# Rendering an AO pass and using it with VRayMtlBlend

This page provides a guide on rendering an Ambient Occlusion pass in V-Ray for Nuke and using it with the V-Ray Blend Material.

### Overview

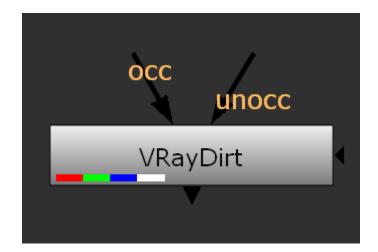
In this tutorial, we set up a Nuke script to use a VRayDirt texture in V-Ray and use it along with a VRayMtlBlend so that two materials are combined together when the Ambient Occlusion pass is used as a mask.



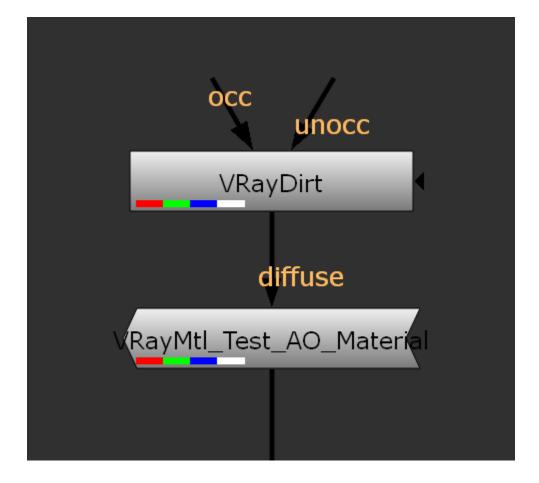
## Part I: Setting up the AO Pass

In this first section, we set up a VRayDirt node and connect it to the diffuse channel of a VRayMtl, which will be used temporarily to tune-in the AO settings before later use as a mask.

1. Create a VRayDirt texture.



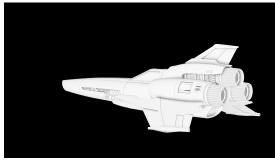
2. Create a VRayMtI, name it VRayMtI\_TestAO\_Material and then connect the VRayDirt texture as its diffuse input.



3. Connect the VRayMtl\_Test\_AO\_Material to the img input of the geometry within the scene.



Beauty Render with **VRayDirt** used as the Diffuse channel for V-Ray Material, which currently only using the default values for **VRayDirt**.



The Diffuse Render Element with **VRayDirt** used as the Diffuse channel for V-Ray Material, which currently only uses the default values for **VRayDirt**.

4. Currently at the default **VRayDirt** settings, there are not a lot of dark areas to later use to blend the two materials. So using the test VRayMtl we have set up so far, the **VRayDirt** texture can be tuned to reach the look desired to act as that blending mask when we eventually use the **VRayMtlBI** end. For tuning, it is easier if the viewer in Nuke is set to the diffuse channel.

Viewer2 🛪		
diffuse 🔹 none	▼   RGB ▼   IP   sRGB	•
	D.1 D.3 1 3	<u>           </u> γ

VRayDirt Node							
Occluded Color	0	0	0	1			4 🗸
Unoccluded Color	1					.7 0.8 0.91	4 ∧
Radius	1000						pha 🔹
Distribution	75					50 50 70	80 9200
Falloff	0						80 9100
Subdivs	8	1 10 2					90 100
Bias X	0			-20 0			80 100
Bias Y	0			-20 0			80 100
Bias Z	0			-20 0			80 100
	🗶 Ignore F						
	Consider Same Object Only						
	Double Sided						
	Invert Normal						
	Work With Transparency						
	Ignore Self Occlusion						
	Environm	ent Occlusio	on				
Occlusion Mode	Ambient occlusion 🔹						
	Affect Re	flection Elen	nents				
Glossiness							D.8 D.9 1

In the examples below, the **VRayDirt** texture has been tuned to give it a darker and broader output, by using a large **Radius** of 1000 and a high Distribution value of 75 (which tightens the dark areas). Also, the **Subdivs** have been raised to 8 so that the resulting texture is not overly noisy.

(i) For a full explanation of all the parameters of the VRayDirt texture, please see the Occlusion or Dirt Map page.



