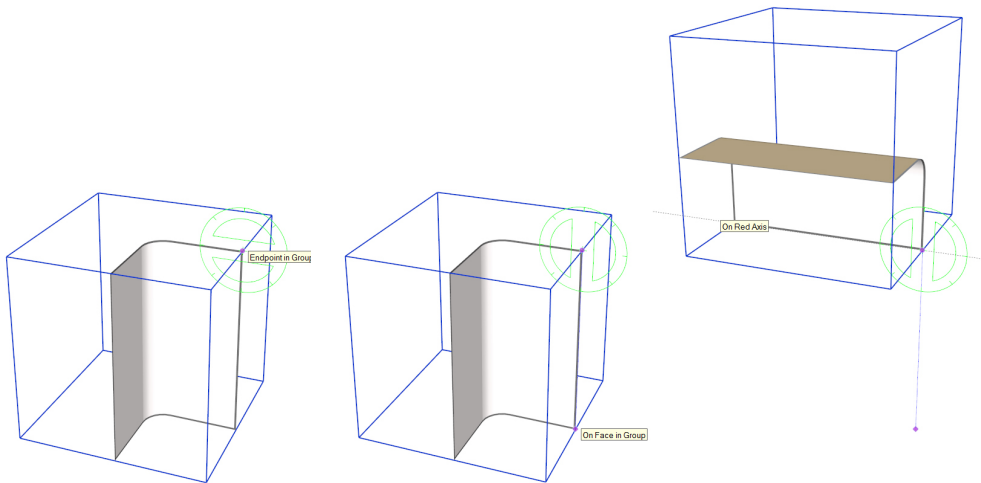


## How to rotate

Select the tile. Click in the tool bar  or press **Q**

A rotary disc will appear. Move the mouse over the tile you want to rotate, the wire frame will appear as well as a rotary disc. Hover over the tile, the colour of the rotary disc will change, indicating the direction of the rotation.


Click on a point sketchup calls “End point in group” in order to maintain the tile pattern. Click again to confirm the pivot point, and rotate the object by moving the mouse. The object will tend to stay in the grid but it wont hurt to confirm this in the box in the right bottom of the screen; “Angle” The tile has to rotate at an angle of 90, 180, or 270 degrees.

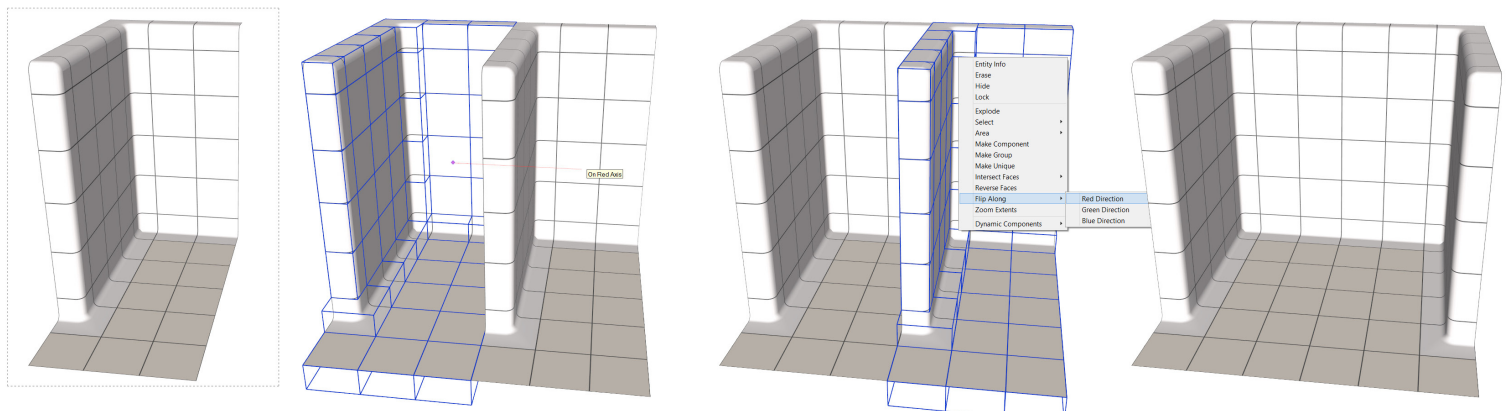


## How to mirror


The parts of your object which are symmetrically do not need to be build completely. Mirroring is a feature which can make your life easy.

