

Bake

This page provides information on the Bake tab of the V-Ray Renderer settings.

Overview

The Bake tab exposes several texture baking options. This tab is available only when the [Bake to Texture](#) option is enabled.

Rendering to texture, or "texture baking", creates texture maps based on an object's appearance in the rendered scene. The textures are then "baked" into the object that is, they become part of the object via mapping, and can be used to display the textured object rapidly on graphics cards using hardware-accelerated API such as OpenGL and DirectX.

Main

File Path – Specifies a bake file path. The following tags are supported:

\${AOV} – Replaced with the render element name;
\${F} – Replaced with frame number;
<UDIM> – Replaced with the tile code with underscore prefix, e.g.
" _1001";
<OBJ_NAME> – Replaced with the object name.

Projection Baking – Specifies the baking mode.

Normal – Bakes procedural maps into textures.
Projection – Bakes projected procedural or texture maps of an object over another object, i.e. high poly object baked onto a low poly one.

Mode – Specifies the direction of the traced ray.

Outside – The ray is traced along the normal vector.
Inside – The ray is traced in the opposite direction of the normal vector.
Outside first, then Inside – The ray is first traced along the normal vector. If no intersection occurs, then a second ray is traced in the opposite direction of the normal vector.
Inside first, then Outside – Same as Outside first, then Inside but in reversed order.
Closest – Two rays are traced in both directions and the intersection that occurs closest to the surface is chosen.

Object – Specifies object(s) for which maps are baked. When multiple objects are specified, they are baked one after another. When **Projection Baking** is set to **Projection**, low poly objects are specified here.

Target Objects – (Available only in **Projection** mode only) Specifies high poly objects. Only one object is supported.

Dilation – Specifies the number of pixels to expand around geometry.

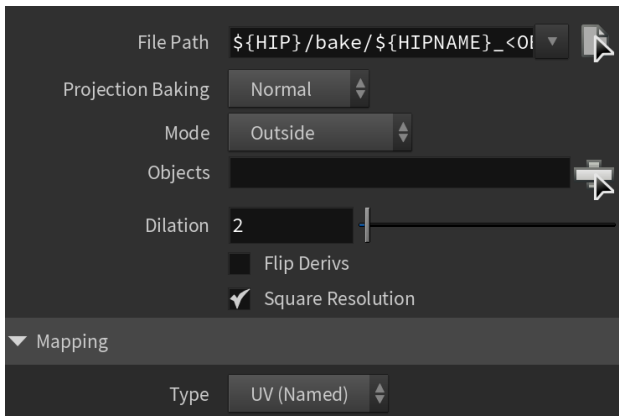
Flip Derivs – When enabled, flips the texture direction derivatives, i.e. reverses the bump mapping.

Square Resolution – When enabled, sets square resolution.

Mapping

Type – Specifies a mapping type by name or by index.

UV (Named)
UV (Indexed)



UV (Named)

UV Name – Specifies the name of the UV channel that should be used.

Repeat U/V – Multiplier for U/V values.

Coverage U/V – Specifies the U/V coverage amount.

Translate Frame U/V – Translates the frame in U/V direction after applying rotate_frame (and before wrap, coverage, clamp).

Rotate Frame – Rotates the frame after applying UV noise.

Rotate UV – Rotates the UVs after mirroring.

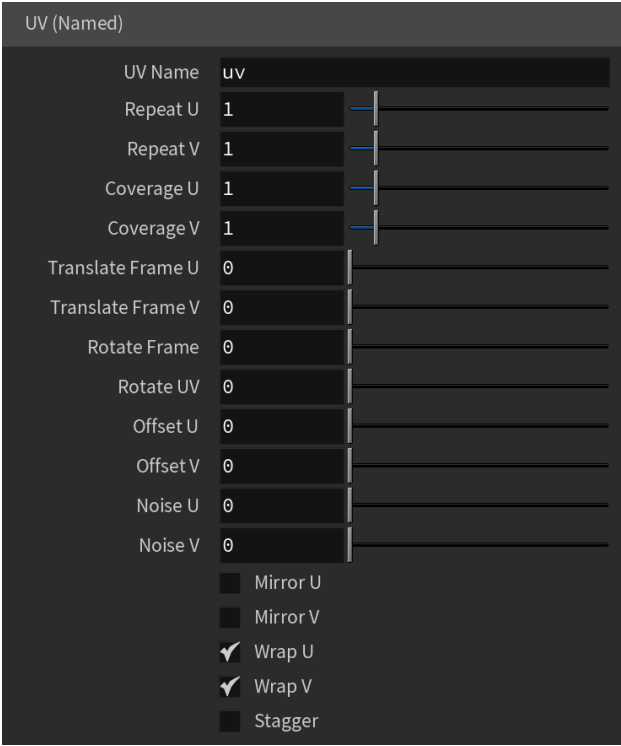
Offset U/V – Offset added to U/V before mirroring (after wrap, coverage, clamp).

