

ArchiTiles_{vers.2}



PLUG-IN FOR ARCHICAD®

Creation placement and calculation of tiles

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Manuale Utente

Updating from a previous version of ArchiTiles

Compatibility with previous versions and advice to users of previous versions

The working philosophy of this new version of ArchiTiles is completely different from that used in previous versions.

This has greatly improved use of the plug-in, but it also means there are a number of limitations with respect to previous versions.

As it uses different procedures and objects, this new version is NOT compatible with previous versions. You can, however, install it alongside these.

This means you can modify old projects using previous versions, while enjoying all the benefits of the new version for new projects.

Fundamentally, the main innovation in this version is the end result.

With previous versions, the end result (vertical tiling of walls or horizontal tiling of slabs and ceilings) was a non-editable GDL object which could not therefore be updated in any way.

If the user modified the host elements (the walls and slabs covered with the tiles), all ArchiTiles elements had to be eliminated and the modified parts had to be tiled again.

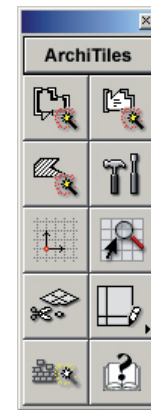
ArchiTiles 2 on the other hand uses a completely different technology (similar to ArchiCAD accessories) allowing the tiling to be updated/modified at any time.

Changes following modification of the host elements (the elements tiled using ArchiTiles), or changes to the tile layout (materials used, laying schemes, levels, etc.) can be made quickly and easily at any time.

The ArchiTiles tool palette

The ArchiTiles tool palette provides access to all the commands used by this plug-in to generate all types of tiling.

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Information displays information on the plug-in and the contents of the associated dongle

Wall tiling Zone procedure for tiling all the walls surrounding an ArchiCAD zone

Floor tiling Zone procedure for tiling the surface covered by an ArchiCAD zone, for floors and ceilings

Surface tiling Fill procedure for tiling the surface covered by an ArchiCAD fill

Change settings procedure for changing the configuration of a tiling object

Show/Edit origin procedure for viewing/editing the origin of the laying and the 2D symbol settings

Find and change material procedure to find and change the materials and/or textures used in a tiling object

Cut tiling procedure to cut/make holes in the tiling object

Create custom pattern/profile procedure to create custom patterns and profiles to be used for tiling

Data update procedure to update the tiling object data after making changes to the host element

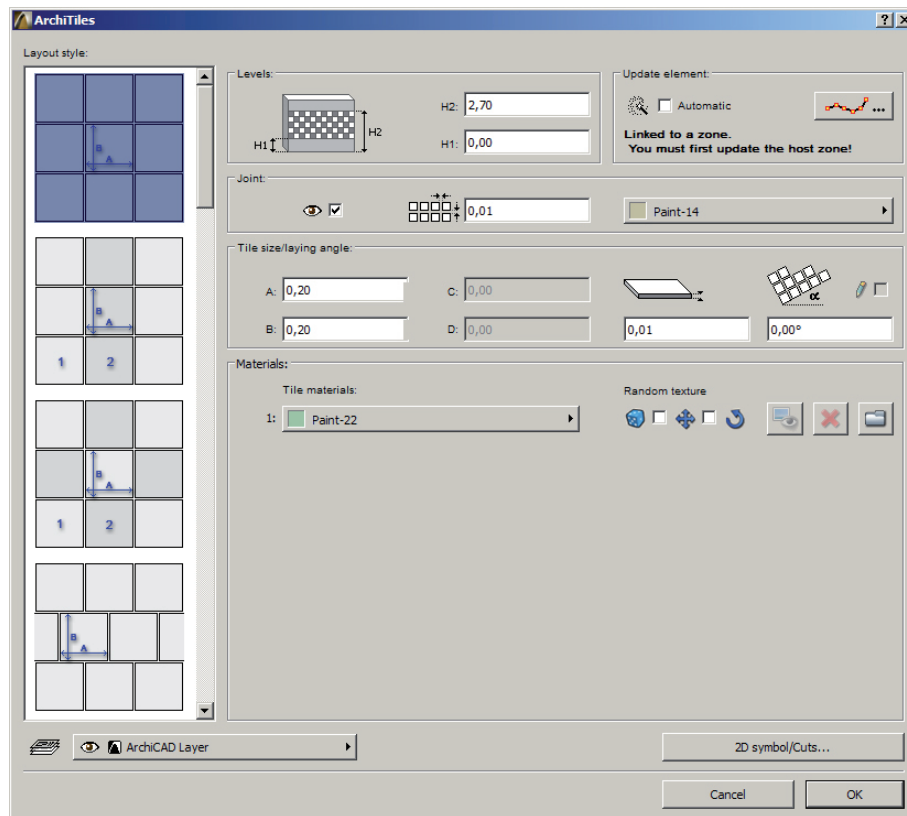
Help online displays this PDF manual online.

Tiling the walls surrounding a zone

The first icon in the ArchiTiles palette is used to tile all the walls surrounding a selected zone



Select a zone in the ArchiCAD plan view. There will be a pause while ArchiTiles gathers all information on the elements linked to the selected zone, then the following dialog box will appear:



Tiling settings

In this dialog box, you can configure all details of the wall tiling indicated (but as explained below, most of this dialog is also common to horizontal areas of tiling).

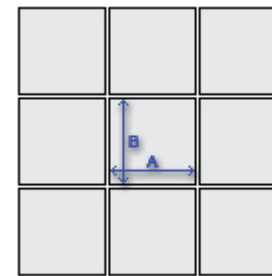
You can choose your laying scheme from those displayed in the scrollable list on the left of the dialog.

The surface materials and sizes used in each of these styles can be customised.

Laying schemes

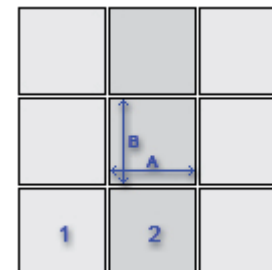
The various laying schemes available are explained below.

Simple laying scheme



The tiles are laid in a simple pattern in which a basic element (A and B dimensions configurable) is repeated horizontally and vertically.

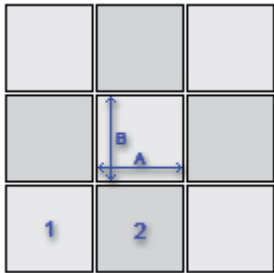
Simple laying scheme with alternating vertical bands



The tiles are laid in a simple pattern in which a basic element (A and B dimensions configurable) is repeated horizontally and vertically.

Two different materials are used to obtain alternating vertical bands.

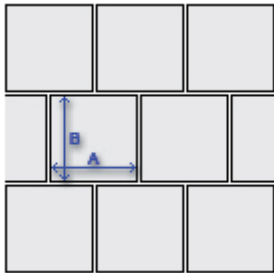
Simple checkerboard laying scheme



The tiles are again laid in a simple pattern in which a basic element (A and B dimensions configurable) is repeated horizontally and vertically.

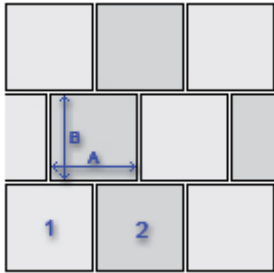
However, two different materials are used to obtain a checkerboard effect (the materials alternate both horizontally and vertically).

Simple offset laying scheme



The tiles are laid in a simple pattern in which a basic element (A and B dimensions configurable) is repeated horizontally and vertically, with each tile offset horizontally by half its width.

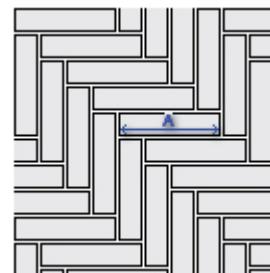
Simple offset laying scheme with alternating vertical bands



The tiles are laid in a simple pattern in which a basic element (A and B dimensions configurable) is repeated horizontally and vertically, with each tile offset horizontally by half its width.

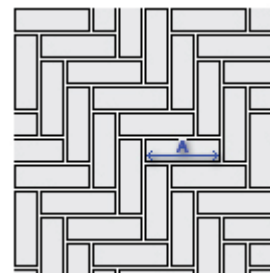
Two different materials are used to obtain alternating vertical bands.

Herringbone laying scheme 1:4



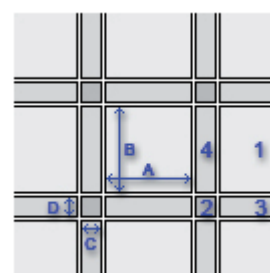
Often used in parquet floors, this particular laying scheme uses a basic element with a configurable length (the width is calculated as a result and corresponds to about a quarter of the length).

Herringbone laying scheme 1:3



Often used in parquet floors, this particular laying scheme uses a basic element with a configurable length (the width is calculated as a result and corresponds to about a third of the length).

Laying scheme with inset and strip tiles

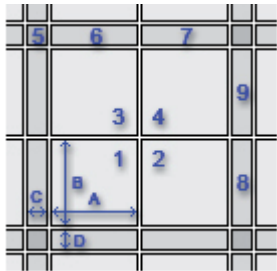


A checkerboard laying scheme is created in which each basic element is surrounded by four insets at the corners and four strips at the sides.

You can define the dimensions of the basic element (A and B) and corner insets (C and D), while the dimensions of the strips are calculated as a result (C and B).

You can define the material for the basic element and corner insets and two materials for the strips (horizontal strip material and vertical strip material).

Laying scheme with inset and strip tiles (four central tiles)

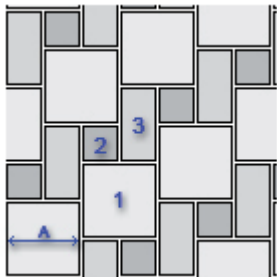


A checkerboard laying scheme is created in which the four basic elements at the centre are surrounded by four insets at the corners and eight strips at the sides.

You can define the dimensions of the basic element (A and B) and corner insets (C and D), while the dimensions of the strips are calculated as a result (C and B).

You can define the material for the four basic elements at the centre, the corner insets and four materials for the strips.

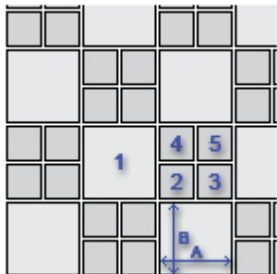
Three-tile laying scheme



This laying scheme uses three basic elements: a main square tile (side A configurable), a secondary square tile (about $A/2 \times A/2$) and a secondary rectangular tile ($A/2 \times A$).

You can define a different material for each of these three elements.

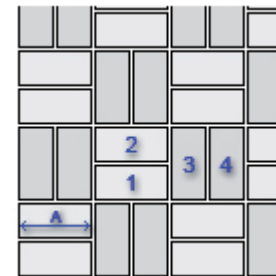
Checkerboard laying scheme (1+4)



In this simple checkerboard laying scheme, a main element (dimensions A and B configurable) is flanked by four secondary elements (dimensions calculated $A/2 \times B/2$).

You can define a different material for each of these five elements.

Checkerboard laying scheme (2+2)

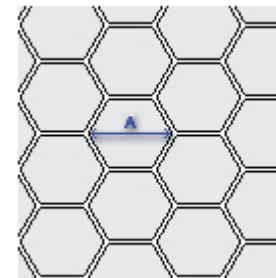


In this simple checkerboard laying scheme, two pairs of main elements are arranged alternately horizontally/vertically.

The length of the element can be configured (the width is about half the length).

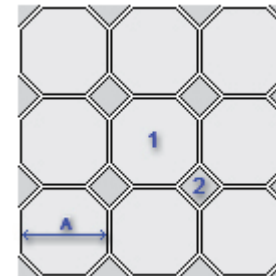
You can define a different material for each of the four elements.

Hexagonal laying scheme



Simple laying scheme with repetition of a hexagonal basic element. You can define the maximum bounding box of the tile and the surface material.

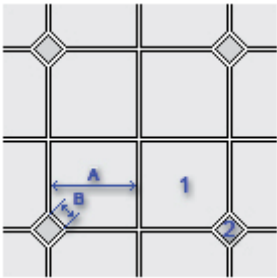
Octagonal laying scheme with inset tiles



This laying scheme uses octagonal main elements (maximum size configurable) linked by insets at the corners.

You can define the material of the main element and corner inset.

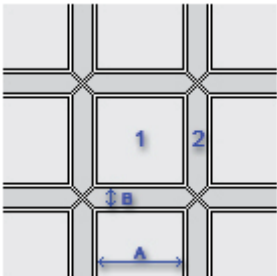
Checkerboard laying scheme with insets



In this laying scheme, four main square elements with rounded corners (the length of the side of the square is configurable) are joined by four corner insets (the side is configurable).

You can define the material of the main element and corner inset.

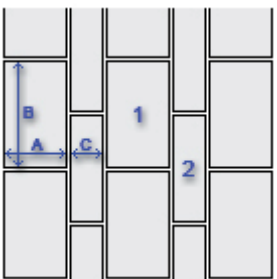
Checkerboard laying scheme with strip tiles



In this laying scheme, a square central element (side configurable) is surrounded by four strips with pointed ends (width configurable).

You can define the material of the main element and strips.

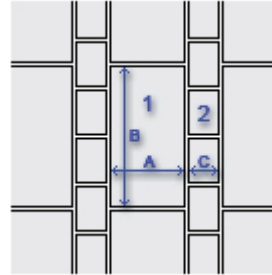
Laying scheme with two offset rows (1 + 1))



This laying scheme consists of two rows offset by half the length of the tile. You can define the width and length of the first element (A and B) and the width of the second element (C, the length is the same as the first element).

You can define the material of both elements.

Laying scheme with two offset rows (1 + 3)



This laying scheme consists of two vertical offset rows. You can define the width and length of the first element (A and B) and the width of the second element (C, the length is about a third of the first element).

The material used for both rows can be defined.

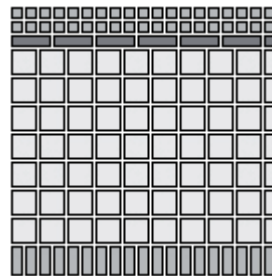
Custom laying scheme



Select this type of "special" laying scheme to use a custom laying scheme you have created.

See the description of the **Create custom pattern** tool below for a description of how to create custom tile patterns without using GDL.

Wall tiling



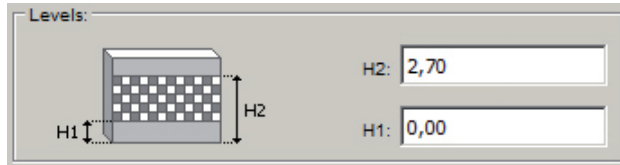
This type of laying scheme is available only if you are tiling a wall (in other words, vertical tiling).

You can define as many horizontal bands of tiling as you wish, with the possibility of including moulding.

We will explain in detail how this works later.

Defining the levels

At the top on the right of the list of laying schemes, there is a group of fields where you can define the heights (top and bottom) between which the tiles will be laid.



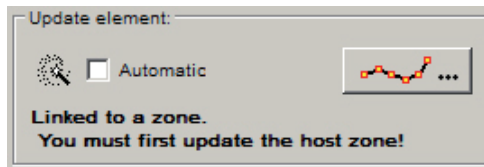
The two values proposed are the minimum and maximum heights found by ArchiTiles in the selected zone.

The two values configured here are used as “general” values and will be assigned to all areas of tiling associated with this operation.

Later we will explain how the top and bottom heights can in fact be customised for each area of tiling.