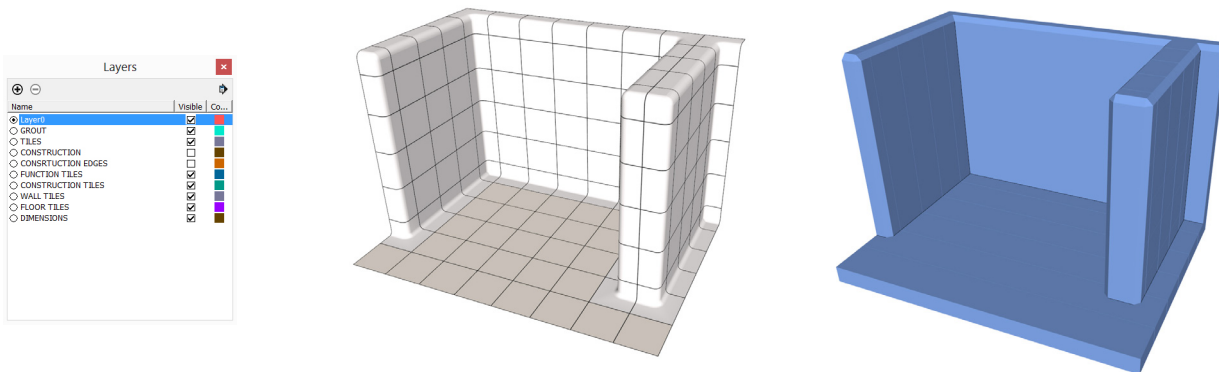
Select what you would like to mirror.

Click in the tool bar  or press **M** and click on the tiles. Drag the copies into place. Right-click, select “Flip Along” and choose the axis along which you want to mirror.




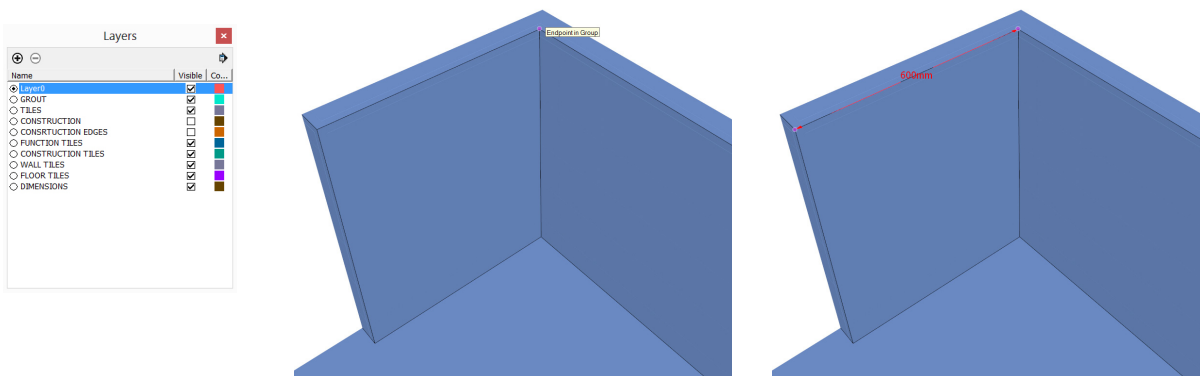
## The construction.

You have designed your object, but want to know how the structure, on which to tile, looks like. If you have designed your item in DTILE template, this construction is also, automatically, constructed. Simply render the tiles invisible and construction visible. Click, in the tool bar  or check “Windows”, “Layers”. The “Layers” box will appear and you can now turn layers off and on. Uncheck under “Visible” the layers “Tiles” and “Grout” and check “Construction”. The construction will now be visible.




## The measurements.

Because the construction is already drafted, it is very easy to determine the sizes. Check the “Construction Edge” layer. The edges of the structure are now visible. Make the layer “Dimensions” default, by ticking its circle. If you no longer need the sizes, simple render this layer invisible. Click in the tool bar . When the mouse pointer is moved over the object, it will change, at corner points, in a pink dot. Left click, if this is the point where you want to measure from. A second pink dot will appear. Drag it to another corner point. The size will appear.



## The numbers.

The needed tiles are very easy to determine. Click  or check “Windows”, “Model Info”. If you then click the “Statistics” button, you will see a list of the tiles used.