

PNTD Nature Substances & Materials Docs

PolyLabs | version 1.1 | support@polylabs.co

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 Substances 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 Substances.

URP Support

This asset contains an additional `Materials_URP.unitypackage`. When using the URP pipeline, make sure to uncheck imports for the `Materials` and `MaterialsExample` folder, and to include the unitypackage. 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.Nature`. 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:

CloverPatch

Consts: `PolyLabs.PNTD.Nature.CloverPatch`

| Label | Identifier | Description | Type | Notes |
|-------------------------|--------------------------------------|---|--------|---|
| Clover Color | <code>clover_color</code> | The color preset for the clover | Int | Enum Default: 1 Enum Values: 1: Green 2: Light Green 3: Dried 4: Custom Color |
| Clover Custom Color | <code>clover_custom_color</code> | Sets a custom color for the clover. The custom color type must be selected first. | Float4 | |
| Clover Leaf Count | <code>clover_leaf_count</code> | Whether to have 3 or 4 leafs on the clover | Int | Boolean 1 |
| Clover Pattern Amount | <code>clover_pattern_amount</code> | The amount of patterns. | Int | Default: 32 Min: 12 Max: 48 Clamped: True |
| Clover Patchiness | <code>clover_patchiness</code> | The patchiness of the clovers | Float | Default: 0 Min: 0 Max: 0.9 Clamped: True |
| Clovers Patchiness Zoom | <code>clovers_patchiness_zoom</code> | The zoom of the grass patchiness. | Int | Default: 12 Min: 6 Max: 20 Clamped: True |
| Enable Stones | <code>enable_stones</code> | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| Stone Color | <code>stone_color</code> | The color preset selection for the stones. | Int | Enum Default: 4 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6: DirtRock 7: Dark Shale |

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|---------------------------|---------------------------|--|-------|---|
| | | | | 8: Volcanic Rock 9: Limestone |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 12 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 2.61 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: 1.4 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 1 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 1 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: 12 Min: 1 Max: 32 Clamped: False |
| | | | | Default: 3 Min: 0 |

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| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Max: 3 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: True |
| | | | | Default: 1 |

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| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.42 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 Min: 0 Max: 1 Clamped: True |

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| Enable Flowers | enable_flowers | Whether to show the flowers or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Flower Petal Color | flower_petal_color | The color preset of the flower petals | Int | Enum Default: 6 Enum Values: 1: Blue 2: Yellow 3: Purple 4: White 5: Orange 6: Mix |
| Flower Petal Amount | flower_petal_amount | The amount of petals on the flower | Int | Default: 4 Min: 3 Max: 8 Clamped: True |
| Flower Pattern Amount | flower_pattern_amount | The amount of patterns. | Int | Default: 9 Min: 1 Max: 16 Clamped: True |
| Invert Normal Map | invert_normal_map | Inverts the normal map direction for compatability with OpenGL and DirectX. | Int | Boolean 1 |
| Flower Mask Random | flower_mask_random | Randomly removes flowers from the material. | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Flower Pattern Scale | flower_pattern_scale | The size of the flowers. | Float | Default: 3 Min: 0 Max: 5 Clamped: True |

CobbledJungleWall

Consts: `PolyLabs.PNTD.Nature.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 |

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| | | | | 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 |

| | | | | 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 |
| Dirt Mound | | The height range of the dirt mounds. Higher range means higher peaks and lower | | Default: 1 Min: 0 Max: 1 |

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| Dirt Mound Range | dirt_mound_range | The height range of the dirt mounds. Higher range means higher peaks and lower valleys. | Float | 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 |

DeadGrass

Consts: `PolyLabs.PNTD.Nature.DeadGrass`

| Label | Identifier | Description | Type | Notes |
|-------------|-------------|-------------------------|------|---|
| Grass Style | grass_style | The style of the grass. | Int | Enum Default: 1 Enum Values: 1: Leafy Grass 2: Grass Blade 3: Sharp Grass |