Updating mode

In the section on the left, alongside the fields for defining the levels, you can define the way in which the tiling is updated:



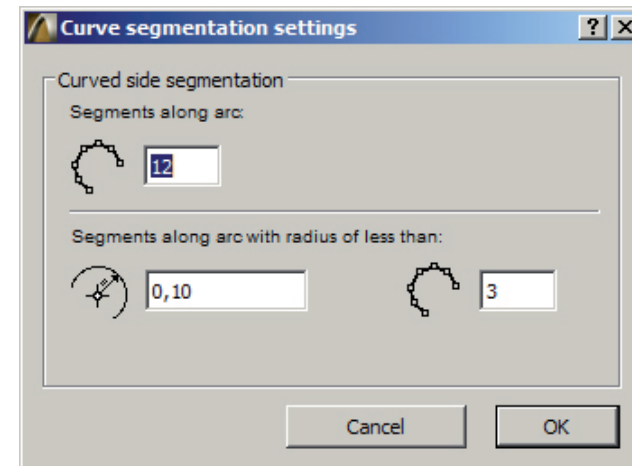
If the “Automatic” option is enabled, whenever the original zone (the zone selected before accessing this procedure) is modified, the linked tiling object will be updated automatically.

Remember that here we are referring to the tiling on walls surrounding the zone and not the zone itself. The elements involved are the walls, windows and doors, in other words, everything linked to the host zone.

As emphasised by the text in **bold**, you therefore first need to update the host zone using the standard ArchiCAD command in order for the tiling object to be updated correctly.

If the option is not enabled, you must perform the update manually by selecting the tiling object and updating it using the **Data update** tool described below.

Clicking on the button on the right opens a dialog where you can define the segmentation of curved parts:



Configuring the joints

In the group immediately below, you can configure the joint between the tiles:

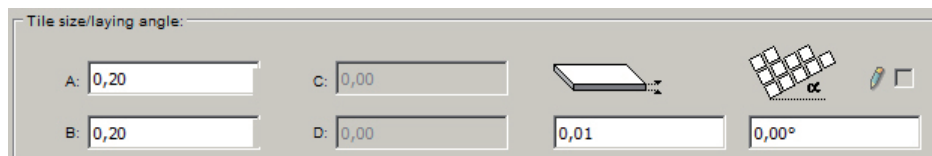


The first checkbox enables/disables display of the joint, in other word, display of the plane behind the tiling to be laid.

The next field defines the size of the joint and finally, in the last pop-up menu, you can choose the type of material to be used.

Tile size and laying angle

Below the joint definition area, there is a group of fields for defining the sizes of the tiles used and the laying angle:



The first four fields (A, B, C, D) will be active according to the chosen laying scheme.

The last field defines the thickness of the elements (one value for all elements in the chosen scheme).

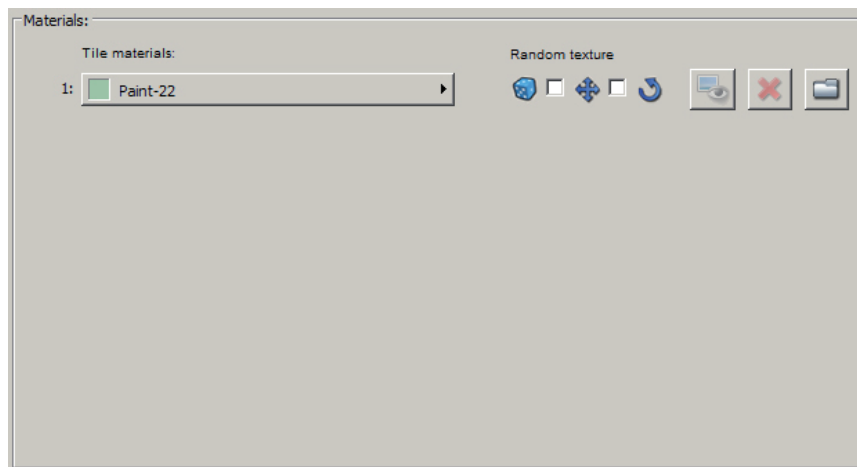
On the far right is a field for defining the laying angle.

This is again a “general” value applied to all areas of tiling.

Later we will explain how the laying angle can in fact be customised for each area of tiling.

Surface materials

In the centre of the dialog box there is a section for defining the surface material used for the selected area of tiling.

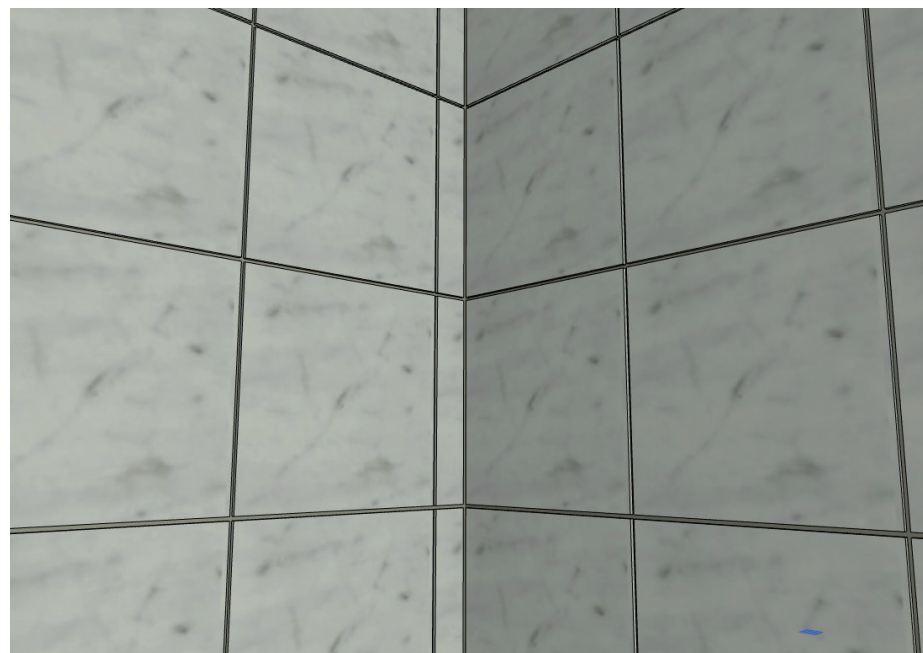


This section obviously changes automatically according to the chosen laying scheme to allow you to configure the constituent elements appropriately. You can define the surface material of the corresponding component in the pop-up menus on the left.

In the series of options on the right of the pop-up menus you can customise the surface material without having to create a new one.

The first two checkboxes allow you to avoid the repetitive “tessellation” effect caused by using the same texture for all the tiles displayed.

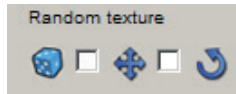
Normally when using a typical ArchiCAD surface material the effect will be similar to that shown below:



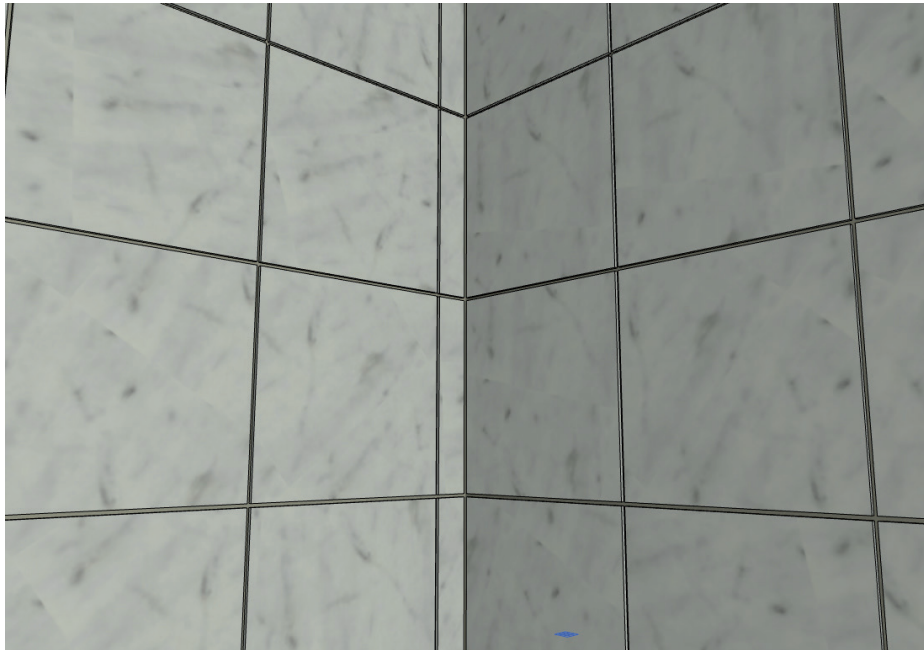
Given that the same texture has been used, all the tiles will obviously be perfectly identical.

The resulting effect is clearly unrealistic.

Without having to create or modify the ArchiCAD surface material, this effect can be avoided by using the two dedicated checkboxes to apply an offset and/or rotation to the image used as a texture. In this way, although the same surface material is used, all tiles will be different:



You just need to enable or disable the option, without entering any value. The image below shows the more realistic appearance of the tiling achieved by activating the two options.



The three buttons on the far right allow you to use a custom texture without having to create a new ArchiCAD surface material:

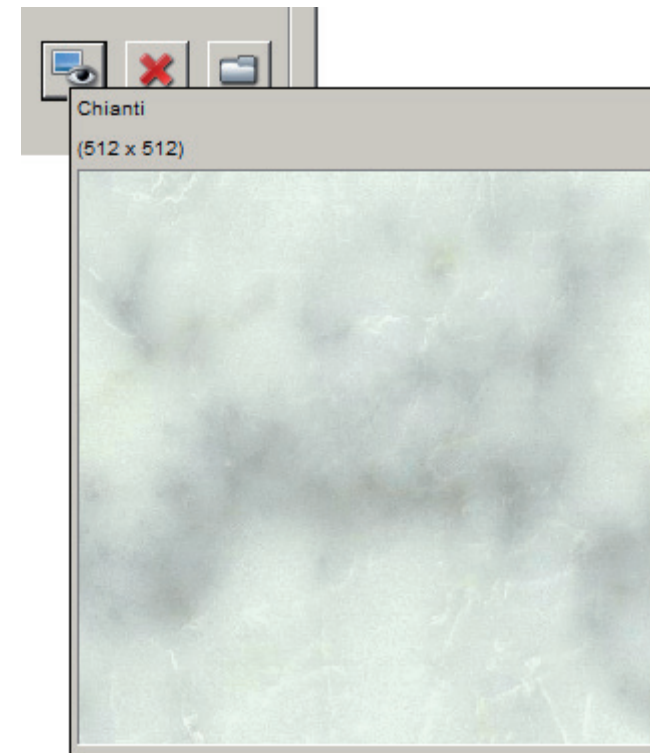


Clicking on the button with the folder icon opens a dialog to select a library image (the images to be used as textures must be contained in the active libraries!).

The other two small buttons are active when you have selected an alternative image for the texture of the chosen surface material.

The button with the small red cross clears assignment of the custom texture and restores the default configuration.

Clicking the first button displays a preview of the image chosen as a custom texture:

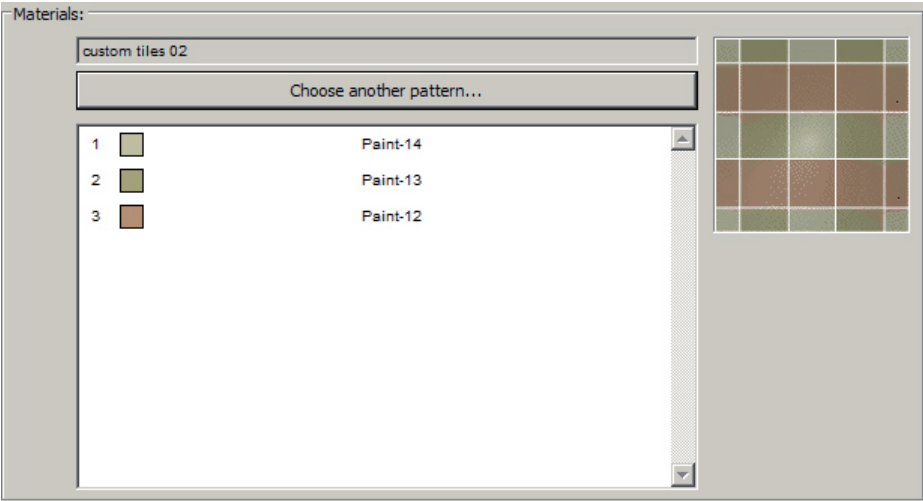


These functions help simplify management of ArchiCAD surface materials.

To use a particular texture for a given type of tile, you do not, in fact, need to define a new ArchiCAD surface material. You can simply use these options to choose the texture to be linked to the material used for that tile.

Custom laying scheme settings

When you have chosen a Custom laying scheme, this part of the dialog changes so you can configure your laying scheme:



The first field at the top displays the name of the laying scheme currently selected, while immediately to the right there is a preview of the scheme.

The Choose another pattern... button opens a dialog box where you can choose a pattern from those present in the loaded libraries.

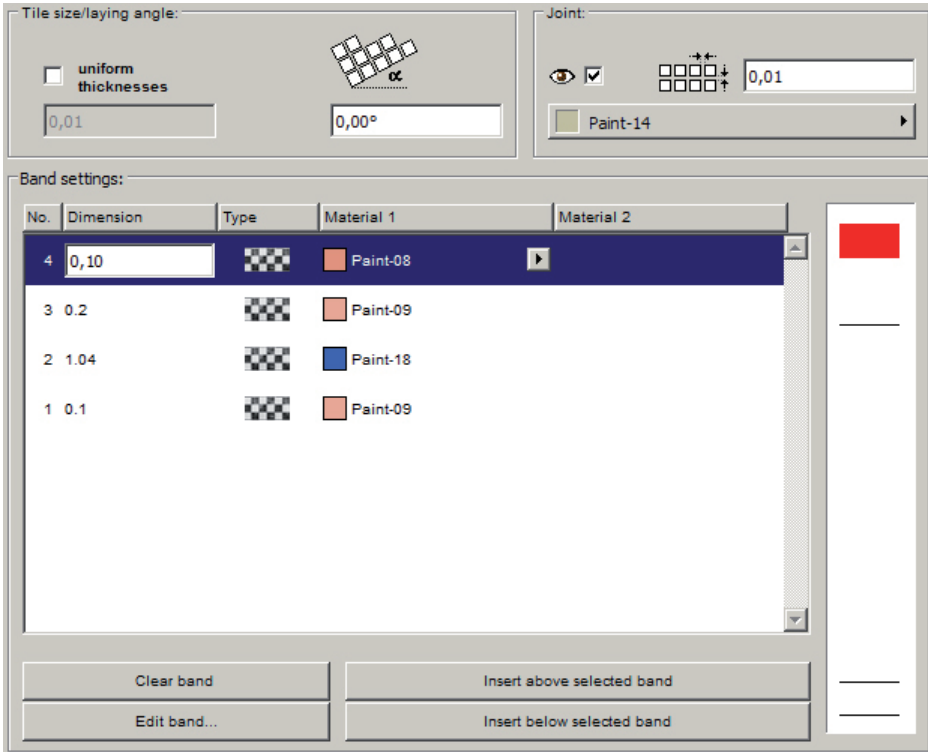
Once your choice has been confirmed by clicking the OK button, the name and preview of the chosen pattern will appear in the relative fields.

The list of materials in the bottom part of the dialog allows you to change the materials assigned to the individual components of the chosen pattern.

Note: in the case of a custom laying scheme, the dimensions A and B obviously refer to the bounding box of the chosen pattern.

Band settings

If the type of laying scheme chosen is a **Wall tiling** type scheme, this part of the dialog changes so you can configure all details of this particular type of scheme.



The **Tile size/laying angle** group changes:



If the **uniform thicknesses** option is enabled, all thicknesses of the chosen tiles are uniformed to the value entered in the numerical field below.

On the far right is a field for defining the laying angle.

This is again a “general” value applied to all areas of tiling.

Later we will explain how the laying angle can in fact be customised for each individual band.

You can use the **Band settings** area to configure this type of tiling as you wish.

The list displays all currently defined bands of tiling.

You can define the width of the band (in the Size column).

The **Type** column displays the type of band defined:



tiles



moulding

Immediately on the right are the usual two pop-up menus where you can choose the surface material to use.

