

Create Shader in Artlantis 2

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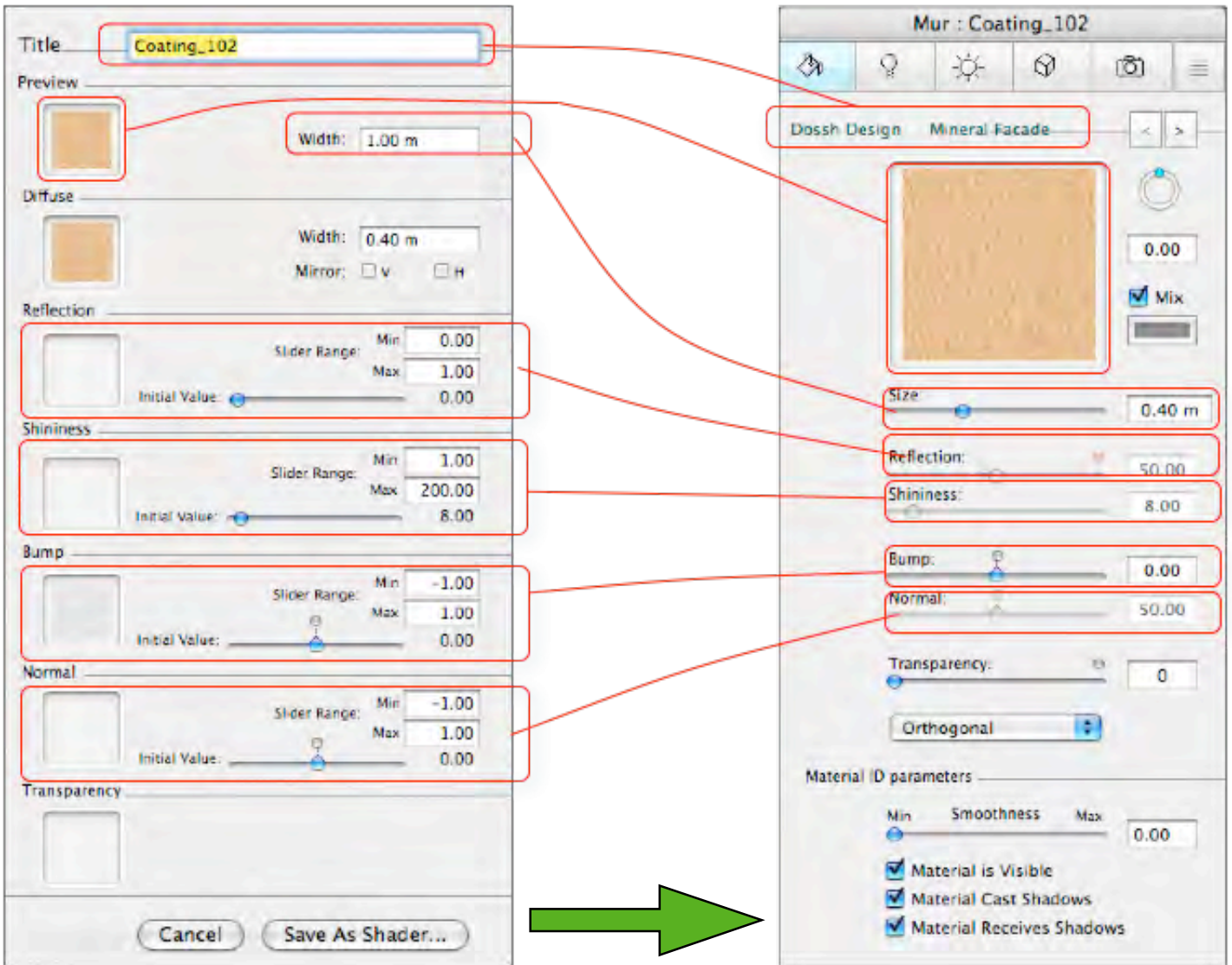
“Create Shader...” is an independent menu in the “Tools” menu that allows you to create or modify an existing image shader.