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| Grass Pattern Zoom | grass_pattern_zoom | The number of grass blades on the x and y axis. | Int | Default: 35 Min: 16 Max: 64 Clamped: True |
| Grass Pattern Scale | grass_pattern_scale | The scale of the elements. | Float | Default: 6 Min: 1 Max: 10 Clamped: True |
| Grass Pattern Rotation Offset | grass_pattern_rotation_offset | The rotation offset of all elements. | Float | Default: 0 Min: 0 Max: 1 Clamped: False |
| Grass Pattern Rotation Random | grass_pattern_rotation_random | The randomness of the rotation of each element. | Float | Default: 0.33 Min: 0 Max: 1 Clamped: True |
| Grass Pattern Rotation Flow Multiplier | grass_pattern_rotation_flow_multiplier | How much the grass should look like it's flowing in many directions. Smoother than random rotation. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness | grass_patchiness | Removes grass blades for a patchy look. | Float | Default: 0.33 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness Zoom | grass_patchiness_zoom | The zoom of the grass patchiness. | Int | Default: 10 Min: 6 Max: 20 Clamped: True |
| Enable Stones | enable_stones | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| Stone Color | stone_color | The color preset selection for the stones. | Int | Enum Default: 4 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6: DirtRock 7: Dark Shale 8: Volcanic |

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|---------------------------|---------------------------|--|-------|---|
| | | | | Rock 9: Limestone |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 9 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 2.14 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: 0.54 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 4 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 1 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: 12 Min: 1 Max: 32 Clamped: False |
| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Default: 3 Min: 0 Max: 3 Clamped: |

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| | | | | False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 2 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: True |
| Snow Dunes | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and | Float | Default: 1 Min: 0 |

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| Height Range | snow_dunes_height_range | lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.42 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 Min: 0 Max: 1 Clamped: True |
| Enable Clovers | enable_clovers | Whether to show the clovers or not. Turning off when otherwise not | Int | Boolean 1 |

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| | | present has performance benefits. | | |
| Clover Leaf Count | clover_leaf_count | Whether to have 3 or 4 leafs on the clover | Int | Boolean 1 |
| Clover Pattern Amount | clover_pattern_amount | The amount of patterns. | Int | Default: 23 Min: 12 Max: 48 Clamped: True |
| Clover Pattern Mask Random | clover_pattern_mask_random | Randomly removes clovers from the material. | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Clover Patchiness | clover_patchiness | The patchiness of the clovers | Float | Default: 0.58 Min: 0 Max: 0.9 Clamped: True |
| Invert Normal Map | invert_normal_map | Inverts the normal map direction for compatability with OpenGL and DirectX. | Int | Boolean 1 |

FlowerPatch

Consts: `PolyLabs.PNTD.Nature.FlowerPatch`

| Label | Identifier | Description | Type | Notes |
|-------------------------|-------------------------|--|-------|--|
| Enable Stones | enable_stones | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| Stone Color | stone_color | The color preset selection for the stones. | 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 |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: |

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|---------------------------|---------------------------|--|-------|---|
| | | | | True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 6 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 2.61 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: 1.4 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 1 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 1 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: 12 Min: 1 Max: 32 Clamped: False |
| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Default: 3 Min: 0 Max: 3 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 |

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|---------------------------------------|------------------------------|--|-------|---|
| | | | | Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: True |
| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: |

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|-----------------------------|-----------------------------|--|-------|--|
| | | | | True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.42 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 Min: 0 Max: 1 Clamped: True |
| Enable Flowers | enable_flowers | Whether to show the flowers or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Flower Petal Color | flower_petal_color | The color preset of the flower petals | Int | Enum Default: 6 Enum Values: 1: Blue 2: Yellow |

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| | | | | 3: Purple 4: White 5: Orange 6: Mix |
| Flower Middle Color | flower_middle_color | The color of the center of the flower. Yellow (true) or white (false). | Int | Boolean 1 |
| Flower Petal Amount | flower_petal_amount | The amount of petals on the flower | Int | Default: 5 Min: 3 Max: 8 Clamped: True |
| Flower Pattern Amount | flower_pattern_amount | The amount of patterns. | Int | Default: 15 Min: 1 Max: 16 Clamped: True |
| Flower Pattern Scale | flower_pattern_scale | The size of the flowers. | Float | Default: 3.27 Min: 0 Max: 5 Clamped: True |
| Flower Mask Random | flower_mask_random | Randomly removes flowers from the material. | Float | Default: 0 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 |

ForestDirt

Consts: `PolyLabs.PNTD.Nature.ForestDirt`

| Label | Identifier | Description | Type | Notes |
|---------------|---------------|--|------|---|
| Enable Stones | enable_stones | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| Stone Color | stone_color | The color preset selection for the stones. | Int | Enum Default: 5 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6: DirtRock |

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|---------------------------|---------------------------|--|-------|---|
| | | | | 7: Dark Shale 8: Volcanic Rock 9: Limestone |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.66 Min: 0 Max: 1 Clamped: True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 12 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 1.44 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: -0.42 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 3 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 0.67 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: 12 Min: 1 Max: 32 Clamped: True |