When you select one of the bands:

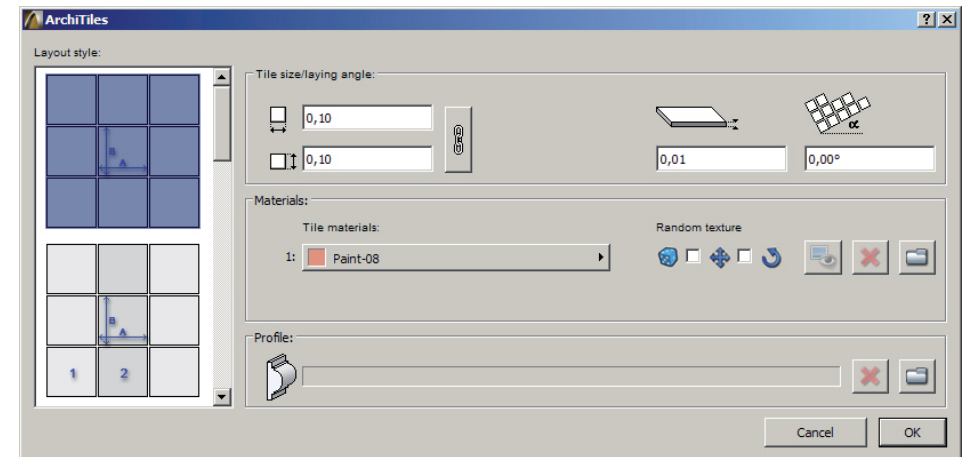
1. In the preview area on the far right, the selected band is highlighted in red (this makes it even more obvious which band of tiling you are configuring)
2. The buttons at the bottom are enabled

Click on the **Clear band** button to eliminate the band currently selected.

Click on the **Insert above selected band** button to insert a new band above the band currently selected.

Click on the **Insert below selected band** button to insert a new band below the band currently selected.

Click on the **Edit band...** button to open a secondary dialog where you can configure all the settings of the band selected:



On the left, in exactly the same way as before, you can select the laying scheme to be used.

In the group of fields at the top right, you can define the sizes of the tiles used and the laying angle:

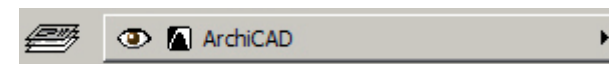
Below this, there is a section to define the surface material.

Finally, in the **Profile** group, you can choose whether you want to use a moulding instead of one of the default laying schemes.

The button on the right with the folder icon opens a dialog to choose the profile to be used (we will explain below how to create these profiles).

The button with the red cross clears the selection and restores the choice of standard pattern.

Host layer



The areas of tiling created/managed by ArchiTiles are parametric library parts.

This pop-up menu lets you define the layer which will host the part generated.

2D Symbol/Cuts

The button at the bottom right of the dialog opens a secondary dialog where you can define the 2D symbol and cuts to be made in the tiling:

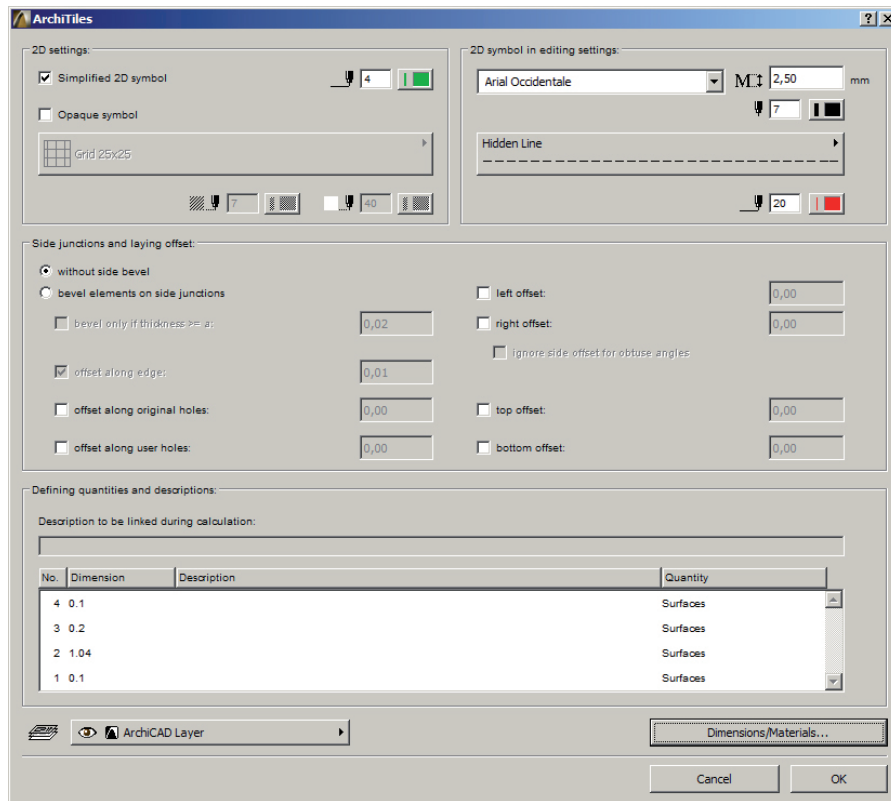
- The first checkbox enables/disables the offset.

The offset may be applied:

- around the entire edge of the tiling
- around the user-defined edges only
- around the entire edge of the holes in the tiling

You can define the size of offset to use in the editable field at the bottom.

To cut the tiling, the **Enable offset** checkbox must first be enabled. This makes the two options below editable:



In the **2D symbol settings** group at the top left, you can define the appearance of the 2D symbol used for the tiling.

The **Simple 2D symbol** option provides a high performance schematic representation of the 2D symbol. If this option is not enabled, the representation will be very detailed, corresponding to the actual tiling, but performance will be poorer.

Note that in the case of horizontal tiling (floors), the Simple 2D symbol will show the perimeter of the tiled area only. If the option is disabled, the pattern of the tiling will also be represented.

The pen to be used can be defined on the right.

Below, you can define whether to use an opaque symbol and therefore the fill and relative pens to be used.

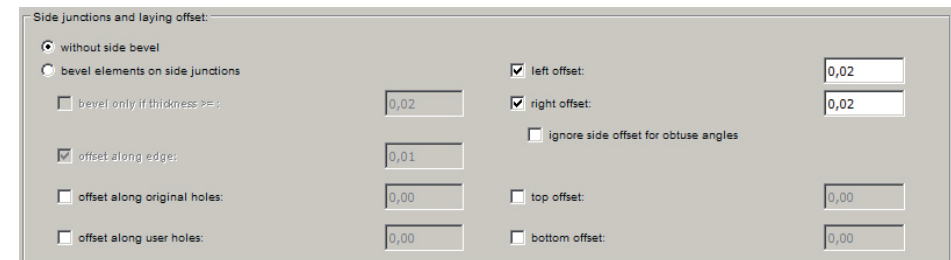
The **2D symbol in editing settings** are on the right.

As will be explained below, you can use an editing mode for the tiling object allowing further customisations to be defined.

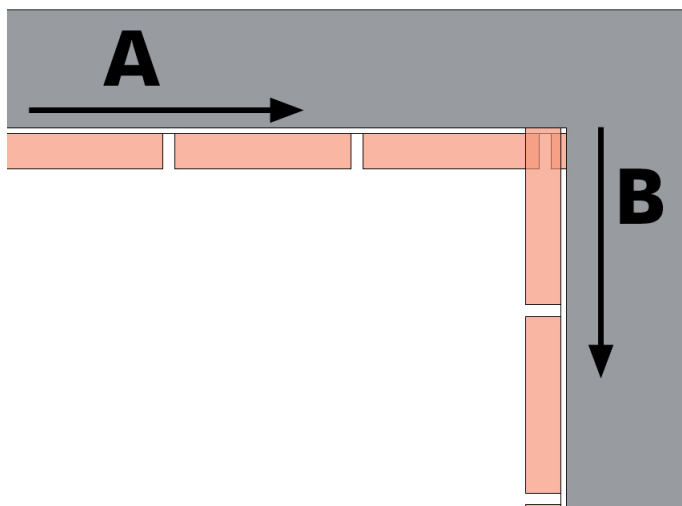
You can use this group of parameters to define the appearance of the object when this mode is enabled.

Side junctions and laying offset

In the centre of the dialog, you can define the appearance of the side junctions of the tiling:



The following images help explain the concept of side junctions.



The above image shows how the area of tiling behaves with respect to the walls under standard conditions (default settings).

The tiles basically cover the whole wall, from the starting point (on the left) to the end point (on the right).

The two directions A and B indicate the “direction” of the tiling.

The two areas of tiling overlap at the corners (as shown in the figure).

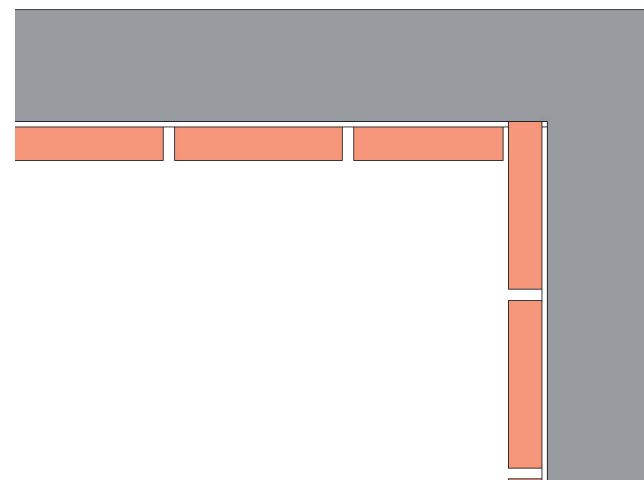
There are basically two options for avoiding this problem:

- **without side bevel**
- **bevel elements on side junctions**

In the first case (default configuration), the elements are not bevelled at the corners and therefore, to avoid them overlapping, you must modify the two right and left offset values which in practice act as spacers from the two ends:

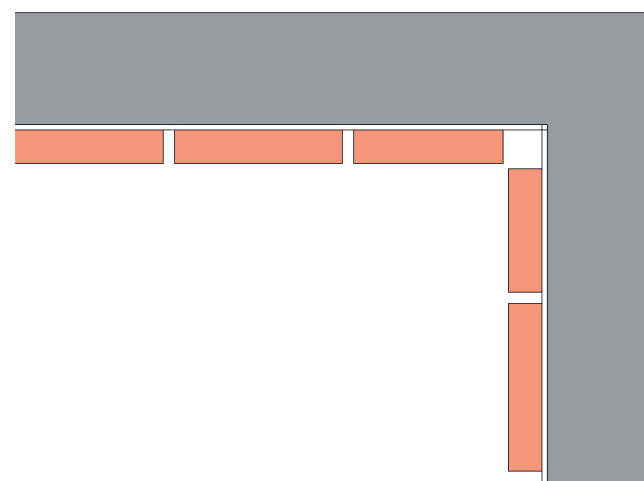
<input type="checkbox"/> left offset:	0,02
<input checked="" type="checkbox"/> right offset:	0,04
<input type="checkbox"/> ignore side offset for obtuse angles	

For example, if you enable an offset on the right side by entering a value equal to the thickness of the tile plus the joint (in the example, to make the images clearer, we have used a thickness of 3 cm and a joint of 1 cm), the following result will be obtained:

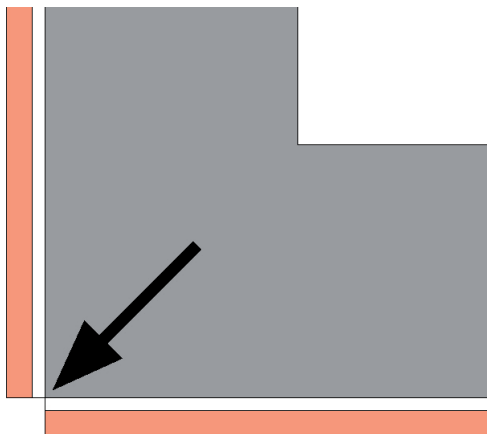


As you can see, the two tiled areas no longer overlap.

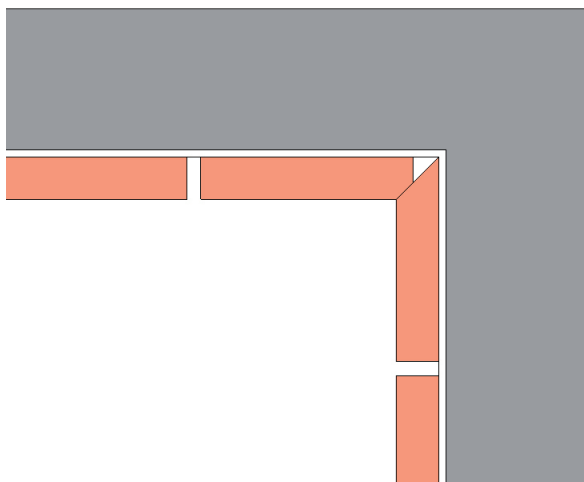
If you activate both the right and left offsets, the following result will be obtained:



If the last checkbox, **ignore side offset for obtuse angles**, is enabled, the offset will not be used when the angle is obtuse, given that if the angle between the walls is obtuse, there will obviously be no overlap between the elements:



If, on the other hand, you opt for the second method “**bevel elements on side junctions**”, there will be no overlap as the elements will be “cut” along the bisector of the angle between the walls:



Note: you can, however, define lateral offsets as spacers from the sides to obtain a «mixed» solution.

If you select the side bevel option, you can also define a limit based on the thickness of the elements:

☒ bevel elements on side junctions

☒ bevel only if thickness >= than:

In this case, the tiling will be bevelled only if it is thicker than or equal to the user-defined value.

There are further offset options at the bottom:

☒ offset along original holes: ☒ top offset:

☒ offset along user holes: ☒ bottom offset:

In this case, the space can be created with respect to:

- original holes** in other words, holes already present in the selected host element (zone or fill) before the procedure was performed
- user holes** below we will explain how the user can cut/make holes in areas of tiling
- top side**
- bottom side**

If you are using a zone to tile a floor/ceiling or a fill, you also have a further offset possibility (we will explain this in more detail later, but it is worth introducing it here):

☒ offset along edge:

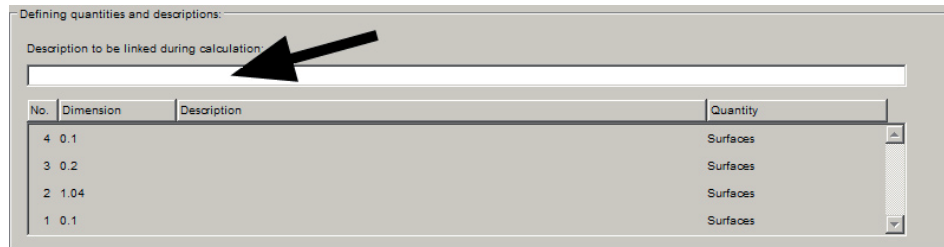
This offset will obviously be applied with respect to the edge of the tiling (the edge of the host element).

Defining quantities and descriptions

In the section at the bottom of the dialog, you can define the quantities and descriptions linked to the tiling.

In this case, the dialog changes depending on whether the laying scheme uses bands or any other type of laying scheme, enabling/disabling a number of options:

First, here is the standard layout:

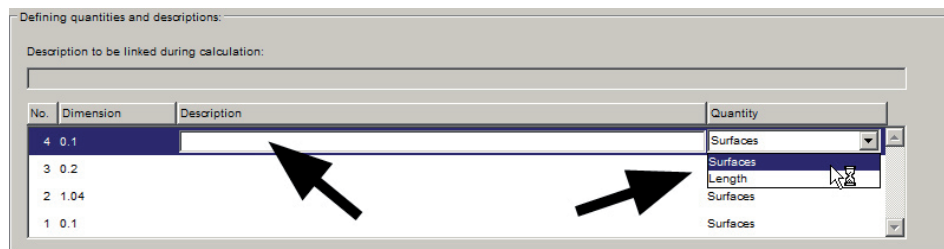


No.	Dimension	Description	Quantity
4	0.1		Surfaces
3	0.2		Surfaces
2	1.04		Surfaces
1	0.1		Surfaces

In this case, the first field at the top is active, while the list below is not enabled.