The shader inspector must be activated to enable the “Create Shader...” menu.

When you choose “Create Shader...” a dialog containing the current shader’s images opens. If the current shader is procedural, the dialog is empty.

The dialog box displays a very simple user interface you complete with images and values. To add an image, just drag and drop it in the right place or double click to launch the “Open file” dialog.

When you save it, the new shader will have the standard appearance.



Some parameters are missing from the “Create Shader...” dialog: Rotation, mix color, Transparency, Projection menu, and Material ID. They will automatically get the default values after you “Save as Shader...”

Samples of parameters description...

Sample 1 - Create an Old Paving Shader

Title: [Abvent Old Paving](#)

The title is a simple text that appears at the top of the standard dialog.

Note: There are several texts attached to a shader:

- the file name with .xsh extension.
- the localized name visible in the Catalog.
- the title

To simplify the process, the name of the file will be duplicated and it will become the Localized name as well.

For experts and Shader authors: it is possible to localize the visible name in several languages: see “Localize shader name” in appendix.

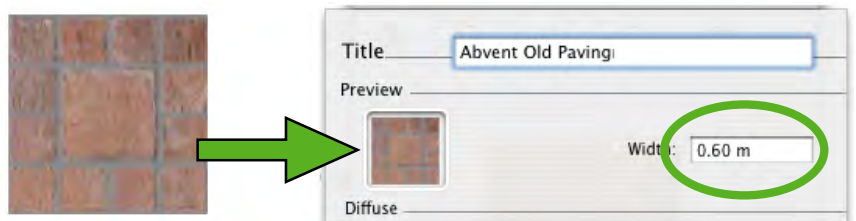
Preview:

The Preview must be a 128x128 pixels .jpeg image, representing the shader.

The Preview image is a thumbnail displayed in the standard shader UI and in the media Catalog.

The Preview Width gives the real size in centimeters of tiles or design represented by the image.

Note: if you forget the preview, Artlantis will use the Diffuse map image resized to 128x128 to create a thumbnail.



Note: the Preview is a small part of the diffuse map that helps you to understand what the shader is about.

Diffuse:

An image file **MUST BE PRESENT**. This is the visible part of the Shader. Depending on the motif, we recommend a map size between 512x512 to 1024x1024.

Note: if the image is not a square, Artlantis will stretch it automatically into a square.

Diffuse Width gives the real size in centimeters of tiles or design represented by the image. This size can be different from the size represented by the preview because the Diffuse map can display a larger part of the same surface.

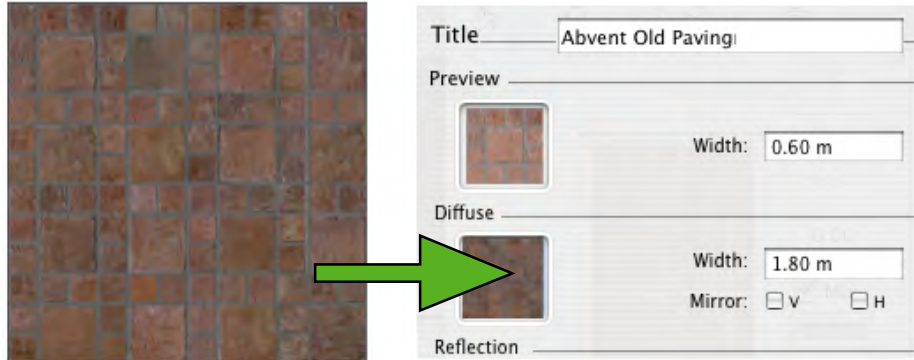
Note:

Diffuse map pixels size is 4 times the preview size but its motif is 3x3 the preview to avoid the repetition effect,

Diffuse map is not visible in the shader inspector, but it is displayed in the third part of the media Catalog.

