PNTD Free Substances & Materials Docs

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Package Overview

This package contains Substance3D materials *and* Unity materials. Substances can be used in Unity by installing the **Substance3D for Unity** package on the Unity Asset Store.

This documentation is also a reference guide for modifying the Susbtances via script, with the parameters and their ranges.

> Substances are procedural materials that allow developers to change the look and feel of materials at runtime, or even give them the ability to quickly customize materials before statically rendering the bitmaps.
>
> At the time of writing this documentation, the plugin is currently only in beta, so please take caution installing it, and see the next section if you're experiencing issues using the .sbsar files inside Unity.

Preset Files

All .sbsar files have presets built-in, though at the time of writing, the Substance3D for Unity plugin does not support reading these presets. As an alternative, a `presets` folder is included with each .sbsar file that contains the various presets that can be applied to the Susbtances.

URP and HDRP Support

This asset contains a `Materials_URP.unitypackage`. When using URP, make sure to uncheck imports for the `Materials` and `MaterialsExample` folder, and to include the unitypackage that matches your current rendering pipeline. Once imported, open the unitypackage to import the converted materials into the asset folder.

Helper Consts File

This package contains a helper C# file under the namespace `PolyLabs.PNTD.Sample`. The classes within the namespace correspond to the Substance names, and each const is a helper string for accessing a property of the Substance. To help you as you code, docstrings are provided detailing the property type, description, and value ranges where applicable.

Baking Static Images from .sbsar Files

If you're having trouble utilizing Substances in Unity, or don't want to use the Substances in your project, you can still customize the materials and export bitmaps using Adobes free [Substance Player](#).

Sbsar Materials Reference:

BeachSand

Consts: `PolyLabs.PNTD.Sample.BeachSand`

Label	Identifier	Description	Type	Notes
Color Setting	color_setting	The color of the sand.	Int	Enum Default: 1 Enum Values: 1: Beach Sand 2: Desert Sand 3: Sahara 4: Red
Sand Waves Rotation	sand_waves_rotation	The rotation of the sand.	Float	Default: 45 Min: -360 Max: 360 Clamped: False
Invert Normal Map	invert_normal_map	Inverts the normal map direction for compatability with OpenGL and DirectX.	Int	Boolean 1
Sand Roughness	sand_roughness	The roughness of the sand.	Float	Default: 0.8 Min: 0 Max: 1 Clamped: True

CobbledJungleWall

Consts: `PolyLabs.PNTD.Sample.CobbledJungleWall`

Label	Identifier	Description	Type	Notes
Rock Type	rock_type	The type of rock color to use with this material.	Int	Enum Default: 4 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6:

				DirtRock 7: Dark Shale 8: Volcanic Rock 9: Limestone
Rocks Scale	rocks_scale	The scale of the rocks.	Int	Default: 6 Min: 1 Max: 32 Clamped: False
Rock Highlights Opacity	rock_highlights_opacity	Controls the edge highlight strength on the rocks.	Float	Default: 0.25 Min: 0 Max: 1 Clamped: True
Rock Roughness Range	rock_roughness_range	The range of the roughness on the rock portions of the material.	Float	Default: 0.08 Min: 0 Max: 1 Clamped: True
Rock Roughness Position	rock_roughness_position	The position of the roughness on the rock. Higher positions yield rocks that are less reflective.	Float	Default: 0.77 Min: 0 Max: 1 Clamped: True
Rock Normal Intensity	rock_normal_intensity	The **Intensity** parameter modifies the intensity of height map	Float	Default: 5 Min: 0 Max: 15 Clamped: False
Ambient Occlusion Intensity	ambient_occlusion_intensity	Defines the intensity of the AO to simulate shadowed areas on the material.	Float	Default: 0.04 Min: 0 Max: 0.2 Clamped: True
Enable Moss	enable_moss	Enables the moss effect.	Int	Boolean 1
Moss Color	moss_color	The moss color preset.	Int	Enum Default: 1 Enum Values: 1: Green 2: Light Green 3: Dark Green 4: Blue 5: Orange
Moss Position	moss_position	Determines the height of the moss.	Float	Default: 0.7 Min: 0 Max: 1