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| | | | | False |
| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Default: 3 Min: 0 Max: 3 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: |

| Amount | | which are for micro-level details. | | Clamped: True |
|----------------------------|-----------------------------|--|-------|---|
| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.42 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow | Float | Default: 0.9 Min: 0 Max: 1 |

| | | | | |
|--------------------------|--------------------------|--|-------|---|
| Material Contrast | | material. Higher values give a more crisp color between material and snow. | | max: 1 Clamped: True |
| Enable Leaves | enable_leaves | Whether or not to enable the leaves | Int | Boolean 1 |
| Leaf Color | leaf_color | The color of the leaves. | Int | Enum Default: 6 Enum Values: 1: Spring Green 2: Spring Orange 3: Spring Yellow 4: Spring Mix 5: Summer Green 6: Summer Deep Green 7: Summer Yellow 8: Summer Mix 9: Fall Orange 10: Fall Red 11: Fall Light Red 12: Fall Yellow 13: Fall Mix 14: Dead Leaf 15: Green Mix 16: Yellow Mix |
| Leaf Type | leaf_type | Whether to use a maple (true) or long (false) leaf. | Int | Boolean 1 |
| Leaf Pattern Amount | leaf_pattern_amount | The amount of patterns. | Int | Default: 11 Min: 1 Max: 16 Clamped: True |
| Leaf Pattern Mask Random | leaf_pattern_mask_random | Randomly removes leaves from the material. | Float | Default: 0.61 Min: 0 Max: 1 Clamped: True |

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|-----------------------------|-----------------------------|---|-------|--|
| Leaf Pattern Scale | leaf_pattern_scale | The scale of the leaves. | Float | Default: 5 Min: 0 Max: 5 Clamped: True |
| Enable Sticks | enable_sticks | Whether to show the sticks or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Sticks Color | sticks_color | The color preset of the sticks. | Int | Enum Default: 2 Enum Values: 1: Default Brown 2: Light 3: Middle 4: Dark 5: Mix |
| Sticks Pattern Amount | sticks_pattern_amount | The amount of patterns. | Int | Default: 4 Min: 1 Max: 8 Clamped: True |
| Sticks Pattern Scale Random | sticks_pattern_scale_random | The randomness of the pattern scale. | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Sticks Pattern Mask Random | sticks_pattern_mask_random | Randomly removes sticks from the material. | Float | Default: 0.23 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 |

ForestGroundRocks

Consts: `PolyLabs.PNTD.Nature.ForestGroundRocks`

| 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 |

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|-----------------------------|-----------------------------|---|-------|---|
| | | | | 6: DirtRock 7: Dark Shale 8: Volcanic Rock 9: Limestone |
| Rock Pattern Zoom | rock_pattern_zoom | The rockiness of the underlying material. | Int | Default: 10 Min: 6 Max: 16 Clamped: True |
| 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: 0.1 Min: 0 Max: 0.2 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: 1 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| | | | | Default: 10 |

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|---------------------|---------------------|---|-------|---|
| Dirt Mound Amount | dirt_mound_amount | The numerosity of dirt mounds on the material. | Int | 10 Min: 1 Max: 32 Clamped: True |
| Dirt Mound Range | dirt_mound_range | The height range of the dirt mounds. Higher range means higher peaks and lower valleys. | Float | Default: 0.57 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: 0.28 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: 0.73 Min: 0 Max: 1 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 |

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|----------------------------|----------------------------|--|-------|---|
| Moss Position | moss_position | Determines the height of the moss. | Float | Default: 0.43 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 Leaves | enable_leaves | Whether or not to enable the leaves | Int | Boolean 1 |
| | | | | Enum Default: 6 Enum Values: 1: Spring Green 2: Spring Orange 3: Spring Yellow 4: Spring Mix 5: Summer |

| | | | | |
|--------------------------|--------------------------|---|-------|---|
| Leaf Color | leaf_color | The color of the leaves. | Int | Green 6: Summer Deep Green 7: Summer Yellow 8: Summer Mix 9: Fall Orange 10: Fall Red 11: Fall Light Red 12: Fall Yellow 13: Fall Mix 14: Dead Leaf 15: Green Mix 16: Yellow Mix |
| Leaf Type | leaf_type | Whether to use a maple (true) or long (false) leaf. | Int | Boolean 1 |
| Leaf Pattern Amount | leaf_pattern_amount | The amount of patterns. | Int | Default: 15 Min: 1 Max: 16 Clamped: True |
| Leaf Pattern Mask Random | leaf_pattern_mask_random | Randomly removes leaves from the material. | Float | Default: 0.33 Min: 0 Max: 1 Clamped: True |
| Leaf Pattern Scale | leaf_pattern_scale | The scale of the leaves. | Float | Default: 4.1 Min: 0 Max: 5 Clamped: True |
| Invert Normal Map | invert_normal_map | Inverts the normal map direction for compatibility with OpenGL and DirectX. | Int | Boolean 1 |