Sample 1 - Diffuse image:

Size: 512 x 512 pixels
Real width = 1.80 m



Reflection:

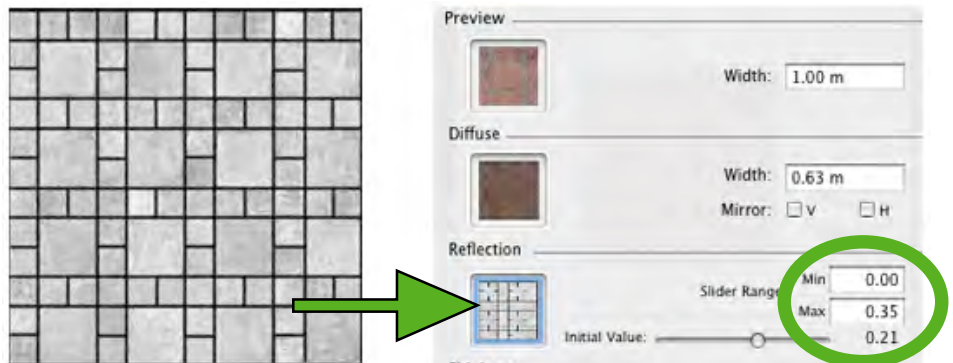
The Image map is OPTIONAL. It can be GREY LEVEL or COLORED image – Generally, gray level image is used.

It must have the same pixel size as the diffuse map. If not, Artlantis will stretch it to the size of the diffuse map.

If it is present, the goal of the map is to modify the value of the slider:

- on black pixels, the slider value is multiplied by zero,
- on white pixels the slider value is multiplied by 1,
- on intermediate luminance, the slider value is multiplied by an intermediate value

It serves to avoid reflection on some part of the diffuse map.



Note:

The limits for the slider are min = 0 and max = 1.0. In this case, setting the max value at 0.35 will result in a slider from 0 to 0.35 in the Shader inspector

You can test the effect of each parameter in the preview in real time.

Shininess:

The image is OPTIONAL; it must be a GREY LEVEL image.

It must have the same pixel size as the Diffuse map. If not, Artlantis will stretch it to the diffuse map size.

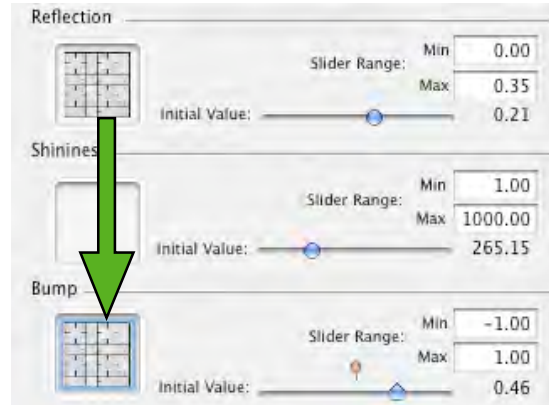
The process (for the image and slider) is the same as for Reflection.

Bump:

The image is OPTIONAL. It must be a GREY LEVEL image.

It must have the same pixel size as the Diffuse map. If not, Artlantis will stretch it to the diffuse map size. If the shader does not contain Bump mapping, the slider will be enabled in the shader inspector and Artlantis will use the Diffuse Map to “bump” the surface.

The diffuse image will be used as a Bump map. In this way, Bump mapping will be always available and it will use less memory.



Normal:

The image is OPTIONAL. Colors are defined by strict rules to simulate geometry relief. Generally, normal maps are used in place of Bump maps, but Artlantis can support both at the same time.

Warning: it is difficult to create a Normal map.

If the shader does not contain Normal Mapping, the slider is disabled in the standard inspector.

Note:

Normal mapping is not used in this sample ...

More information in Sample 2: Create Floor Marble Shader

Transparency Map

The image is OPTIONAL. It must be in GREY LEVEL MAP.

It is used to simulate shaders with holes and / or transparency.