				Clamped: True
Moss Edge Bleeding	moss_edge_bleeding	How much the moss should bleed from the edges to show stain surrounding mossy areas.	Float	Default: 0.32 Min: 0 Max: 1 Clamped: True
Moss Effect from direction	moss_effect_from_direction	The direction that the moss should prefer and group to. Adjust the moss_directional_position value to increase the visibility of this effect.	Float	Default: 0.127556 Min: 0 Max: 1 Clamped: False
Moss Directional Position	moss_directional_position	The intensity of the directional moss. Helps to give a more natural look than strictly height-based moss growth where the moss appears to grow in the direction of a light source.	Float	Default: 0.89 Min: 0 Max: 1 Clamped: True
Enable Vines	enable_vines	Whether to show the vines or not. Turning off when otherwise not present has performance benefits.	Int	Boolean 1
Vines Color	vines_color	The color preset for the vines.	Int	Enum Default: 1 Enum Values: 1: Green 2: Jungle Green 3: Dark Green 4: Dry Gray
Vines Scale	vines_scale	The zoom of the vines.	Int	Default: 4 Min: 2 Max: 8 Clamped: True
Enable Dirt	enable_dirt_switch	Enables the dirt effect on the material. Turning it off when not being used will slightly increase material generation performance.	Int	Boolean 1
Dirt Color	dirt_color	The color preset of the dirt.	Int	Enum Default: 2 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled
Dirt Mound Amount	dirt_mound_amount	The numerosity of dirt mounds on the material.	Int	Default: 10 Min: 1 Max: 32 Clamped: True
				Default: 1

Dirt Mound Range	dirt_mound_range	The height range of the dirt mounds. Higher range means higher peaks and lower valleys.	Float	Default: 1 Min: 0 Max: 1 Clamped: True
Dirt Mound Position	dirt_mound_position	The position of the dirt mounds. 0.5 is a median value that maximizes range, while higher will create more flooding towards peaks, and lower will create more flooding towards valleys.	Float	Default: 0.36 Min: 0 Max: 1 Clamped: True
Dirt Mound Contrast	dirt_mound_contrast	The contrast between the dirt mound peaks and valleys. Higher contrast will create larger valleys and more capped peaks.	Float	Default: 0 Min: 0 Max: 1 Clamped: True
Dirt Pebbles Height	dirt_pebbles_height	The height of the dirt pebbles on the material. 0 will hide the pebbles.	Float	Default: 0.5 Min: 0 Max: 1 Clamped: True
Dirt Pebbles Zoom	dirt_pebbles_zoom	Amount of pebbles to show on the x and y axis.	Int	Default: 10 Min: 1 Max: 32 Clamped: False
Dirt Pebbles Scale	dirt_pebbles_scale	The size of the individual pebbles.	Float	Default: 1 Min: 0 Max: 3 Clamped: False
Dirt Mixing Offset	dirt_mixing_offset	The height offset of the dirt. Use this as the master control to change dirt flooding.	Float	Default: 0.1 Min: 0 Max: 1 Clamped: True
Invert Normal Map	invert_normal_map	Inverts the normal map direction for compatability with OpenGL and DirectX.	Int	Boolean 1

FreshSnow

Consts: `PolyLabs.PNTD.Sample.FreshSnow`

Label	Identifier	Description	Type	Notes
Snow Color	snow_color	The main color of the snow	Int	Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued
Snow Pattern Zoom	snow_pattern_zoom	The zoom of the snow pattern.	Int	Default: 9 Min: 1 Max: 16 Clamped: True
Snow Softness	snow_softness	The softness of the snow waves	Float	Default: 8 Min: 0 Max: 16 Clamped: False
Invert Normal Map	invert_normal_map	Inverts the normal map direction for compatability with OpenGL and DirectX.	Int	Boolean 1