Render Elements tab

This page gives details on the render settings used for Render Elements in V-Ray for Maya.

Overview

Render Elements are a way to break out renders into their component parts such as diffuse color, reflections, shadows, mattes, etc. This gives fine control over the final image when using compositing or image editing applications when re-assembling the final image from its component elements. Render elements are also sometimes known as *render passes*.

Render Elements are generated at render time based on the ones you choose before rendering. Most render elements have parameters that can be set to customize the render element or its later use in compositing software. These parameters are described on each render element's individual page, along with common uses and any notes on their generation and usage.

For more details on what render elements are available within V-Ray for Maya, please see the Render Elements *section.* This includes a breakdown of each pass and what it's used for.

UI Path: ||Render Settings window|| > Render Elements tab
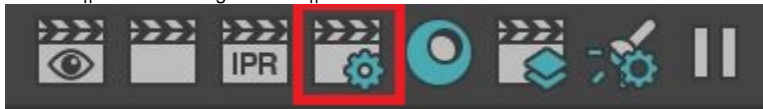
Render Settings

Edit   Presets   Help

Render Layer   masterLayer   ▼

Render Using   V-Ray   ▼

| Common | VRay | GI | Settings | Overrides | Render |

Available render elements

Search...

Preset: Back To Beauty
Atmospheric Effects
Background
BumpNormals
Caustics
Coat Filter
Coat Glossiness
Coat Reflection
Coat Specular
Coverage
Cryptomatte
Custom Color
DR Bucket
Denoiser
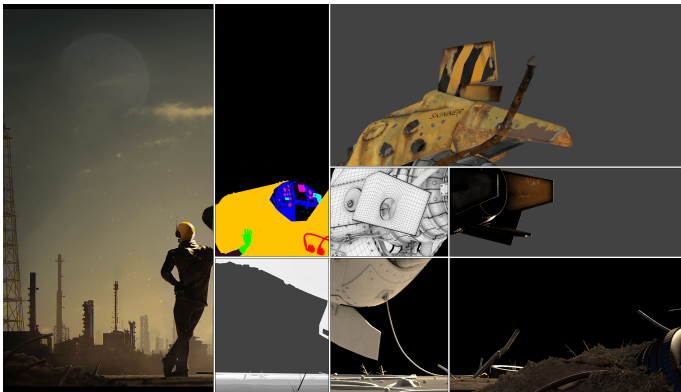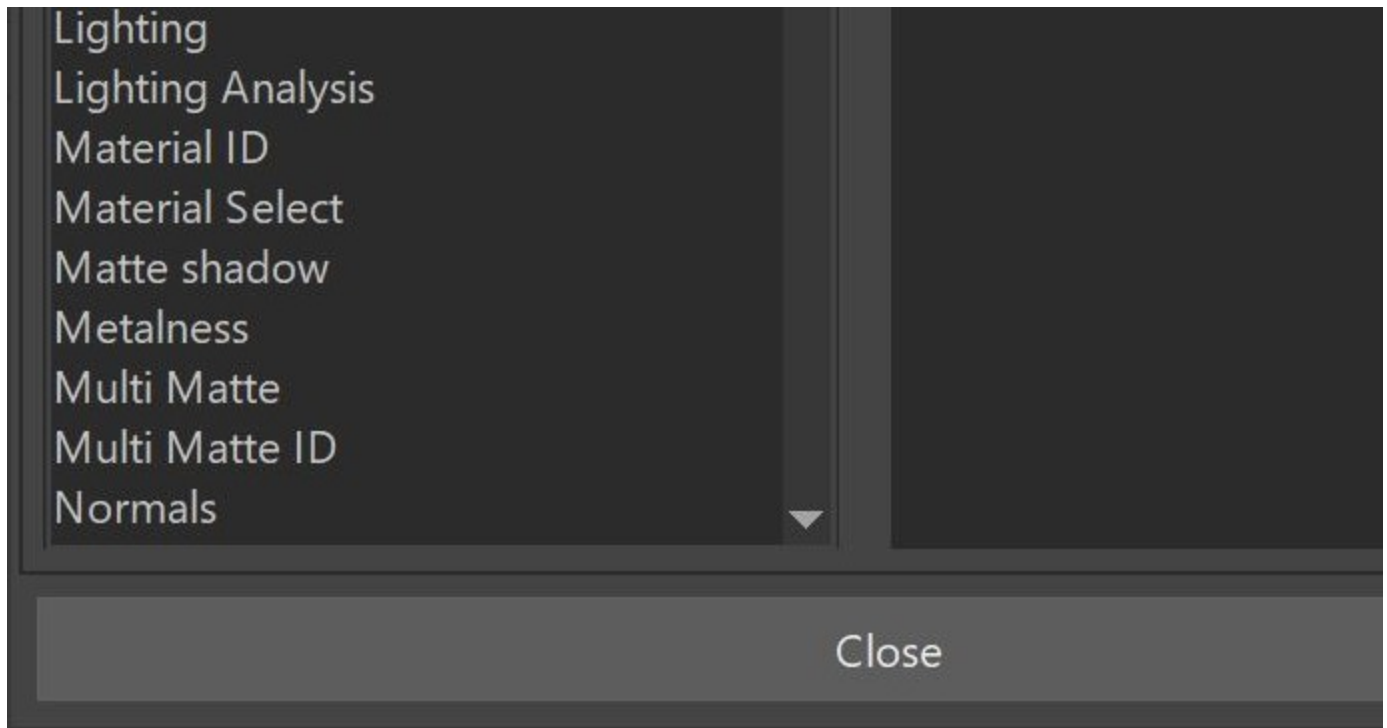Diffuse
Extra Tex
GI
Light Mix
Light Select

Added render ele

Lighting
Lighting Analysis
Material ID
Material Select
Matte shadow
Metalness
Multi Matte
Multi Matte ID
Normals

Close

Image courtesy of Paul Paulino

Render Elements List

Available render elements – List of all render elements that V-Ray supports. You can use the search bar to filter all the Available render elements. It supports substrings, so even typing a letter generates a search filter. Wildcards (*) are also supported to replace words in your search. For example, typing **raw * filter** shows results such as Raw Coat Filter, Raw Reflection Filter etc. Pressing **Enter** adds the top result from the filtered list.