White = Opacity

Black = Transparent

More information in Sample 3: Create an Open Metal Flooring Shader



Save as Shader

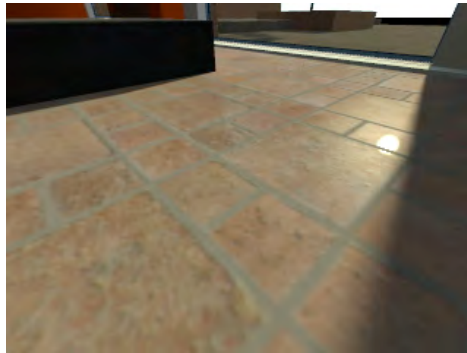
Once you have the correct aspect in the preview, you can save your shader.

WARNING: if you want to preserve the original one used in old projects, give it a new name

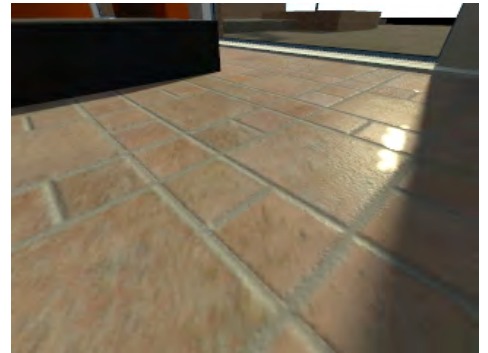
Create an Old Paving Shader: **Summary and result:**



Diffuse map



+ Reflection map

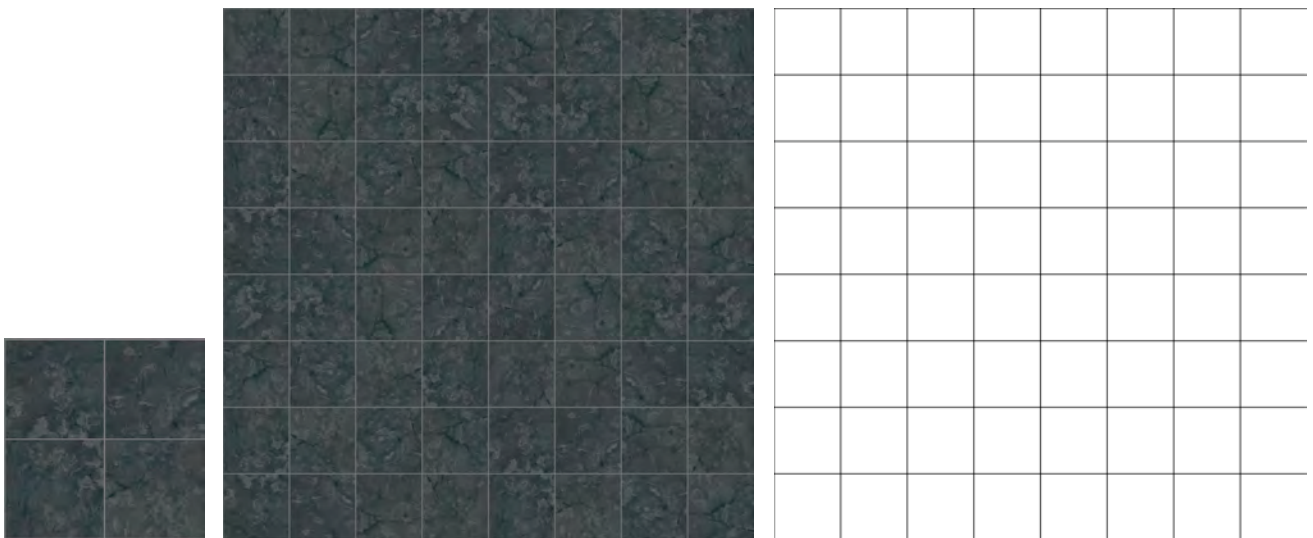


+ Bump map

Sample 2 - Create Floor Marble Shader

Title: [Abvent Floor Marble](#)

Similar to Sample 1, this shader has a Preview map, a Diffuse map and a Reflection map. It does not have a Bump map.