GrassyForestGround

Consts: `PolyLabs.PNTD.Nature.GrassyForestGround`

| Label | Identifier | Description | Type | Notes |
|-------|------------|-------------|------|----------------------------|
| | | | | Enum Default: 1 Enum |

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|--|--|---|--------|--|
| Grass Color | grass_color | The color preset of the grass. | Int | Values: 1: Green 2: Light Green 3: Lawn Green 4: Red 5: Blue 6: Dried 7: Custom Color |
| Grass Custom Color | grass_custom_color | Sets the custom grass color. The custom color must be selected in the color preset. | Float4 | |
| Grass Pattern Zoom | grass_pattern_zoom | The number of grass blades on the x and y axis. | Int | Default: 38 Min: 16 Max: 64 Clamped: True |
| Grass Pattern Scale | grass_pattern_scale | The scale of the elements. | Float | Default: 6 Min: 1 Max: 10 Clamped: True |
| Grass Pattern Rotation Offset | grass_pattern_rotation_offset | The rotation offset of all elements. | Float | Default: 0 Min: 0 Max: 1 Clamped: False |
| Grass Pattern Rotation Random | grass_pattern_rotation_random | The randomness of the rotation of each element. | Float | Default: 0.34 Min: 0 Max: 1 Clamped: True |
| Grass Pattern Rotation Flow Multiplier | grass_pattern_rotation_flow_multiplier | How much the grass should look like it's flowing in many directions. Smoother than random rotation. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness | grass_patchiness | Removes grass blades for a patchy look. | Float | Default: 0.33 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness Zoom | grass_patchiness_zoom | The zoom of the grass patchiness. | Int | Default: 12 Min: 6 Max: 20 Clamped: True |
| Enable Stones | enable_stones | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| | | | | Enum Default: 1 Enum |

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|---------------------------|---------------------------|--|-------|---|
| Stone Color | stone_color | The color preset selection for the stones. | Int | Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6: DirtRock 7: Dark Shale 8: Volcanic Rock 9: Limestone |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 6 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 1 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.73 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: 1.4 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 1 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 1 Min: 0 Max: 1 |

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| | | | | Clamped: True |
| Dirt Pebbles Zoom | dirt_pebbles_zoom | Amount of pebbles to show on the x and y axis. | Int | Default: 12 Min: 1 Max: 32 Clamped: False |
| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Default: 3 Min: 0 Max: 3 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly | Float | Default: 0.7 Min: 0 |

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|----------------------------|----------------------------|--|-------|---|
| Roughness | | icy effect. | | Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: True |
| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than | Float | Default: 0.42 Min: 0 |

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| | | 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | | Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 Min: 0 Max: 1 Clamped: True |
| Enable Leaves | enable_leaves | Whether or not to enable the leaves | Int | Boolean 1 |
| Leaf Color | leaf_color | The color of the leaves. | Int | Enum Default: 1 Enum Values: 1: Spring Green 2: Spring Orange 3: Spring Yellow 4: Spring Mix 5: Summer Green 6: Summer Deep Green 7: Summer Yellow 8: Summer Mix 9: Fall Orange 10: Fall Red 11: Fall Light Red 12: Fall Yellow 13: Fall Mix 14: Dead Leaf 15: Green Mix 16: Yellow Mix |
| Leaf Type | leaf_type | Whether to use a maple (true) or long (false) leaf. | Int | Boolean 1 |
| Leaf Pattern Amount | leaf_pattern_amount | The amount of patterns. | Int | Default: 11 Min: 1 Max: 16 Clamped: True |
| | | | | Default: 0.1 |