Noise U/V – Noise magnitude multiplier in U/V direction.

Mirror U/V – When enabled, every other tile outside the [0;1] range is mirrored in U/V.

Wrap U/V – When enabled, U/V values outside the [0;1] range wrap back to [0;1].

Stagger – When enabled, tiles in the V direction add +0.5 to the U value for a 'staggering' effect.



UV (Indexed)

Channel Index – Specifies the UVW channel index.

Wrap U/V/W – Specifies the type of wrapping.

Crop U/V/W – When enabled, cropping occurs in the specified direction.

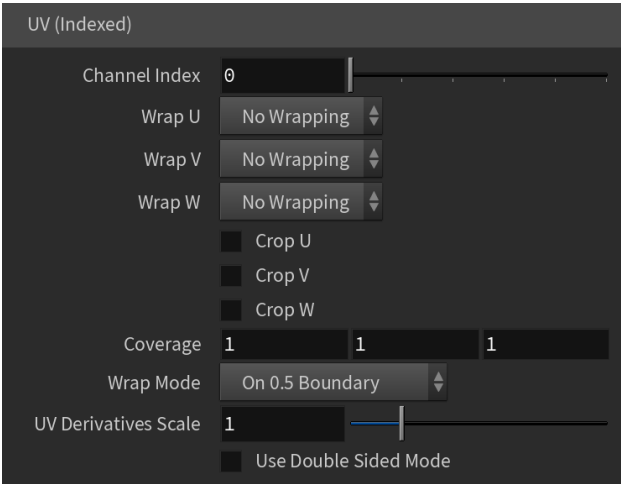
Coverage – Specifies the UVW coverage.

Wrap Mode – Specifies one of the following wrapping modes:

- On 0.5 boundary
- On integer boundary

UV Derivatives Scale – Specifies an additional scale factor for the texture derivatives.

Use Double Sided Mode – When enabled, V-Ray uses the Uvw Channel for front-side contexts and Uvw Channel + 1 for back-side contexts.



UDIM

UDIM – When enabled, bakes the textures in UDIMs.

UDIM from Selected Objects – When enabled and multiple objects are selected, bakes the objects in the same UDIMs.

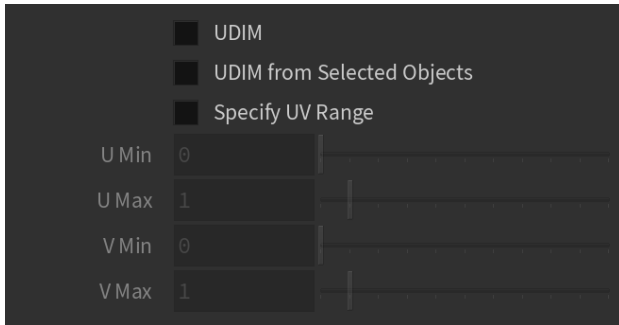
Specify UV Range – When enabled, specifies UV range to bake.

U Min – Specifies the minimum U value to bake.

U Max – Specifies the maximum U value to bake.

V Min – Specifies the minimum V value to bake.

V Max – Specifies the maximum V value to bake.



Expert

Fov – Specifies field of view.

Normal – Specifies which normals to use when shooting rays.

Geometry – Uses normals of the geometry.

Smooth – Uses normals generated by V-Ray.

Max Depth – Specifies the maximum depth for the traced rays, in scene units. Geometry that is intersected further than this value along the ray is ignored. If the value is 0, then no geometry is ignored.

Ray Offset – Specifies how much to offset the ray's beginning along the normal.