Preview

Diffuse

Reflection

Normal:

Normal mapping is a technology coming from the latest generation of computer gaming. It simulates relief on a surface.

How does Normal mapping work?

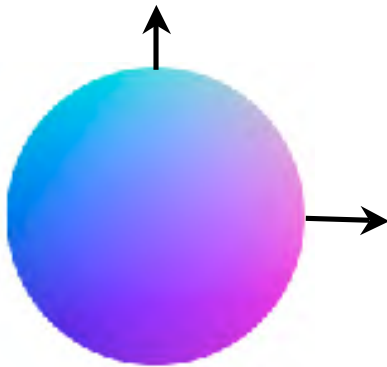
Surface illumination depends on the angle between each polygon and light. In fact, we consider the perpendicular - the “normal vector” - of each polygon:



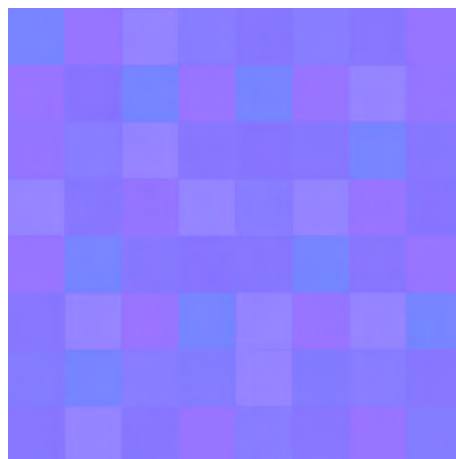
Normal vector is relative to the surface, and its direction in 3D is defined by its values on 3 axes (X, Y, Z). It is easy to represent it by the R, G and B components of an image.



The representation of a Normal map on a sphere is (top view):



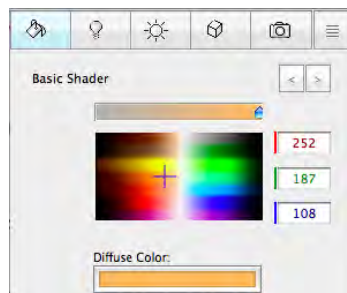
For the floor marble shader, we will simulate the horizontal irregularities of tiles with the normal map below:

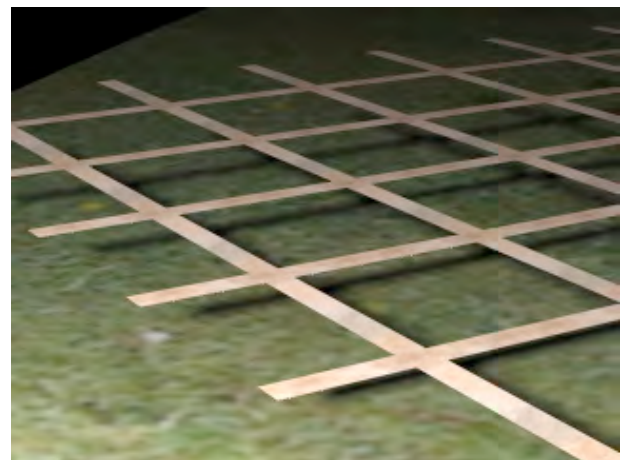
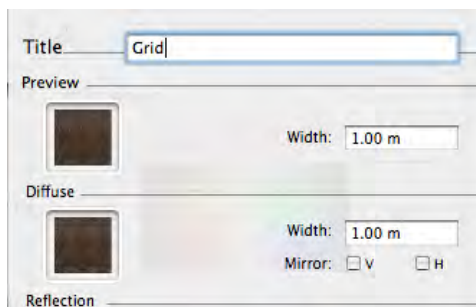


Create an Old Paving Shader: **Summary and result:**



Sample 3 - Create Open metal Flooring Shader





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Artlantis product-line

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