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|-----------------------------|-----------------------------|---|-------|--|
| Leaf Pattern Mask Random | leaf_pattern_mask_random | Randomly removes leaves from the material. | Float | U.61 Min: 0 Max: 1 Clamped: True |
| Leaf Pattern Scale | leaf_pattern_scale | The scale of the leaves. | Float | Default: 5 Min: 0 Max: 5 Clamped: True |
| Enable Sticks | enable_sticks | Whether to show the sticks or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Sticks Color | sticks_color | The color preset of the sticks. | Int | Enum Default: 2 Enum Values: 1: Default Brown 2: Light 3: Middle 4: Dark 5: Mix |
| Sticks Pattern Amount | sticks_pattern_amount | The amount of patterns. | Int | Default: 4 Min: 1 Max: 8 Clamped: True |
| Sticks Pattern Scale Random | sticks_pattern_scale_random | The randomness of the pattern scale. | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Sticks Pattern Mask Random | sticks_pattern_mask_random | Randomly removes sticks from the material. | Float | Default: 0.23 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: 5 Min: 2 Max: 8 Clamped: True |

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|-------------------|-------------------|---|-----|-----------|
| Invert Normal Map | invert_normal_map | Inverts the normal map direction for compatability with OpenGL and DirectX. | Int | Boolean 1 |
|-------------------|-------------------|---|-----|-----------|

GrassyGroundRock

Consts: `PolyLabs.PNTD.Nature.GrassyGroundRock`

| 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 |
| Rock Pattern Zoom | rock_pattern_zoom | The rockiness of the underlying material. | Int | Default: 10 Min: 6 Max: 16 Clamped: True |
| 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 |

| | | | | |
|-----------------------------|-----------------------------|---|-------|---|
| | | | | False |
| Ambient Occlusion Intensity | ambient_occlusion_intensity | Defines the intensity of the AO to simulate shadowed areas on the material. | Float | Default: 0.05 Min: 0 Max: 0.2 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: 1 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 |
| Dirt Mound Range | dirt_mound_range | The height range of the dirt mounds. Higher range means higher peaks and lower valleys. | Float | Default: 0.57 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: 0.28 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 | | | | Default: 1 Min: 0 |

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|---------------------|---------------------|--|--------|--|
| Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | 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: 0.73 Min: 0 Max: 1 Clamped: True |
| Enable Grass | enable_grass | Whether to show the grass or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Grass Color | grass_color | The color preset of the grass. | Int | Enum Default: 1 Enum Values: 1: Green 2: Light Green 3: Lawn Green 4: Red 5: Blue 6: Dried 7: Custom Color |
| Grass Custom Color | grass_custom_color | Sets the custom grass color. The custom color must be selected in the color preset. | Float4 | |
| Grass Pattern Zoom | grass_pattern_zoom | The number of grass blades on the x and y axis. | Int | Default: 47 Min: 1 Max: 64 Clamped: False |
| Grass Pattern Scale | grass_pattern_scale | The scale of the elements. | Float | Default: 6 Min: 0 Max: 10 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.18 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.19 Min: 0 Max: 1 Clamped: True |
| Water Edges | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.1 Min: 0 Max: 1 |

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| Wetness | | | | Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.1 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: True |
| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |

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| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 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 |

GrassyMeadow

Consts: `PolyLabs.NPNTD.Nature.GrassyMeadow`

| Label | Identifier | Description | Type | Notes |
|-------------|-------------|--------------------------------|------|--|
| Grass Color | grass_color | The color preset of the grass. | Int | Enum Default: 1 Enum Values: 1: Green 2: Light Green 3: Lawn Green 4: Red 5: Blue |

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| | | | | 6: Dried 7: Custom Color |
| Grass Custom Color | grass_custom_color | Sets the custom grass color. The custom color must be selected in the color preset. | Float4 | |
| Grass Pattern Zoom | grass_pattern_zoom | The number of grass blades on the x and y axis. | Int | Default: 42 Min: 16 Max: 64 Clamped: True |
| Grass Pattern Scale | grass_pattern_scale | The scale of the elements. | Float | Default: 6 Min: 1 Max: 10 Clamped: True |
| Grass Pattern Rotation Offset | grass_pattern_rotation_offset | The rotation offset of all elements. | Float | Default: 0 Min: 0 Max: 1 Clamped: False |
| Grass Pattern Rotation Random | grass_pattern_rotation_random | The randomness of the rotation of each element. | Float | Default: 0.1 Min: 0 Max: 1 Clamped: True |
| Grass Pattern Rotation Flow Multiplier | grass_pattern_rotation_flow_multiplier | How much the grass should look like it's flowing in many directions. Smoother than random rotation. | Float | Default: 0.74 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness | grass_patchiness | Removes grass blades for a patchy look. | Float | Default: 0.14 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness Zoom | grass_patchiness_zoom | The zoom of the grass patchiness. | Int | Default: 8 Min: 6 Max: 20 Clamped: True |
| Enable Stones | enable_stones | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| Stone Color | stone_color | The color preset selection for the stones. | Int | Enum Default: 4 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: |