In the description text field, you can enter a description to be linked to the tiling during calculation of quantities.

If you are using a laying scheme with bands, the dialog changes:



No.	Dimension	Description	Quantity
4	0.1		Surfaces
3	0.2		Surfaces
2	1.04		Length
1	0.1		Surfaces

The top part is disabled and the bottom list is active.

Here you can link descriptions to each individual band by entering the text in the corresponding field.

The pop-up menu on the far right lets you define the value to be used: Surface or Length.

For example, if one of the bands uses a custom profile and therefore represents a moulding, you will probably use length and not surface (as you would normally use in the case of tiles).

Finally, immediately below on the right, the **Dimensions/materials...** button returns you to the previous window.

When you have confirmed the settings by clicking the OK button, there will be a brief pause for processing, then the tiling object will be placed in the correct position and you can see the results in the 3D window.

Tiling the floor of a zone

The second icon in the ArchiTiles palette tiles the horizontal surface of a chosen zone.

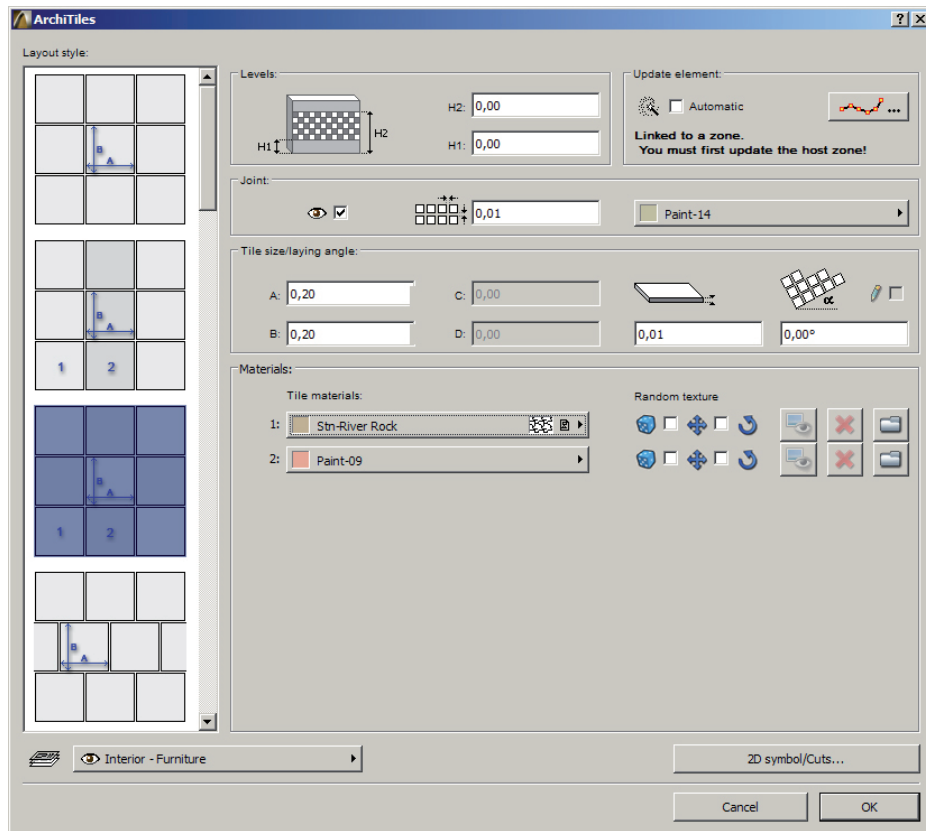


This procedure works in exactly the same way as that described for tiling the walls surrounding a selected zone. This chapter therefore looks at the differences between the procedures only.

In the ArchiCAD plan view, select a zone which defines the horizontal surface to be tiled.

Then click on the **Floor tiling Zone** tool.

As mentioned previously, the dialog which opens proposes the same functions as described above, with a few minor differences:

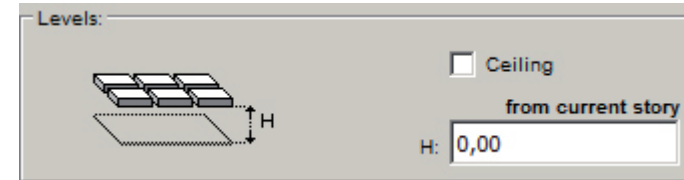


Laying schemes

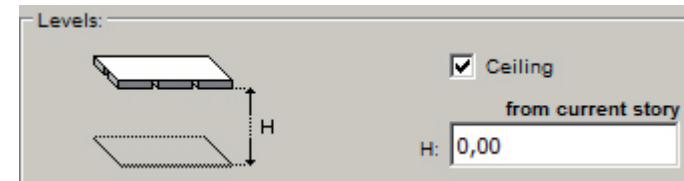
As you are about to tile a floor, the list of laying schemes does not include the Wall tiling scheme.

Levels

In this mode, this section basically allows you to define the level on which to lay the tiling:



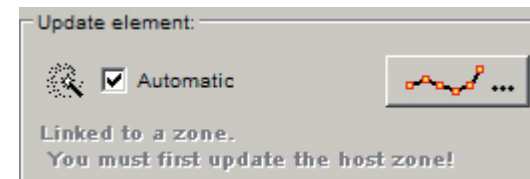
When the Ceiling option is enabled, the dialog changes:



And the elements will be oriented differently.

Element update

In this case, this applies to the geometry of the zone only (not to the surrounding elements) and automatic updating therefore performs better (and you do not need to use the ArchiCAD command to update the zones).



We recommend enabling this option.

Laying angle

The laying angle defining the angle at which the tiling will be laid is enabled during creation:



When it is active, once the settings for the tiling have been confirmed by clicking OK, you must define the laying origin and angle with two clicks. The tiling object will not be placed in the project only you have made these two clicks.

2D symbol/cuts

Clicking on this button accesses a second section where you will find all the parameters described previously.

Once again we will be examining just the one difference:

Offset along edge



This offset will obviously be applied with respect to the edge of the tiling (the edge of the host element).

Inserting horizontal tiling

After you have configured the tiling by clicking OK, the tiling will NOT appear immediately. It requires one or two clicks more, depending on whether graphic definition of the laying angle is enabled or disabled.

If graphic definition of laying angle is disabled, then when the dialog closes, you must click to identify the origin of the laying.

If graphic definition of the laying angle is active, as explained above, you will need to make two clicks. The first identifies the origin of the laying, the second the laying angle.

Tiling the surface of a fill

The third icon in the ArchiTiles palette lets you tile the surface covered by the selected fill.



This procedure works in exactly the same way as the one described previously for tiling the floor of a zone. You should therefore consult the previous chapter for a description of the settings dialog box for this tool.

Here we will cover just the differences between the procedures.

Firstly, unlike the two previous tiling methods, this procedure can be used in both the ArchiCAD plan view and any section/elevation window (obviously the orientation of the tiling object will change).

If the fill to be tiled is in the plan view, the procedure will obviously be identical to that described for tiling the floor of a zone. You will therefore define a horizontal area of tiling (floor or ceiling).

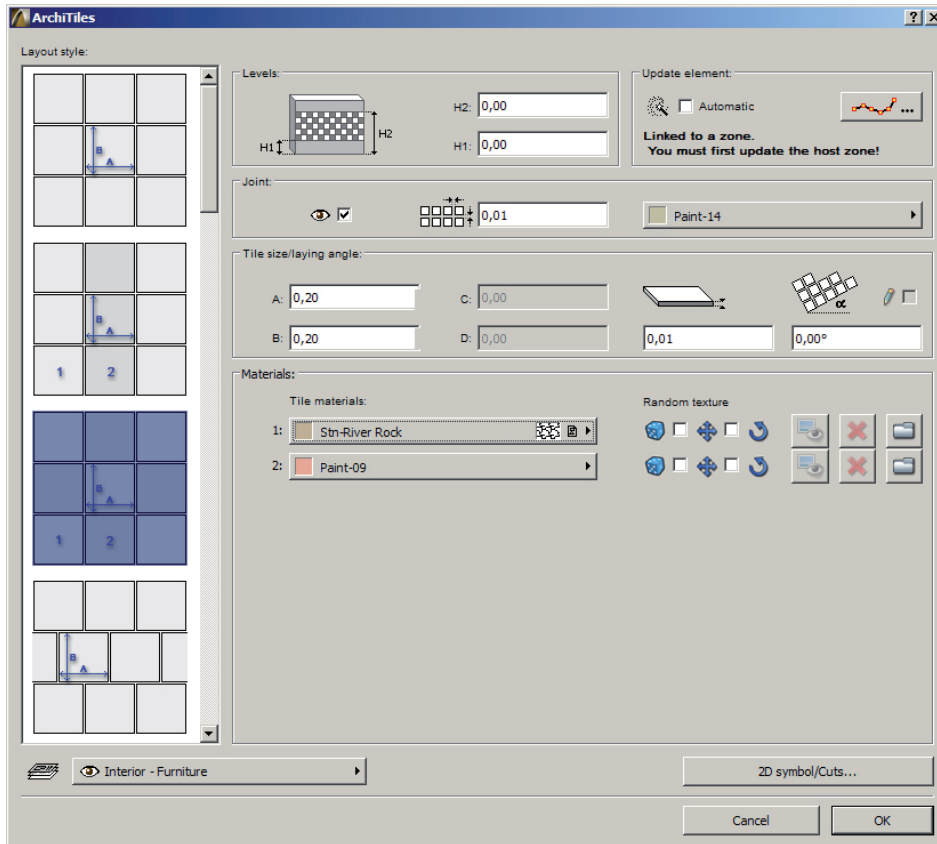
If the fill to be tiled is in a section/elevation window, the procedure is slightly different in that the tiling you will be defining will be vertical, oriented and positioned with reference to the line of the corresponding section/elevation.

Tiling the surface of a fill in the plan view

In the ArchiCAD plan view, select a fill defining the horizontal surface to be tiled (the fill could obviously include both holes and curved sides).

Then click on the Tiling Fill tool icon.

The dialog proposed is identical to that described for tiling the floor of a zone:



After you have configured the tiling by clicking OK, the tiling will NOT appear immediately. It requires one or two clicks more, depending on whether graphic definition of the laying angle is enabled or disabled.

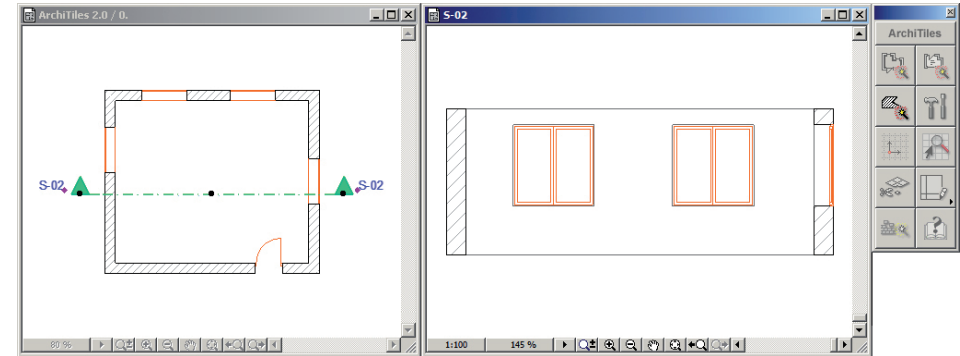
If graphic definition of laying angle is disabled, then when the dialog closes, you must click to identify the origin of the laying.

If graphic definition of the laying angle is active, as explained above, you will need to make two clicks. The first identifies the origin of the laying, the second the laying angle.

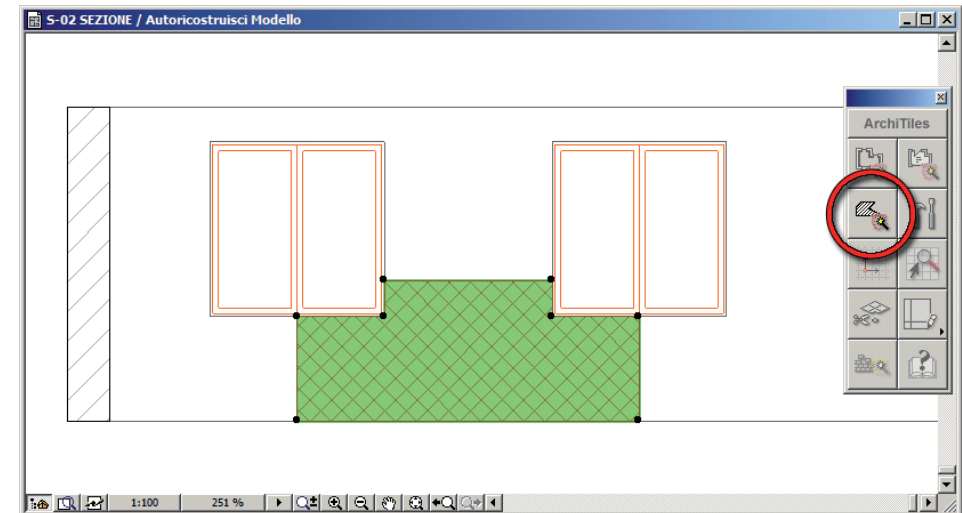
Tiling the surface of a fill in a section/elevation window

Using the example below, we will now look at how the procedure works when used in a section/elevation window.

The image below shows the contents of a section window (the position of the section line with respect to the plan is shown on the left):



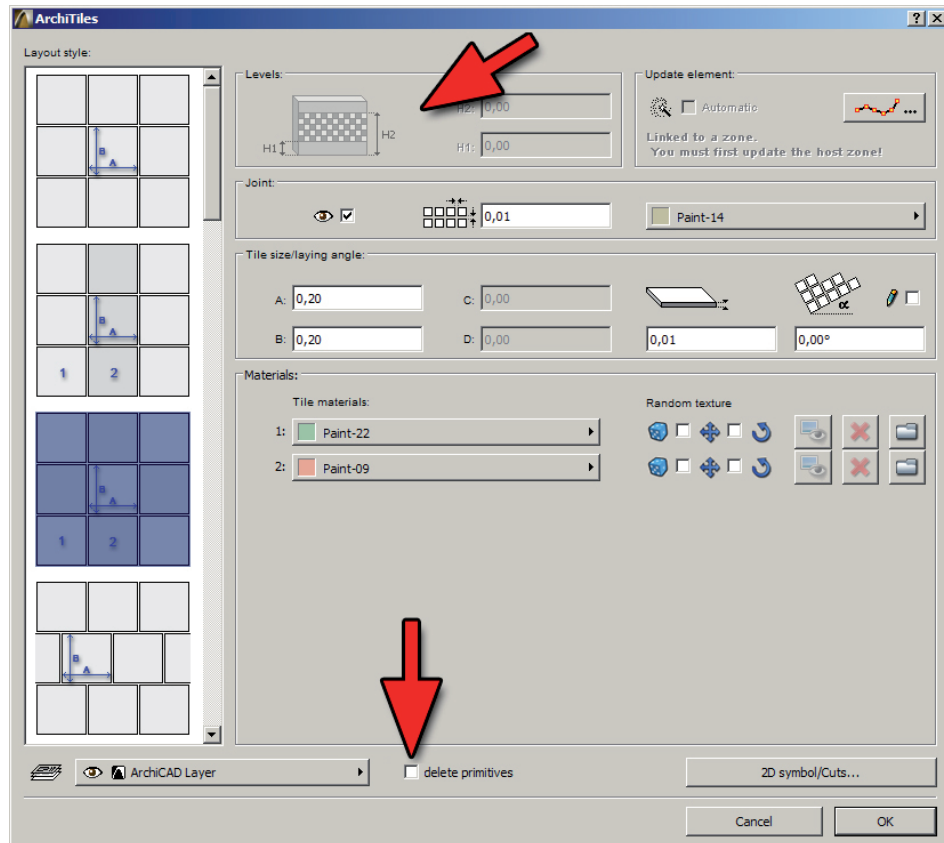
In the Section window, use an ArchiCAD fill to define the area you want to tile, select it then click on the **Tiling Fill** tool icon in the ArchiTiles tool palette:



The tiling configuration dialog box opens.