Beauty Render with **VRayDirt** used as the Diffuse channel for V-Ray Material with tuned settings.

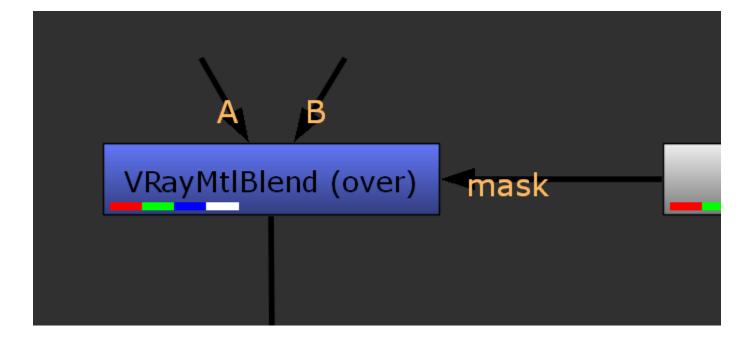


The Diffuse Render Element with **VRayDirt** used as the Diffuse channel for V-Ray Material with tuned settings.

#### Part II: Using the AO pass as a mask for a VRayMtlBlend

In this section, we learn how to use the AO pass as a mask for a VRayMtlBlend to control blending between two materials.

1. Create a VRayMtlBlend material and connect the VRayDirt texture as a mask.



2. Create a VRayMtI material, name it VRayMtIRust, and connect the B input of the VRayMtIBlend material.

3. Create a VRayTexNoise texture and connect it to the diffuse input of the VRayMtlRust material. This acts as a basic rust color and gives some mild variation to the diffuse channel.

VRayTexNoise	Position	Node			
X Protect Connected Inputs					
Color 1	0.048151	0.012975 -0.031125 1			
Color 2	0.07721	0.038155 -0.025366 1 🛛 🗖 4 📈 🕷			
Size	35	] <u>- i i i i i i i i</u> alpha ▼□			
Туре	Turbulence	a 🔻			
Phase	0	)			
Iterations	3	) <u>i i i i i i i</u> // alpha ·			
Low	0	0 0.1 0.2 0.3 0.4 0.5 0.5 0.7 0.8 0.9 1 √ alpha 🔹			
High	1	)			
Output					

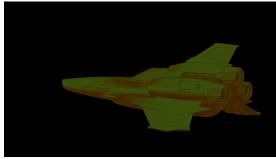
4. Create a VRayMtlCarPaint material, name it VRayMtlCarPaint, and connect the A Input of the VRayMtlBlend material.

Base Flake Other Node						
	X Protect Connected Inputs					
Basic Parameters						
Base Color	0.101304	0.190493	0.008204	1		<b>4</b> 🗸 <b>X</b>
Base Reflect	0.5		1 I I 0.3 0.4 0.5		0.9 1	alpha 🔹 🗆
Base Glossiness	0.5		1 I I 0.3 0.4 0.5		0.9 1	alpha 🔹 🗆
Мар Туре	Bump Map					
Base Bump Map	0	0	0	1		4 🗸 🗆
Base Bump Mult	1			-2 0 2		5 8 10
	🗙 Base Tra	ce Reflectior	าร			