Added render elements – List of render elements that V-Ray will render when that layer is enabled. Note that it is possible to add multiples of the same render elements.

Add – Adds all render elements selected from the list on the left, to the scene for rendering. You can also double-click a render element on the left list to add it.

Remove – Remove the selected render elements from the scene. This is not the same as merely disabling a render element from rendering.

Save – Save the list of render elements to a file for later retrieval or pipeline dissemination.

Import – Import the list of render elements from a file.

For more information on each Render Element, please see the Render Elements section.
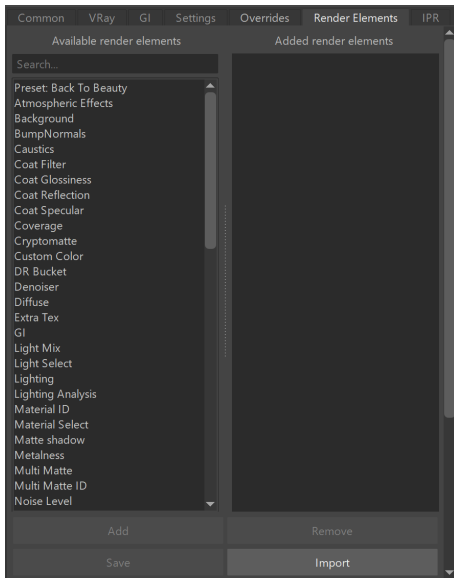
Attributes

Enable/Disable All – Each render element can be enabled/disabled individually from the list itself. This option can toggle the state of all render elements at once, but only affects production rendering.

Enable/Disable All in IPR – Toggles the state of all added render elements at once, but only affects IPR sessions.

Separate folders – Exports each render element to a separate folder based on its name.

Get name from node – When enabled, V-Ray will use the name of the render element nodes when saving render element images. This allows the user to name render elements directly through the render element nodes instead of only through the attribute editor.

Separate RGBA – Specifies whether the main RGBA element will go into a sub-folder too if **Sep arate Folders** is enabled.

Use referenced – Toggles the use of render elements from referenced files.

Unfiltered fragment method –Specifies how to determine the final values for render elements where filtering is turned off (i.e. Z-depth, object ID etc.). *This option is not supported when working with the V-Ray GPU render.*

> **Best coverage** – For each pixel, the final values for the render element are taken from the object that has the largest contribution to that pixel.
> **Closest to camera** – For each pixel, the final values for the render element are taken from the object that is closest to the camera.

Render element separator – Separator character used to construct the render element image name.

Deep merge mode – Controls the generation of deep data for deep OpenEXR 2 and VRST files. Normally with the default setting of By render ID, V-Ray merges the deep fragments that belong to a single object within a pixel in order to reduce the size of the deep data and also to allow for the perfect separation of the different objects if needed for post-processing purposes. However, especially in cases where you have one single object with a complex shape (i.e. one VRayMesh node that represents a large portion of the scene environment), this may be undesirable and so you can change this behavior if you set the deep merge fragment mode to By Z-depth. This will cause V-Ray to separate the deep fragments based on the similarity of their z-depth values rather than which object they belong to. The deep merge ZDepth threshold parameter specifies how close the deep fragments need to be relative to the pixel size in order to get merged, which essentially allows you to control the precision vs size of the deep file. *This option is not supported when working with the V-Ray GPU render.*

By render ID – Deep fragments within a pixel are merged based on which objects they belong to (objects are differentiated based on their render IDs as they appear in the render ID element);

By z-depth – Deep fragments within a pixel are merged based on the similarity of their z-depth values. Use the **Deep merge z depth thresh** parameter to control how close fragments need to be in order to merge them.

None – Deep fragments within a pixel are not merged at all. This mode preserves most sampling information; every single image sample is stored separately and this usually results in very large deep files, therefore it is best to use only when the other modes are not producing satisfactory results.

By render ID and z-depth – Deep fragments within a pixel are merged if they share the same render ID and are within the **Deep merge Zdepth thresh**. This is a combination of the other two modes. The **By render ID** mode allows you to extract masks exactly, but for an object with a complicated shape it doesn't distinguish between overlapping portions of the same object. The **By z-depth** method separates the samples depending on their depth, but does not allow clean masks. The combined mode separates the deep points based on both render ID and z-depth thus solving both problems simultaneously.

Deep merge zdepth thresh – When deep merge fragment mode is **By z-depth** , this threshold controls how close the fragments need to be in order to merge them. The value is relative to the pixel size. A value of 1.0 means that fragments that are within a block roughly the size of a pixel will be merged together. Lower values produce more precise deep data, but can lead to larger files. Higher values make the deep data less precise but can make the resulting deep files much smaller. A value of 0.0 will store every single image sample separately and is strongly discouraged. *This option is not supported when working with the V-Ray GPU render.*

Exclude RGB from deep files – When enabled, the RGB channel will not be included in deep files. *This option is not supported when working with the V-Ray GPU render.*