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| | | | | Siltstone 6: DirtRock 7: Dark Shale 8: Volcanic Rock 9: Limestone |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 6 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 1.93 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: 1.4 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 1 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 1 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: 12 Min: 1 Max: 32 Clamped: |

| | | | | |
|------------------------------|------------------------------|--|-------|--|
| | | | | False |
| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Default: 3 Min: 0 Max: 3 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: |

| | | | | |
|-----------------------------|-----------------------------|--|-------|---|
| | | | | True |
| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.42 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 Min: 0 Max: 1 |

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| | | | | Clamped: True |
| Invert Normal Map | invert_normal_map | Inverts the normal map direction for compatability with OpenGL and DirectX. | Int | Boolean 1 |

JaggedJungleCliff

Consts: `PolyLabs.PNTD.Nature.JaggedJungleCliff`

| Label | Identifier | Description | Type | Notes |
|-------------------------|-------------------------|---|-------|---|
| Rock Type | rock_type | The type of rock color to use with this material. | Int | Enum Default: 3 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6: DirtRock 7: Dark Shale 8: Volcanic Rock 9: Limestone |
| X Amount | x_amount | | Int | Default: 8 Min: 1 Max: 64 Clamped: False |
| Y Amount | y_amount | | Int | Default: 6 Min: 1 Max: 64 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 |

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| | | | | 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: 0.1 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 |

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|---------------------|---------------------|---|-------|---|
| Vines Color | vines_color | The color preset for the vines. | Int | 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: 1 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 |
| 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 |

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| 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 |

ShelvedJungleCliff

Consts: `PolyLabs.PNTD.Nature.ShelvedJungleCliff`

| 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 |
| X Amount | x_amount | | Int | Default: 6 Min: 1 Max: 64 Clamped: False |
| Y Amount | y_amount | | Int | Default: 6 Min: 1 Max: 64 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 |
| | | | | Default: |

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|-----------------------------|-----------------------------|--|-------|---|
| Rock Roughness Range | rock_roughness_range | The range of the roughness on the rock portions of the material. | Float | 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: 0.1 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 |

| | | | | |
|---------------------|---------------------|---|-------|---|
| | | | | 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: 4 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 |
| 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 |

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| | | | | 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 |
| Enable Gemstone | enable_gemstone_switch | Determines if the gemstone should be enabled. | Int | Boolean 1 |
| Gem Type | gem_type | The color and feel of the gemstone. | Int | Enum Default: 4 Enum Values: 1: Diamond 2: Sapphire 3: Emerald 4: Ruby 5: Lapis Lazuli 6: Onyx |
| Gem Shape | gem_shape | The shape of the gemstones. | Int | Enum Default: 1 Enum Values: 1: Natural 2: Cubic 3: Quartz |
| Gemstone Amount | gemstone_amount | The amount of gemstones to show. | Int | Default: 5 Min: 1 Max: 16 Clamped: True |
| Gemstone Scale | gemstone_scale | The scale of the gemstones. | Float | Default: 0.33 Min: 0 Max: 1 Clamped: True |
| Gemstone Scale Variation | gemstone_scale_variation | The size variation in the gemstones. | Float | Default: 0.25 Min: 0 Max: 1 |

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| | | | | Clamped: True |
| Gem Roughness Position | gem_roughness_position | The roughness property of the gemstone. Increase to make the gems appear less reflective. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Gemstone Presence Threshold | gemstone_presence_threshold | How much should the gemstones prefer only to appear in the cavities of the material? | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Gemstone Mask Random | gemstone_mask_random | Randomly remove the gemstones from the material. | Float | Default: 0.14 Min: 0 Max: 1 Clamped: True |
| Gemstone Height Offset | gemstone_height_offset | The overall height of the gemstone compared to the underlying material. | Float | Default: 0.28 Min: 0 Max: 1 Clamped: True |
| Invert Normal Map | invert_normal_map | Inverts the normal map direction for compatibility with OpenGL and DirectX. | Int | Boolean 1 |

ThinGrass

Consts: `PolyLabs.PNTD.Nature.ThinGrass`

| Label | Identifier | Description | Type | Notes |
|--------------------|--------------------|---|--------|---|
| Grass Color | grass_color | The color preset of the grass. | Int | Enum Default: 1 Enum Values: 1: Green 2: Light Green 3: Lawn Green 4: Red 5: Blue 6: Dried 7: Custom Color |
| Grass Custom Color | grass_custom_color | Sets the custom grass color. The custom color must be selected in the color preset. | Float4 | |
| Grass Style | grass_style | The style of the grass. | Int | Enum Default: 1 Enum Values: 1: Leafy Grass |