As you can see in the following image, there are two differences with respect to the dialog which appears when the fill to be tiled is in the plan view, rather than a section/elevation window.

1. the section to define the level of the tiling and its use as a ceiling is disabled as you are defining a vertical area of tiling.
2. in the bottom part of the dialog, the **Delete primitives** checkbox allows the fill used to create the tiling to be cancelled after the element has been generated:

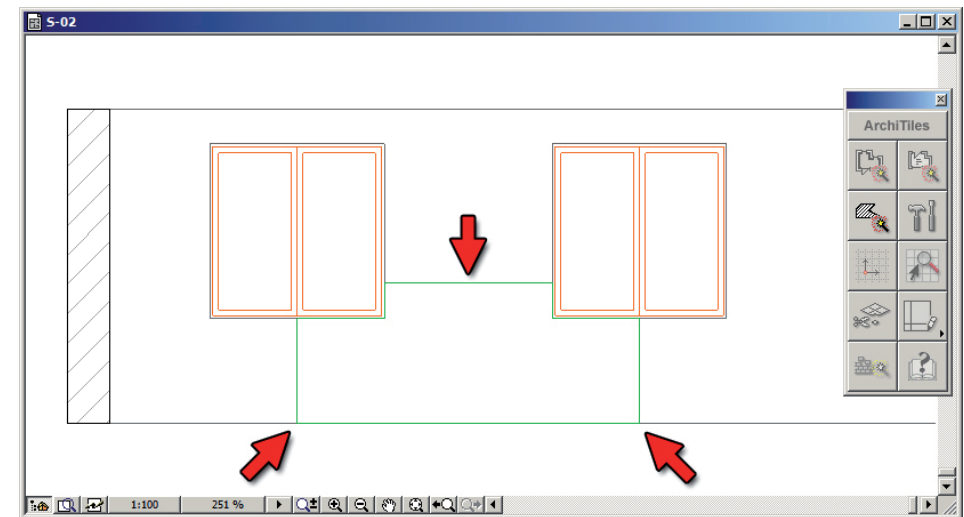


After you have configured the tiling by clicking OK, the tiling will NOT appear immediately. It requires one or two clicks more, depending on whether graphic definition of the laying angle is enabled or disabled.

If graphic definition of laying angle is disabled, then when the dialog closes, you must click to identify the origin of the laying.

If graphic definition of the laying angle is active, as explained above, you will need to make two clicks. The first identifies the origin of the laying, the second the laying angle.

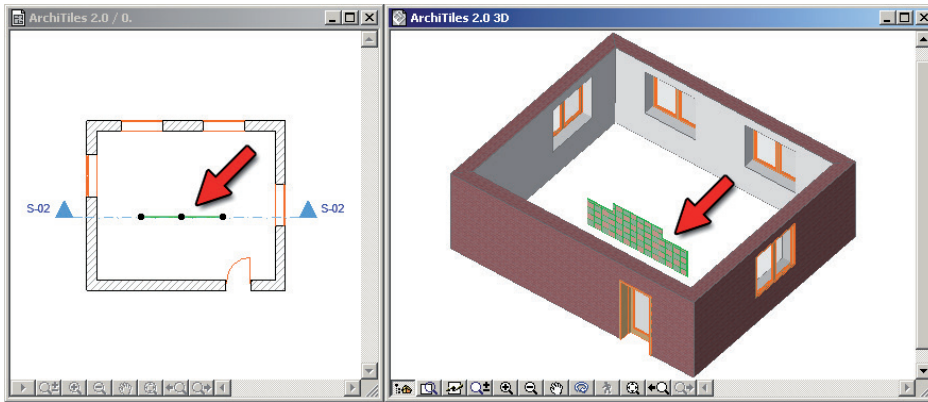
The tile element appears automatically in the section window (and the original fill will be cancelled if the **Delete primitives** option is enabled):



However, note the position of the tiling.

As explained above, the position and orientation of the element depends on the position and orientation of the section line (as with TrussMaker elements).

You can see the position of your tiling by viewing the 3D image:



As you can see, the tiling does not “rest” against the wall, but is positioned in the centre of the room, exactly coinciding with the section line which generated the section window used to create the tiling.

Obviously you can now reposition the element as you wish, but it is best to bear this rule in mind before creating the tiling by using section/elevation windows whose section line corresponds precisely with the surface to be tiled.

Changing the settings

The fourth icon in the ArchiTiles palette is used to change the settings configuration of a tile element selected previously.



This tool is extremely simple to use. Select the tile elements (of the same type, in other words, created with the same ArchiTiles tool), then click on the **Change settings** tool icon in the ArchiTiles palette.

The same dialog box as used to create the element will appear and you can change the settings of the element as required.

Show/Edit origin

The fifth icon in the ArchiTiles palette provides a procedure for viewing/editing the origin of the tile laying and a number of configurations specific to the tile element.



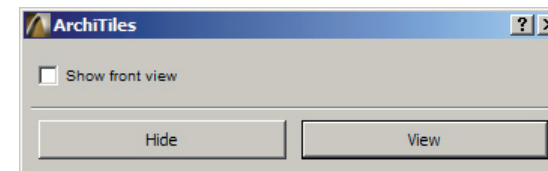
As described above, you can use ArchiTiles to obtain three types of tiling according to the tool used:

- tiling of the walls surrounding an area
- horizontal tiling based on zones
- horizontal/vertical tiling based on fills

The procedure changes slightly depending on which of the three types is involved. As you will see, it is possible to view the elevations of the tiling and in the case of horizontal tiling this function is obviously not available.

We will therefore look at the case in which all the characteristics of this function are available, a tiling object linked to the walls surrounding a zone. Click on the **Show/Edit origin** tool icon.

ArchiTiles immediately displays the following dialog box:

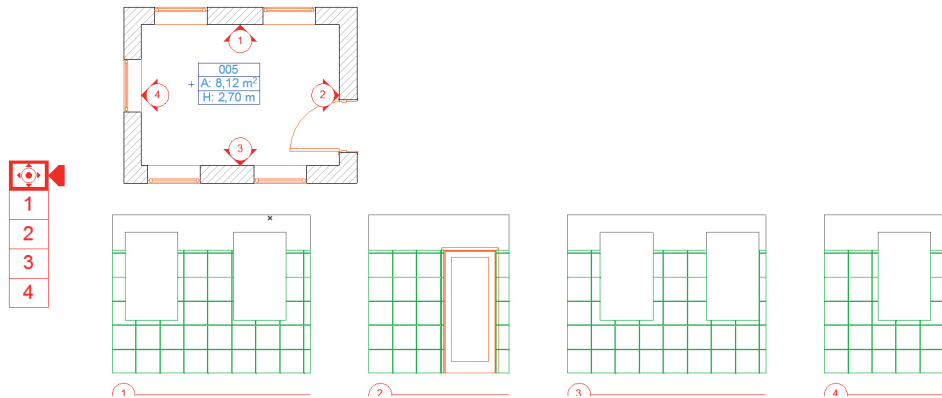


The **Show front view** option lets you enable an editing mode based on a front view of the individual walls.

By using the two **Hide/Show** buttons, you can hide/show the graphic markers used in the various ArchiCAD views to move the tile laying origin and/or change the tile laying direction.

In this example, the **Show front** view option is enabled, close the dialog by clicking on **Show**.

The mode in which the object is displayed changes into a sort of edit mode and the result will be similar to that below:



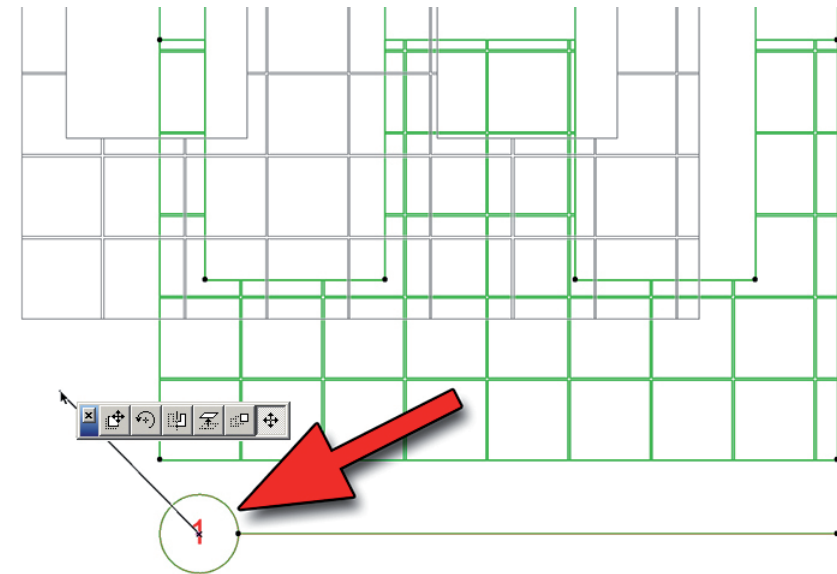
As you can see in the image, in the plan, there is a numbered marker in front of each wall.

The same numbers also appear below each corresponding wall represented in the strip with the elevations of the walls surrounding the zone.

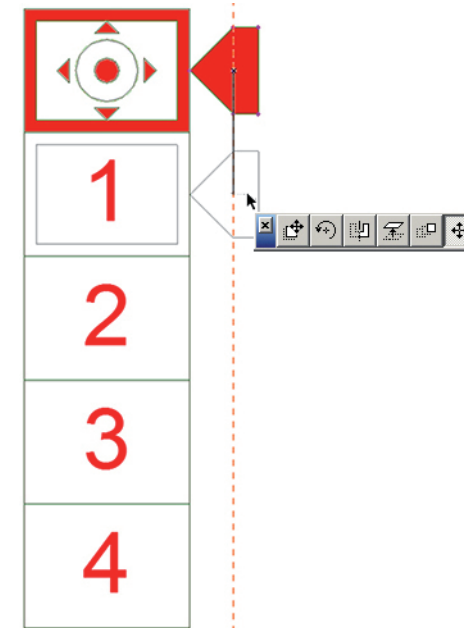
On the left, there is a small palette with the same numbers and a lateral cursor.

This view gives you a series of draggable hotspots you can use to obtain certain results.

Firstly, you can use the draggable hotspots at the centre of the first marker of the first elevation to move the elevations to the most convenient place:



Now let's look at the small palette:



Once again, you can use the draggable hotspots on the corners of the lateral cursor to scroll the cursor to the various positions/choices possible:

The first position at the top identifies the "overall" view, if you point the lateral cursor here, you will see the elevations of the walls surrounding the host zone.

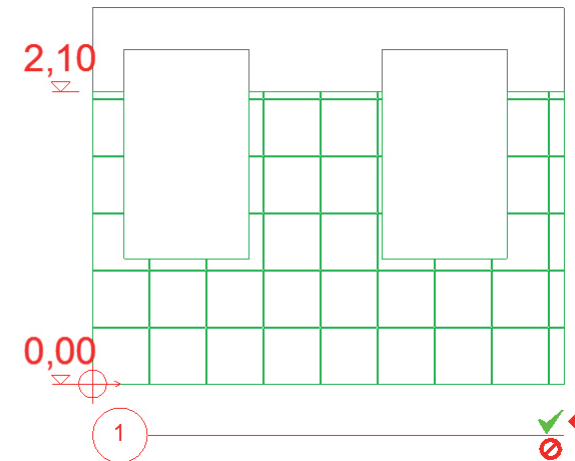
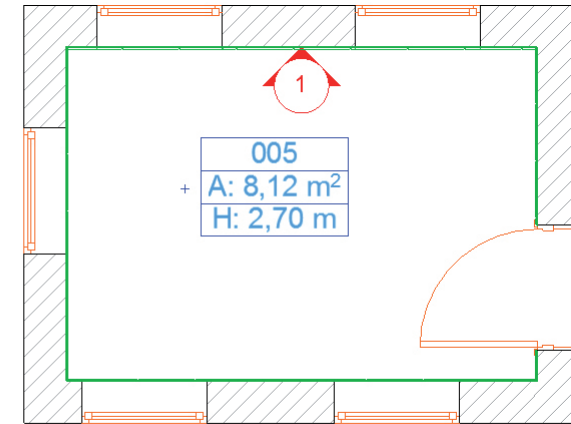
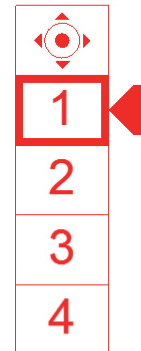
All the other numbered positions refer to the individual walls.

If you move the cursor to one of the numbers, you will see a view of that particular wall. You can then use the other draggable hotspots to specify a number of characteristics specific to that wall.

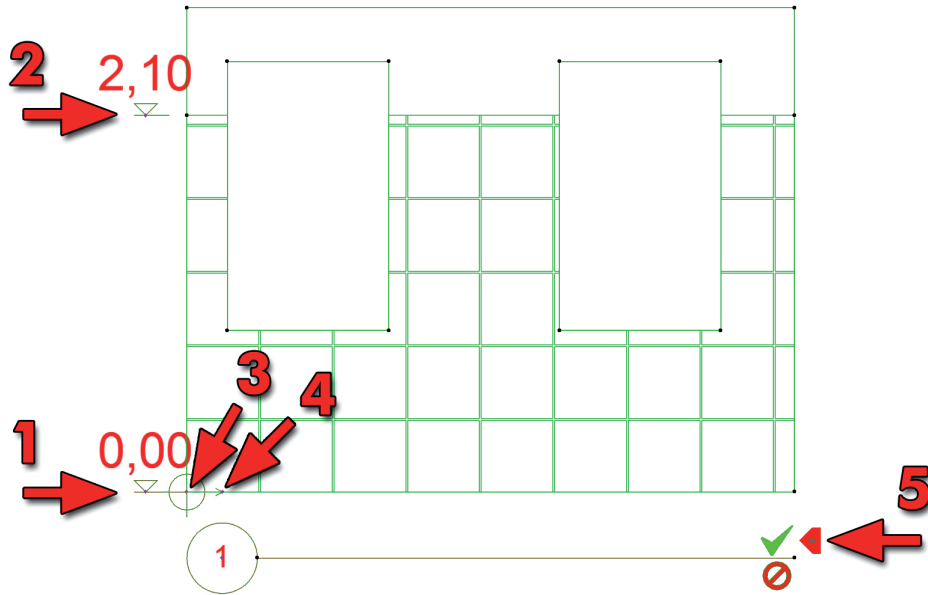
As explained in the relative paragraphs above, some of the settings in the settings dialog are "general" and refer to all the walls together, others are specific and customise just one particular wall.

By combining the two types of setting, you can achieve any result you want.