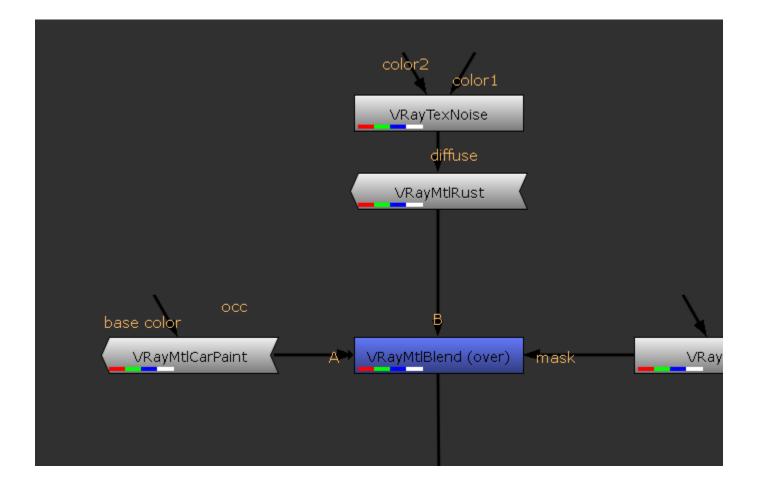
Base Flake Ot	her Node					
Flake Color	0.3	0.4	0.8	1		4 🗸 🗆
Flake Glossiness	0.8			0.6 0.8		alpha 🔹 🗌
Flake Orientation	0.3			0.2 0.3		5 0.7 0.8 0.91
Flake Density	0.63				0.4 0.5 0.	5 0.7 0.8 0.91
Flake Scale	0.0001					5 0.7 0.8 0.91
Flake Size	1					5 0.7 0.8 0.91
Flake Map Size	1024				1000 2000	3000 508192
Flake Filtering Mode	simple					
Flake Seed	1					
Mapping Type	Explicit map	oping chann	el			
Mapping Channel	0					80 90 100
	🗙 Flake Tra	ce Reflectior	าร			



A Beauty Render of VRayMtlBlend with a VRayDirt acting as a mask between VRayMtlRust & VRayMtlCarPaint



The Diffuse Render Element of VRayMtlBlend with a VRayDi rt acting as a mask between VRayMtlRust & VRayMtlCarPaint

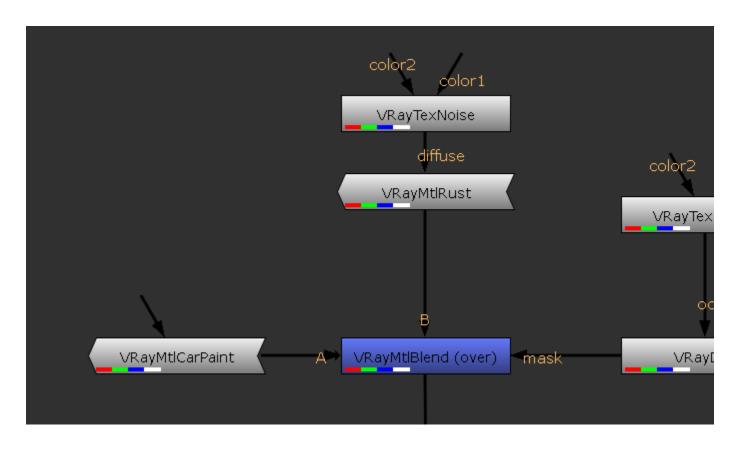


## Part III: Adding variation the VRayDirt used as a mask for a VRayMtlBlend

In this section we learn how to add some variation to the VRayDirt which is being used as a blend control mask for the VRayMtlBlend and its two materials.

1. Create a VRayTexNoise texture and connect it to the Occluded Color channel of the VRayDirt.

2. Ensure that Color 1 of the VRayTexNoise texture is set to black and that Color 2 of the VRayTexNoise texture is set to white.



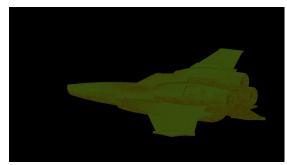
3. Change the Type in the VRayTexNoise texture to Fractal, with Iterations set to 2, and Size set to 10.

VRayTexNoise	Position	Node				
X Protect Connected Inputs						
Color 1	0	0	0	1	<b>4 1</b>	
Color 2	1	1	1	1	_ • 4 📈 🗙	
Size	10					
Туре	Fractal					
Phase	0		<u> </u>		oo samoo 🗸 alpha 🔹 🗆	
Iterations	2				s n 🗸 alpha 🔹 🗆	
Low	0				.8 0.9 1 📈 alpha 🔹 🗆	
High	1				. <u>s 0.9</u> 🖊 alpha 🔹 🗆	
Output						

4. Render the image.



A Beauty Render of VRayMtlBlend using a VRayDirt as a mask between VRayMtlRust and VRayMtlCarPaint, with VRa yTexNoise adding variation to the VRayDirt.



The Diffuse Render Element of VRayMtlBlend with a VRayDi rt as a mask between VRayMtlRust and VRayMtlCarPaint, with VRayTexNoise adding variation to the VRayDirt.