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|--|--|--|-------|--|
| | | | | Grass 2: Grass Blade 3: Sharp Grass |
| Grass Pattern Zoom | grass_pattern_zoom | The number of grass blades on the x and y axis. | Int | Default: 32 Min: 16 Max: 64 Clamped: True |
| Grass Pattern Scale | grass_pattern_scale | The scale of the elements. | Float | Default: 6 Min: 1 Max: 10 Clamped: True |
| Grass Pattern Rotation Offset | grass_pattern_rotation_offset | The rotation offset of all elements. | Float | Default: 0 Min: 0 Max: 1 Clamped: False |
| Grass Pattern Rotation Random | grass_pattern_rotation_random | The randomness of the rotation of each element. | Float | Default: 0.1 Min: 0 Max: 1 Clamped: True |
| Grass Pattern Rotation Flow Multiplier | grass_pattern_rotation_flow_multiplier | How much the grass should look like it's flowing in many directions. Smoother than random rotation. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness | grass_patchiness | Removes grass blades for a patchy look. | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Grass Patchiness Zoom | grass_patchiness_zoom | The zoom of the grass patchiness. | Int | Default: 12 Min: 6 Max: 20 Clamped: True |
| Enable Stones | enable_stones | Whether or not the stones are enabled on the material. | Int | Boolean 1 |
| Stone Color | stone_color | The color preset selection for the stones. | Int | Enum Default: 4 Enum Values: 1: Basalt 2: Orange Sandstone 3: Sandstone 4: Shale 5: Siltstone 6: DirtRock |

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| | | | | Enum 7: Dark Shale 8: Volcanic Rock 9: Limestone |
| Stone Highlight Opacity | stone_highlight_opacity | The Opacity of the edge highlights on the stones. | Float | Default: 0.5 Min: 0 Max: 1 Clamped: True |
| Stone Pattern Amount | stone_pattern_amount | The amount of stones. | Int | Default: 6 Min: 1 Max: 32 Clamped: True |
| Stone Pattern Scale | stone_pattern_scale | The scale of the stones. | Float | Default: 2.61 Min: 0 Max: 5 Clamped: True |
| Stone Pattern Mask Random | stone_pattern_mask_random | Randomly removes stones from the material. Useful for having fewer stones present. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Stones Height Offset | stones_height_offset | The height offset of the stones. Lower offsets hides lower stones. Pairs with height randomness. | Float | Default: 1.4 Min: -2 Max: 2 Clamped: False |
| Dirt Color | dirt_color | The color preset of the dirt. | Int | Enum Default: 1 Enum Values: 1: Default 2: Darker 3: Sludgy 4: Dry 5: Graveled |
| Dirt Pebbles Height | dirt_pebbles_height | The height of the dirt pebbles on the material. 0 will hide the pebbles. | Float | Default: 1 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: 12 Min: 1 Max: 32 Clamped: False |

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| Dirt Pebbles Scale | dirt_pebbles_scale | The size of the individual pebbles. | Float | Default: 3 Min: 0 Max: 3 Clamped: False |
| Enable Water | enable_water_switch | Enable or disable the water feature on the material. Disabling when not used has performance benefits. | Int | Boolean 1 |
| Water Level | water_level | The amount of flooding on the material. | Float | Default: 0.35 Min: 0 Max: 1 Clamped: True |
| Water Darkness | water_darkness | The amount to darken the areas that are submerged on the material | Float | Default: 0.32 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness | water_edges_wetness | How we the edges where the material meets the water appears. | Float | Default: 0.36 Min: 0 Max: 1 Clamped: True |
| Water Edges Wetness Distance | water_edges_wetness_distance | How far the edge wetness spreads on the material. | Float | Default: 0.25 Min: 0 Max: 1 Clamped: True |
| Enable Snow | enable_snow_switch | Enables the snow effect on the material. Has performance benefits when set to off if it is not needed. | Int | Boolean 1 |
| Snow Coloring | snow_coloring | The main color of the snow. | Int | Enum Default: 1 Enum Values: 1: Default 2: White 3: Blued |
| Snow Normal Intensity | snow_normal_intensity | The intensity of the normal map in respect to the snow covering. | Float | Default: 5 Min: 0 Max: 10 Clamped: True |
| Snow Roughness | snow_roughness | The roughness of the snow overlay. Lower values give an increasingly icy effect. | Float | Default: 0.7 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Amount | snow_dunes_amount | The size and scale of the snow dunes. Dunes are intended to give macro-level height information to the material. Not to be confused with "Snow Waves" which are for micro-level details. | Int | Default: 3 Min: 1 Max: 16 Clamped: True |