To continue with our example, if you move the cursor to the first position, you can view/edit the tiling on the wall corresponding to that number:

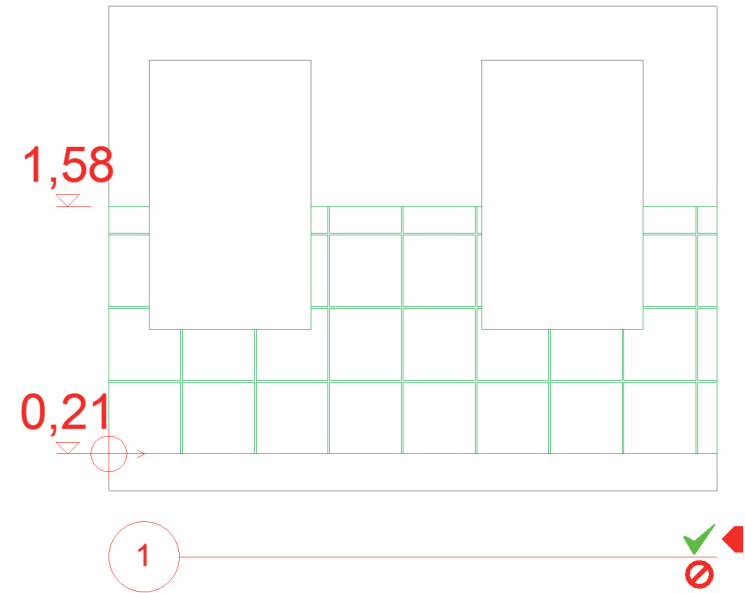


We will use the following image to explain what other draggable hotspots are available for the individual elevations:

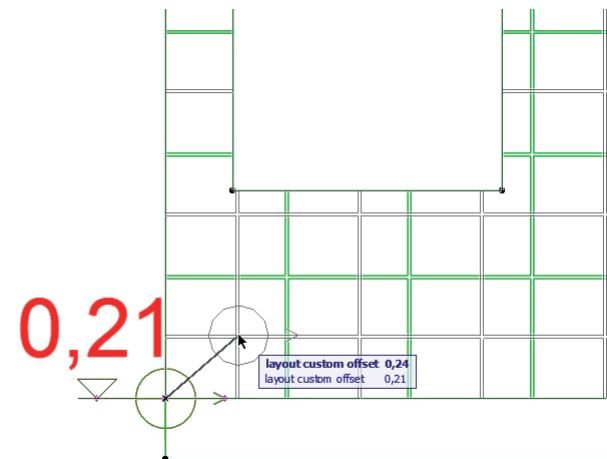


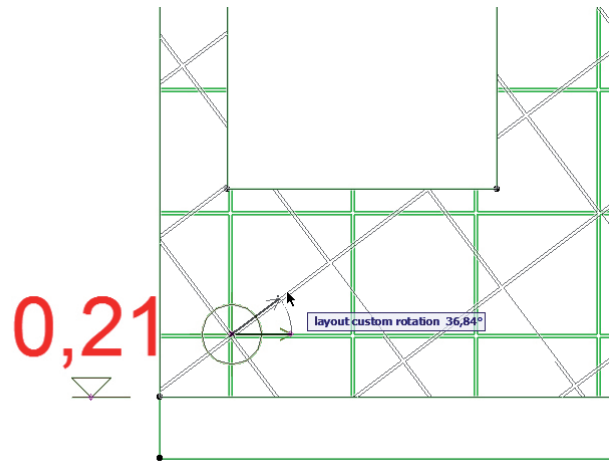
You can use hotspots 1 and 2 alongside the two heights indicated to customise the top and bottom heights between which the tiling is laid.

You can define the surface to be tiled by dragging these two hotspots:



Hotspots 3 and 4 are used to redefine the origin of the laying and its direction:





As in the previous case of the heights, you are obviously acting on the wall displayed only.

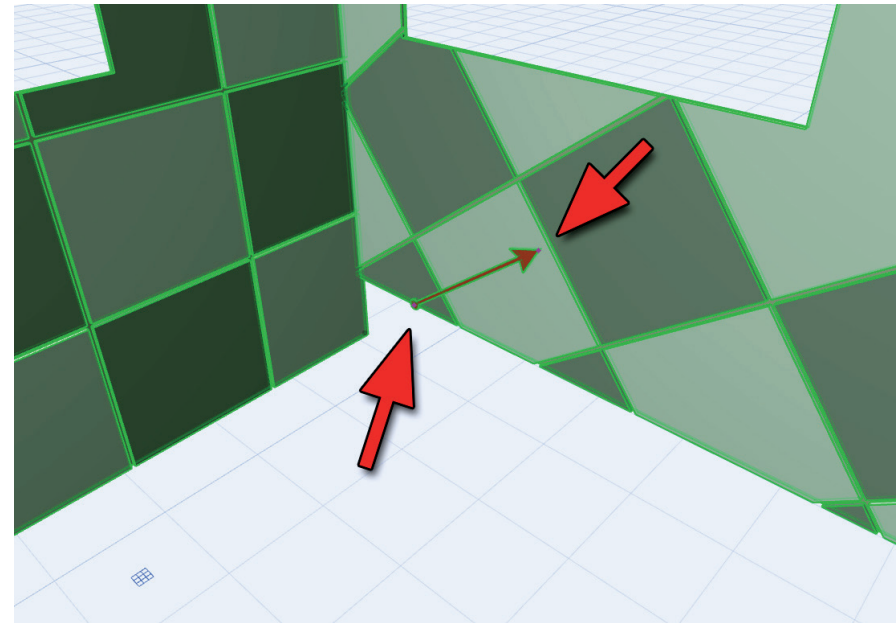
All the others will continue to follow the general settings configured in the settings dialog.

The last hotspot, hotspot number 5, has a particular function.

You can drag it into just two possible positions indicated by a green tick symbol and a red barred circle, corresponding to enabling (green symbol) or disabling tiling (red symbol).

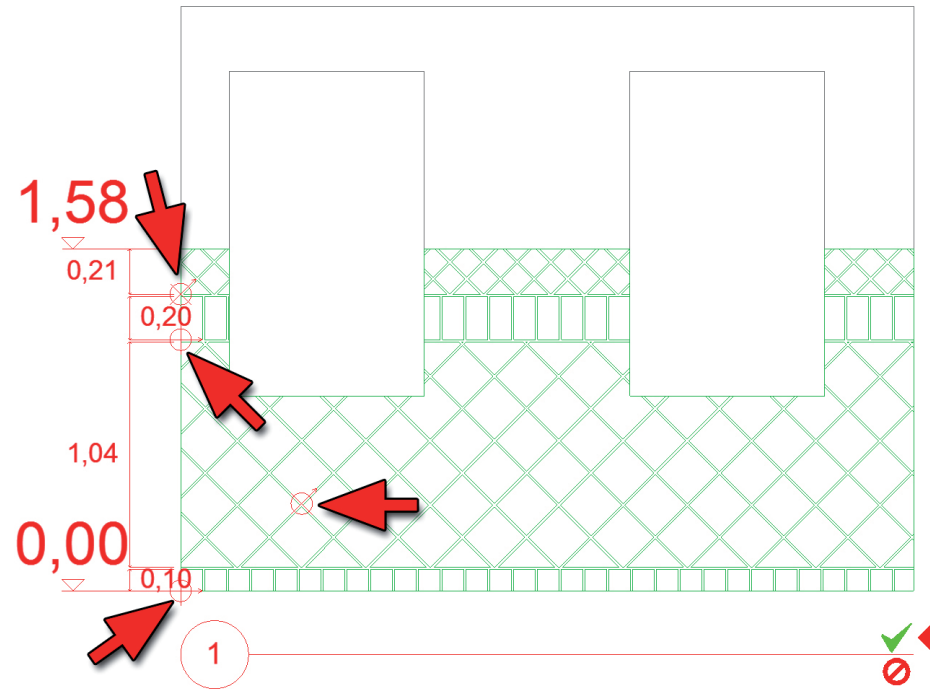
If you move the cursor towards the bottom, the wall being edited will not be tiled, even though it is one of those surrounding the host zone.

If you go to the view, you will see that (as it is in origin editing mode) the object has additional markers you can use in this view to define the position of the origin and direction of laying:



Note: the markers are displayed irrespective of whether the **Show front view** option is enabled or disabled. To hide the editable markers, just select the object again and click again on the **Show/Edit origin** tool, then use the **Hide** button.

If the wall tiling includes bands, ArchiTiles provides an option to define the position of the origin and orientation of laying for each individual band:



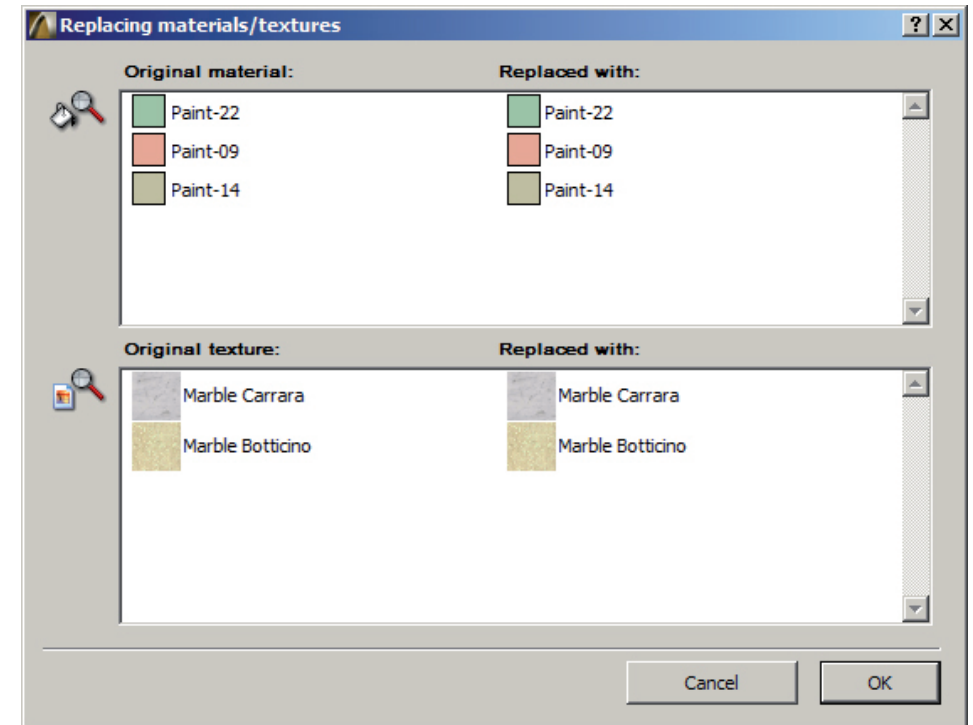
Find and change surface material/texture

The sixth icon in the ArchiTiles palette provides a procedure for finding and changing the surface materials and/or textures used in one or more tiling objects.



This procedure is very simple to use. First select the tiling object (or objects) whose linked surface material and/or texture you want to change, then click on the **Find and change surface material/texture** tool in the ArchiTiles palette.

The following dialog box will be displayed immediately:



The dialog contains two lists. The top list gives all the surface materials used in the selected tiling object, while the bottom lists gives all the custom textures defined for the selected tiling.

To replace one of the existing materials/textures, just click on the row corresponding to the relative surface material/texture to select it, then use the pop-up menu on the far right to define the surface material/texture to replace the original one.

Confirming the new configuration by clicking OK ends the materials/texture replacement procedure.

Cut tiling

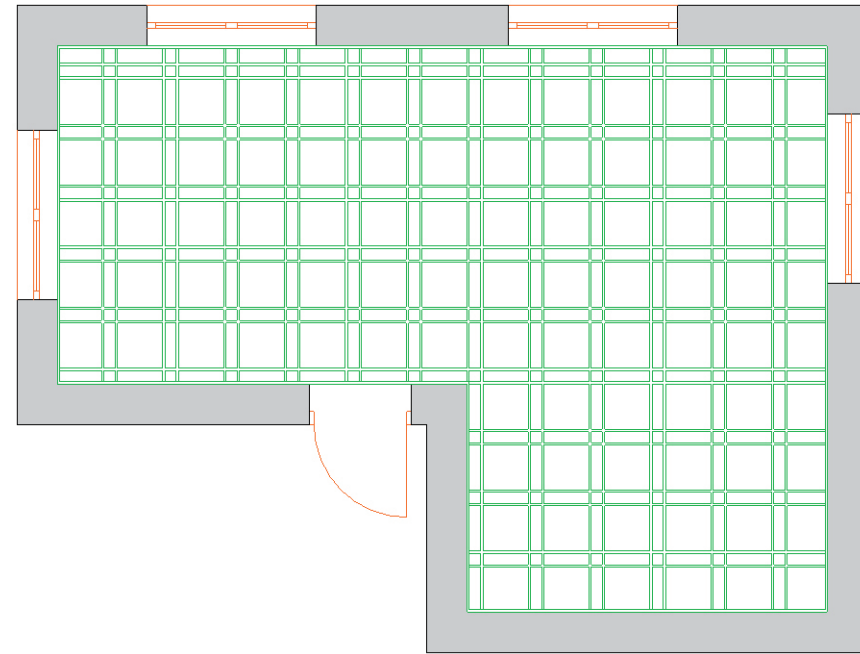
The seventh icon in the ArchiTiles palette provides a procedure to cut/perforate the tiling object.



Although in the majority of cases the tiling will completely cover the host element, sometimes you will need to make holes within it once it has been created.

The **Cut tiling** tool lets you make holes in ArchiTiles tiling objects, whether created by fills or generated by zones.

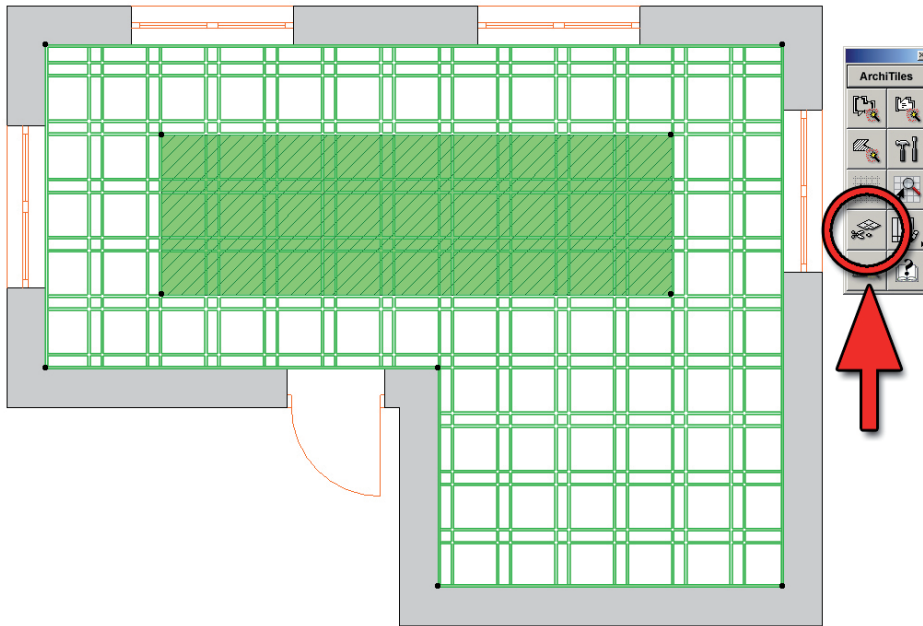
This is how it works, starting from a horizontal area of tiling generated by a fill:



Supposing you want to create an area in the centre with a different type of tiling.