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| Snow Dunes Height Range | snow_dunes_height_range | The range of the snow dunes. Higher values means higher peaks and lower valleys, whereas lower values means the snow will be more evenly-distributed. | Float | Default: 1 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Position | snow_dunes_height_position | The position of the snow dune height. Higher values will mean more of the material is flooded with snow. When using a high Snow Waves intensity, prefer to have this value ≥ 0.75 to prevent "bottoming out". | Float | Default: 0.75 Min: 0 Max: 1 Clamped: True |
| Snow Dunes Height Contrast | snow_dunes_height_contrast | The contrast of the snow dunes. Moves values >0.5 up, and values <0.5 down. Gives an appearance of more scattered snow than | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Snow Waves Intensity | snow_waves_intensity | The intensity of the micro-level snow waves. When using higher intensities, prefer to set the Dune Height Position ≥ 0.75 to avoid "bottoming out" on the height detail. | Float | Default: 0.3 Min: 0 Max: 1 Clamped: True |
| Snow Waves Rotation | snow_waves_rotation | The rotation of the snow waves. Maps 0-360 degrees from 0 to 1. | Float | Default: 0.180556 Min: 0 Max: 1 Clamped: False |
| Snow Waves Softness | snow_waves_softness | The softness of the snow waves. Determines how crisp or dull the peaks of the waves appear. | Float | Default: 0.2 Min: 0 Max: 1 Clamped: True |
| Snow Waves X Amount | snow_waves_x_amount | The number of snow waves on the x-axis. | Int | Default: 16 Min: 1 Max: 32 Clamped: True |
| Snow Waves Y Amount | snow_waves_y_amount | The number of snow waves on the y-axis. | Int | Default: 4 Min: 1 Max: 16 Clamped: True |
| Snow Height Offset | snow_height_offset | The offset for how to balance the snow with the main material. This can be seen as a "master control" for the height mixing. Lower than 0.5 will lessen the default height, while greater than 0.5 will increase the default height. | Float | Default: 0.42 Min: 0 Max: 1 Clamped: True |
| Snow Height Mixing Contrast | snow_height_mixing_contrast | Controls the amount of fading should occur between the snow and the main material. Higher values give a more crisp cutoff between material and snow. | Float | Default: 0.9 Min: 0 Max: 1 Clamped: True |

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| Enable Clovers | enable_clovers | Whether to show the clovers or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Clover Color | clover_color | The color preset for the clover | Int | Enum Default: 1 Enum Values: 1: Green 2: Light Green 3: Dried 4: Custom Color |
| Clover Custom Color | clover_custom_color | Sets a custom color for the clover. The custom color type must be selected first. | Float4 | |
| Clover Leaf Count | clover_leaf_count | Whether to have 3 or 4 leaves on the clover | Int | Boolean 1 |
| Clover Pattern Amount | clover_pattern_amount | The amount of patterns. | Int | Default: 23 Min: 12 Max: 48 Clamped: True |
| Clover Pattern Mask Random | clover_pattern_mask_random | Randomly removes clovers from the material. | Float | Default: 0 Min: 0 Max: 1 Clamped: True |
| Clover Patchiness | clover_patchiness | The patchiness of the clovers | Float | Default: 0.58 Min: 0 Max: 0.9 Clamped: True |
| Enable Flowers | enable_flowers | Whether to show the flowers or not. Turning off when otherwise not present has performance benefits. | Int | Boolean 1 |
| Flower Petal Color | flower_petal_color | The color preset of the flower petals | Int | Enum Default: 6 Enum Values: 1: Blue 2: Yellow 3: Purple 4: White 5: Orange 6: Mix |
| Flower Middle Color | flower_middle_color | The color of the center of the flower. Yellow (true) or white (false). | Int | Boolean 1 |
| Flower Petal Amount | flower_petal_amount | The amount of petals on the flower | Int | Default: 6 Min: 3 Max: 8 Clamped: True |
| Flower Pattern | | | | Default: 8 Min: 1 |

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| Amount | flower_pattern_amount | The amount of patterns. | Int | Max: 16 Clamped: True |
| Flower Pattern Scale | flower_pattern_scale | The size of the flowers. | Float | Default: 3 Min: 0 Max: 5 Clamped: True |
| Flower Mask Random | flower_mask_random | Randomly removes flowers from the material. | Float | Default: 0 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 |