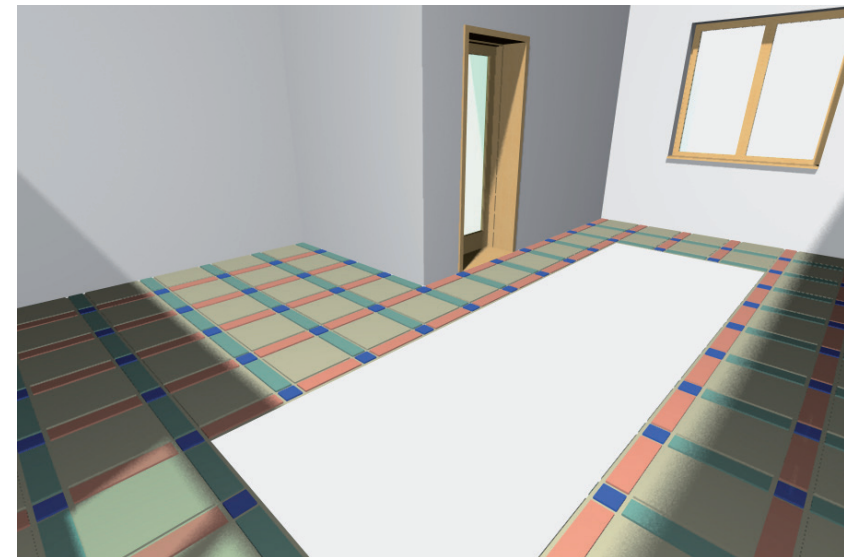
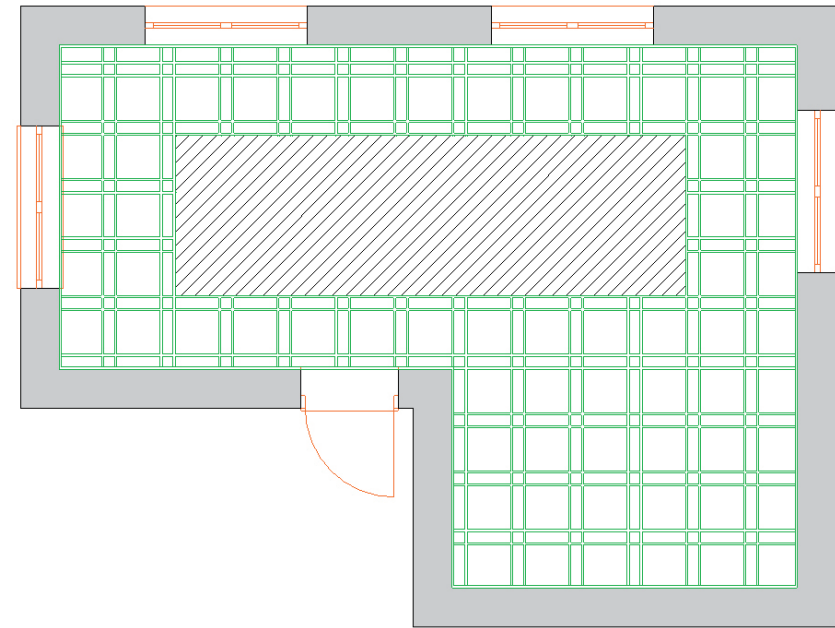
You must first generate the second area of tiling, then "cut out" the first (or you could have used a fill with a hole).

Use an ArchiTiles fill to define the area to be cut out, then select both the tiling object in which you want to make the hole and the fill defining the shape of the hole and click on the **Cut tiling** tool in the ArchiTiles tool palette:



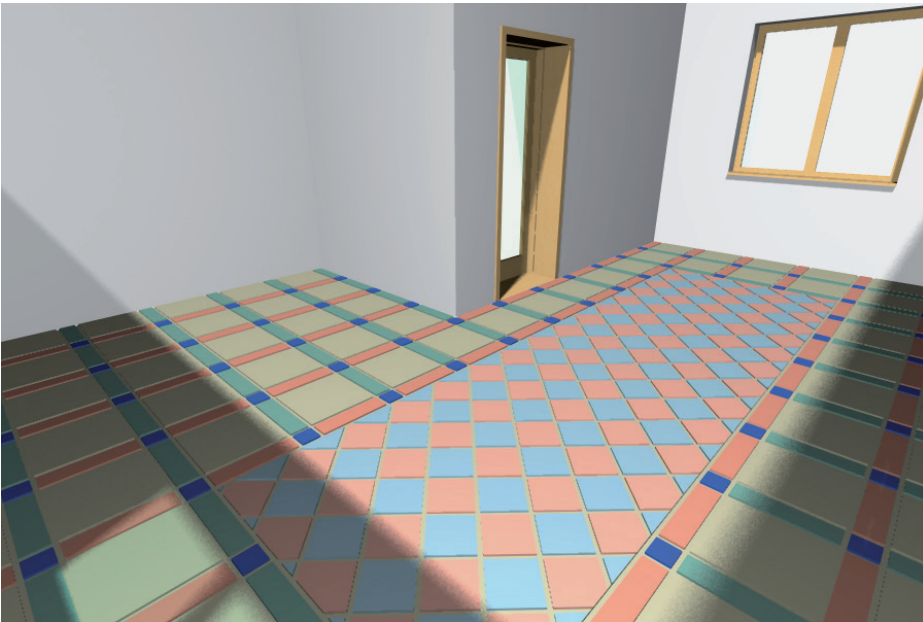
As soon as you click on the tool icon, ArchiTiles cuts the tiling object according to the shape of the selected fill.

You can see the result immediately in both the plan and 3D views:



The fill used to make the cut is not eliminated after the procedure.

You can therefore use it again as a base for the second area of tiling:

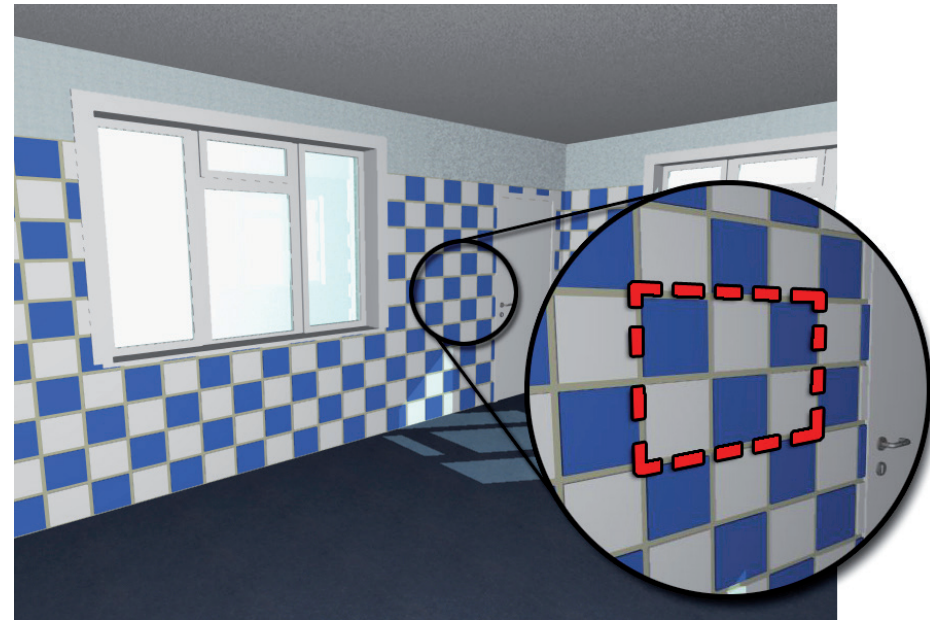


The procedure is identical if you want to “cut out” vertical tiling linked to walls.

In this case, however, as the procedure is active in the plan view only, you must change the view of the tiling object to show the view from the front.

Here is an example which explains the complete procedure.

In the following image, a tiling object with a checkerboard laying scheme has been applied to the perimeter walls of the room:

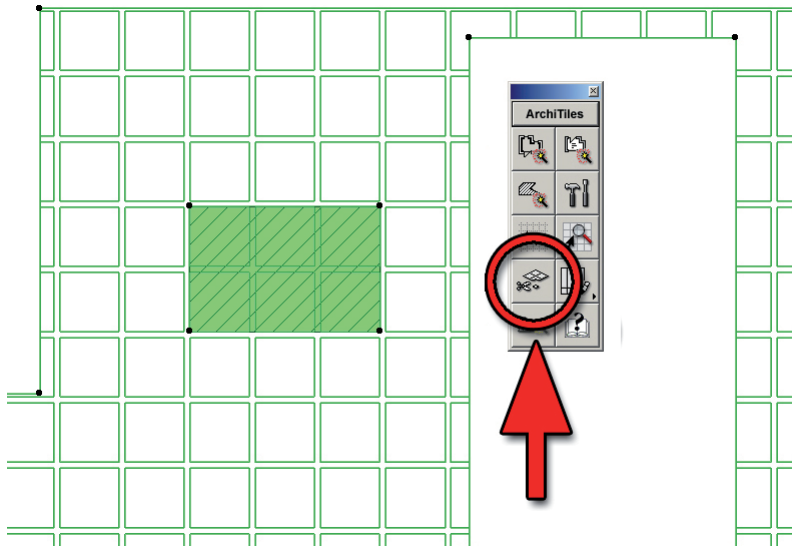


Suppose you want to make a hole in the tiling near the door (as shown in the enlargement) because, perhaps, you want to insert a control panel in that position.

Go back to the plan view, and (as explained in the previous chapters) use the **Show/Edit origin** tool, activating the **Show front view** option to view the elevation of the area of tiling to be cut in the plan view.

Now proceed exactly as explained above:

- draw an ArchiCAD fill to define the hole to be cut in the elevation
- select both the tiling object in which you want to make a hole and the fill which defines the shape of the hole, then click on the Cut tiling tool icon in the ArchiTiles tool palette:

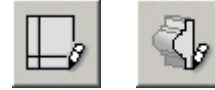


As soon as you have clicked on the tool icon, ArchiTiles cuts the tiling object following the shape of the selected fill:



Create a Custom pattern/Custom profile

The eighth icon in the ArchiTiles palette provides access to two different procedures to create custom patterns for tiling elements and define profiles to be used as moulding in wall tiling with bands:



Create custom pattern

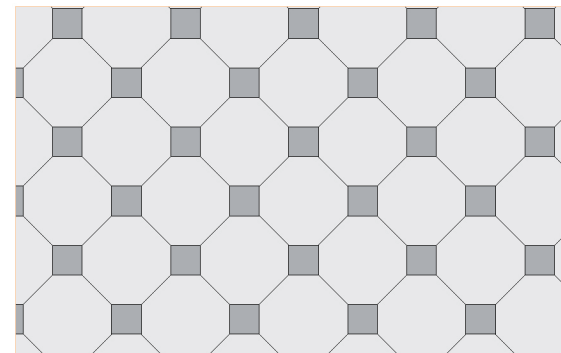


Although the standard library of laying schemes provided with ArchiTiles includes all the most common schemes, sooner or later you will probably want to create a custom pattern.

This procedure helps you create your custom laying schemes without using GDL.

Here are some examples to explain how it works.

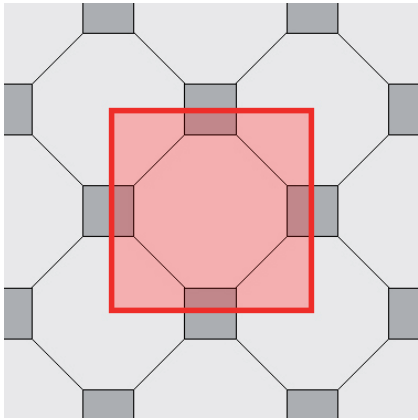
The following image shows a laying scheme using two tiles (with different shapes and colours), one octagonal and the other a square inset:



To define a custom pattern, you first need to identify the basic pattern which is repeated vertically and horizontally to define the laying scheme.

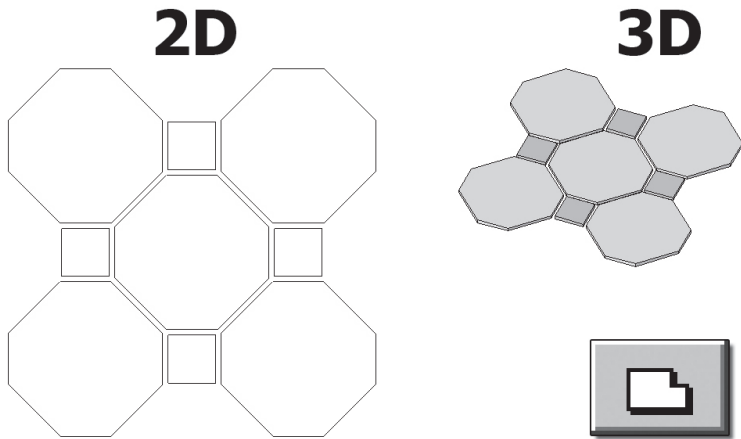
The concept is the same as used to define ArchiCAD symbol fills: a rectangular/square pattern repeated vertically and horizontally can represent any type of laying scheme.

In the example above, it is easy to see that the basic pattern is as follows:



Use ArchiCAD slabs to draw the basic pattern.

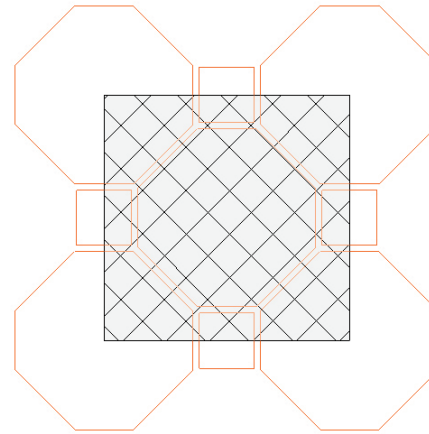
Don't forget the joints if you want to represent them and always draw whole tiles, ignoring the square shape of the basic pattern for now:



The individual slabs will have the same thickness as the tiles they represent and you should also remember to use different materials if these will later be used in your final custom laying scheme.

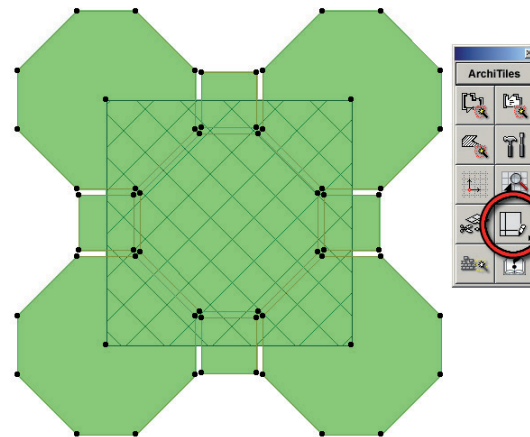
In this case, the pattern uses just two materials, one for the tile and one for the inset.

Using an ArchiCAD fill, now define the size of the basic pattern on top of the slabs representing the tiles:



The parts of the slabs which overlap the sides of the fill will be invisible, so when one basic pattern is placed alongside another, the junctions will not show.

Now save the custom pattern using the special procedure: select the slabs and the fill, then click on the **Create custom pattern** tool icon in the ArchiTiles palette:



There will be a brief pause for processing, then you will be asked to define the position where the custom pattern should be saved (remember to save it in one of the active libraries so you can use it in your project) and its name.

ArchiTiles will automatically create a preview of your pattern so you will be able to recognise it easily when you need to select it.

Note: remember that for the **Create custom pattern** procedure to function correctly, you must disable the **Keep zoomed detail on rebuild** option in the ArchiCAD **Image and calculation** dialog.

In the position where you have saved it, your pattern is now available for use in the various tiling procedures.

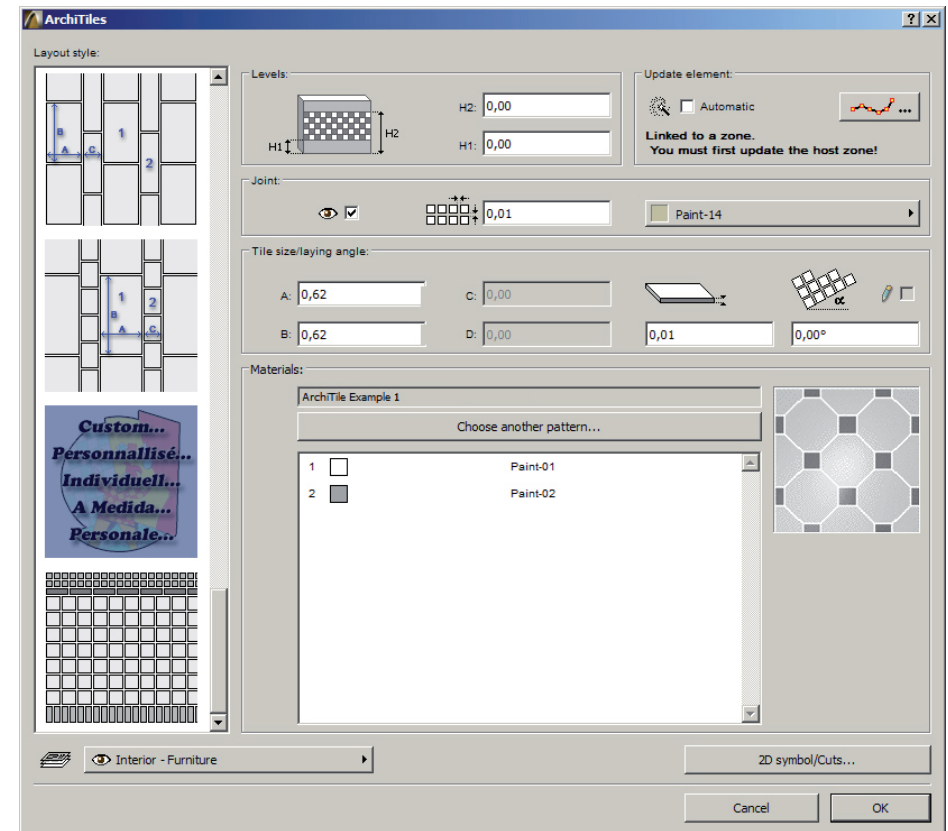
Just select the **Custom laying scheme** option from the list of laying schemes in the **Tiling settings** dialog, then click on the **Choose other pattern...** button to select the custom pattern you have just created.

When you have selected the pattern, the dialog will display its name (the one you used when saving) and a preview on the right.

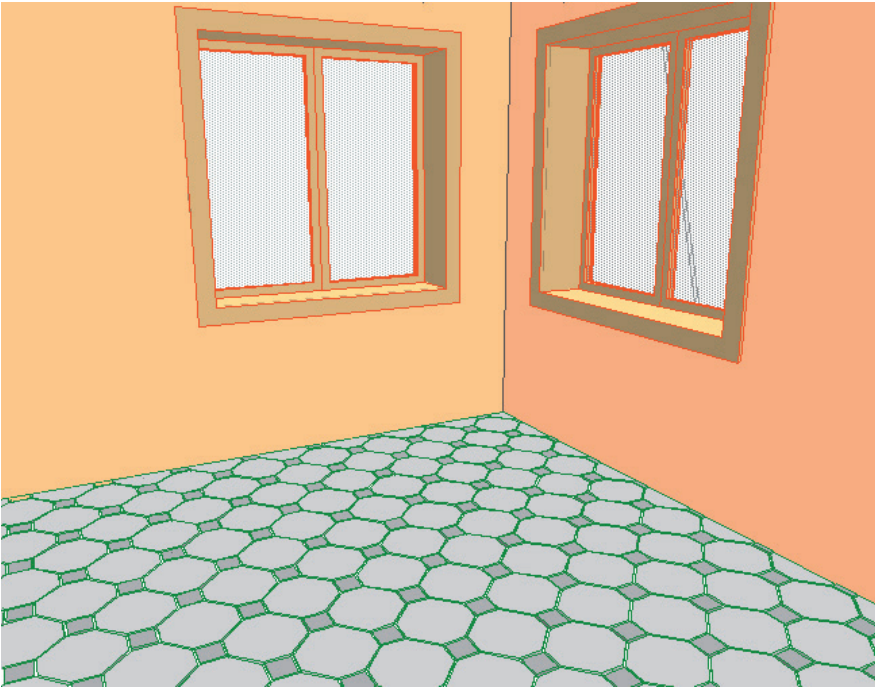
The materials used are listed immediately below.

The default materials (those proposed when you select the custom module) are those used in the slabs you used to create the custom pattern.

You can obviously change these materials as you like using the corresponding pop-up menus.



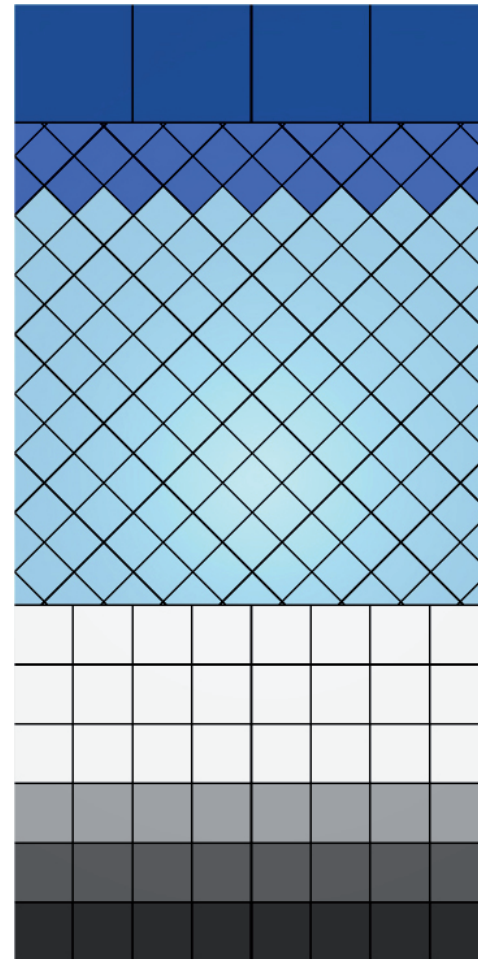
And here is the result of your custom laying scheme in the 3D view:



Now let's look at another example in which you will define a vertical area of tiling.

This working method (repetitive patterns or panels) is exactly the same as the method used by those working in the tile sector - a repetitive basic pattern is defined, then used to tile the full length of the walls.

Look at the following image:



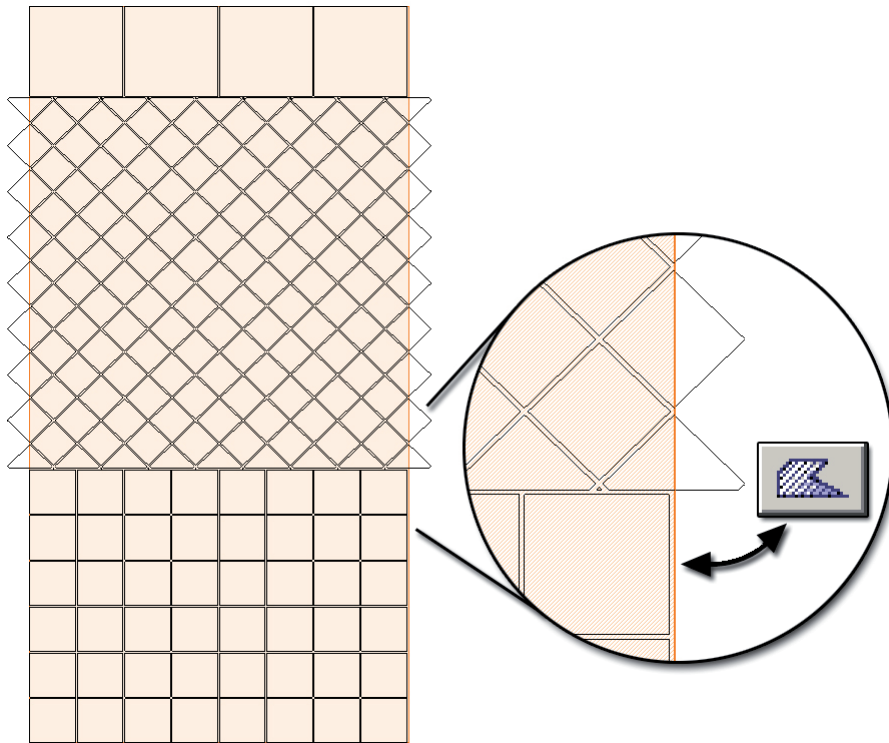
In this case, the wall must basically be tiled between three bands of tiling:

- a bottom band with square tiles with the same size but a different colour
- central band with smaller tiles and a 45° joint with a darker colour towards the end
- a top band with a row of larger tiles

As in the previous example, first identify the repetitive basic pattern (the pattern which will be repeated horizontally in order to obtain the required result).

Then draw the tiles using ArchiCAD slabs, paying attention to the materials you want to use later (the individual materials can, however, be modified as you wish once the custom pattern object has been created).

Now use a fill to define the bounding box of your pattern (paying attention to the joints if you want to represent them):



As you can see in the image above, in this case you need to pay attention to two characteristics:

1. at the horizontal ends, the tiles in the central band with the 45° joint have been drawn completely, in other words, they extend beyond the edge of the pattern. This is because, once you have defined the

actual dimensions of the basic pattern using a fill, they will be «cut» (intersected) by the vertical sides of the fill and, as seen above, the cut will produce «invisible» sides. There will therefore be no visible junction line when the modules are placed side by side in the final tiling.

2. the fill underneath defining the actual dimensions of the pattern must take account of the joints (if they are represented).

Finally, select the slabs and fill, then click the **Create custom pattern** tool icon in the ArchiTiles palette.

Your custom pattern will be generated and you can use it to tile the walls. Each individual material used can be redefined as you like in the **Tiling settings** dialog:



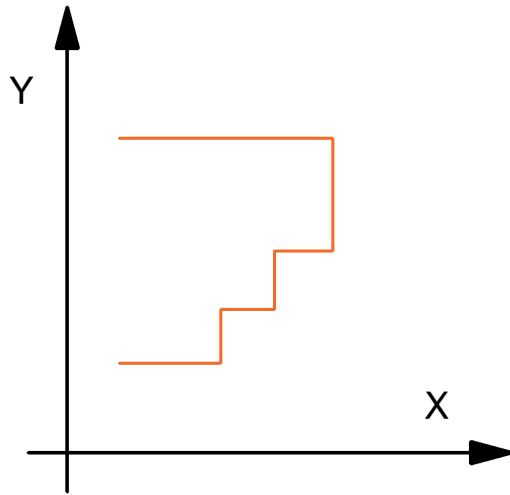
Note: We recommend you avoid creating excessively complex custom patterns. Depending on your hardware/software configuration, the complex calculation operations (making heavy use of ArchiCAD Solid Element Operations) used to calculate the tiling could slow down your ArchiCAD.

Create Custom profile



You can use this procedure to create, without using GDL, custom strips/profiles for use in wall tiling with bands.

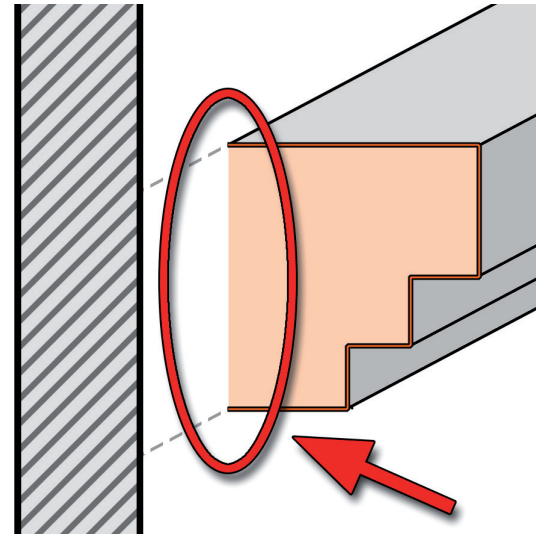
Before describing this procedure, take a look at the following diagram:



The custom profile must be defined using one (and one only) ArchiCAD polyline.

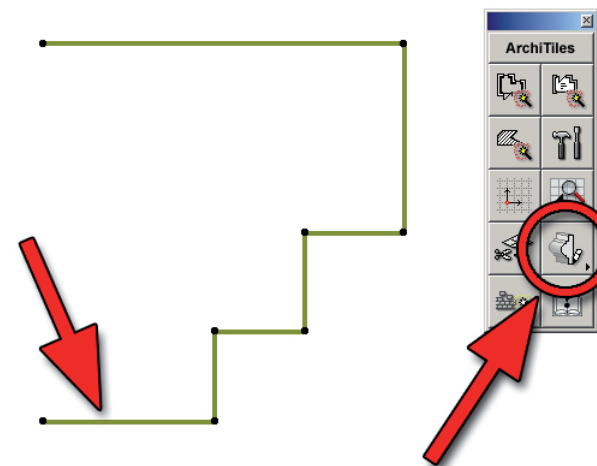
Imagine the two axes X-Y of the image above on the ArchiCAD worksheet. The polyline must be an open polyline and must obligatory be on the right of the vertical Y axis (while its position with respect to the X axis is not important).

The "open" part of the polyline identifies the side of the profile which will rest against the host wall:

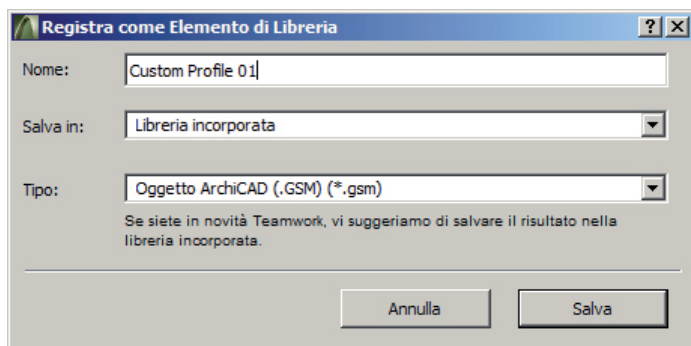


Once you have understood this, creating a custom profile is very simple:

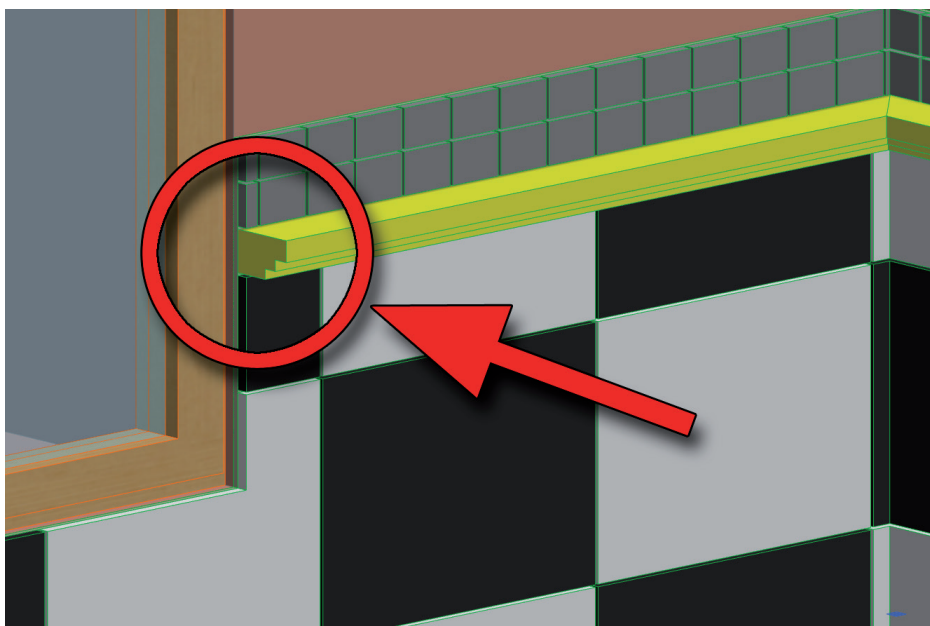
1. bearing in mind the orientation described above, we will now draw a profile using an ArchiCAD polyline
2. Select the polyline and click on the **Create custom profile** tool icon:



3. In the ArchiTiles save object dialog, choose the position and name of the object and confirm by clicking OK:



The object is created and, if saved in one of the active libraries, will be immediately available for use:

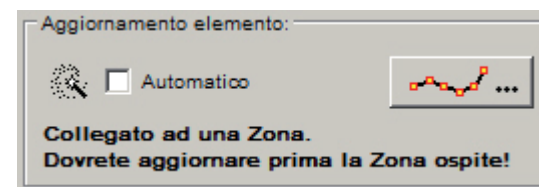


Data update



The ninth icon in the ArchiTiles palette accesses the data update procedure, forcing a rebuild of the tiling objects to adapt them to changes made to the host elements:

As seen previously, use of this tool depends on the settings of each individual area of tiling:



If the automatic update option in the **Update element** section is active, then unless there is a malfunction you will not need to force rebuilding of the elements as they will adapt automatically to changes to the host elements.

If, on the other hand, the automatic update option has not been activated, then to ensure perfect correspondence between the host elements and linked tiling, you must use this procedure.

It is very easy to use:

1. Select the element to update
2. Click on the **Data update** tool icon
3. After a brief pause for processing, ArchiTiles updates the object with the appropriate changes.

Help online



The last icon in the ArchiTiles palette provides access to the PDF user manual (the same manual you are consulting now).