

# Substance Painter

## Creating Stamps Using Full-color & Alpha Images With Transparency

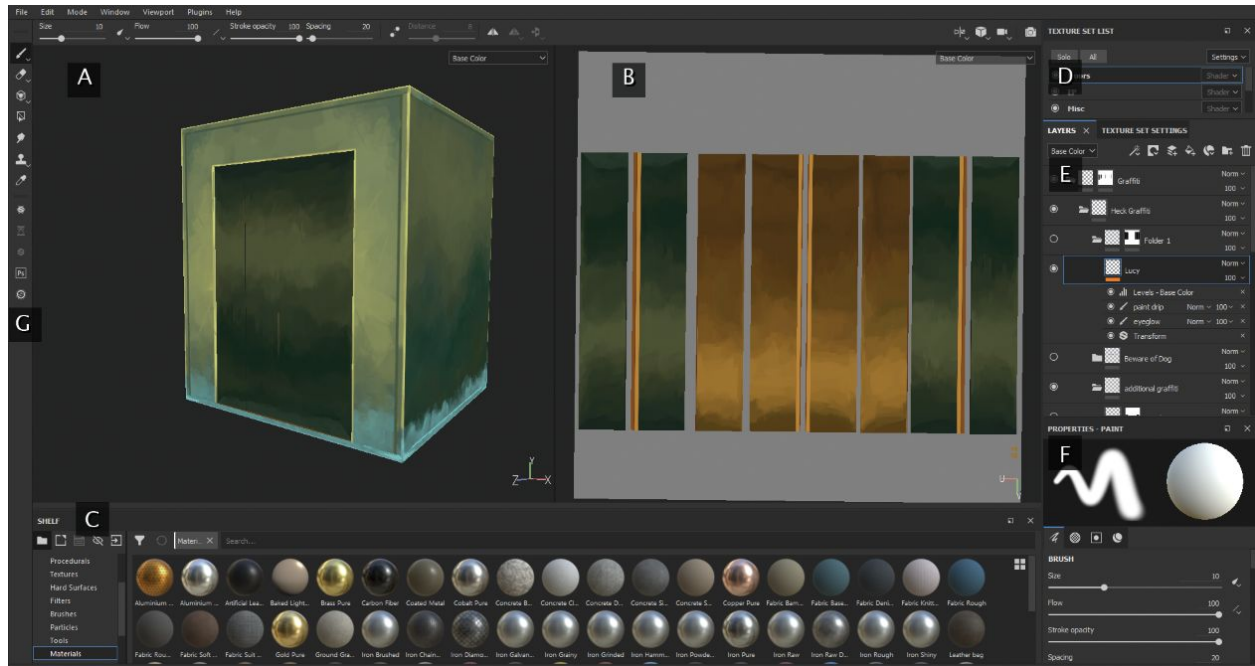
By Victoria Luong

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### I. Introduction

- A. When using Substance Painter to create stamps for assets, sometimes its necessary to import resources for decals, patterns, or stencils. In doing so will reduce the time one would spend re-creating the same image using Substance Painter.
- B. By importing the images using a different source such as Photoshop, there are a few things to consider prior to jumping right in. Do you want to create a stamp using a full-color image, or an alpha image? ( die-cut image, similar to a stencil) Both methods involve preserving transparency, however, they require different approaches:
  - 1. Full-color images:
    - a) The image preserves the integrity of the image's original colors and values.
    - b) Requires the Base Color parameter in Substance to display colors at full range.
  - 2. Alpha images:
    - a) The image is interpreted in substance using greyscale values.
    - b) Prior to exporting the image, the values of the image must be black or white, so pure black, 0 or pure white, 1.
    - c) Requires both the use of Base Color and Alpha parameters in Substance, but allows freedom to change colors.

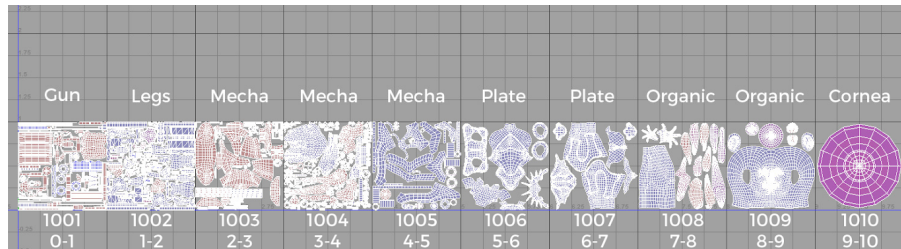
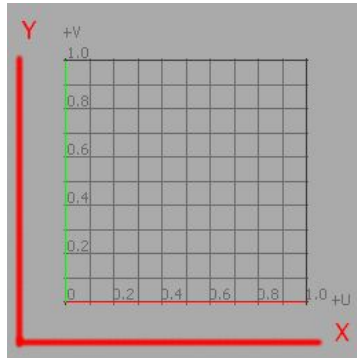
## II. Substance Painter's Interface



The image above displays a legend that will give a brief overview of the interface:

- A. 3D viewport of the 3D mesh
- B. 2D view of the UV shells
- C. Shelf
  - 1. Manages all resources and files in Substance. Here, you can access custom/imported brushes.
- D. Texture Sets
  - 1. Organizes texture sets created by **material** IDs from an imported mesh *or* per **UDIM** tile.

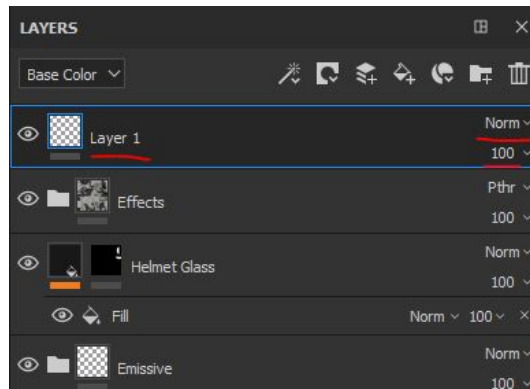
- a) UDIM tiles are unwrapped UV shells located on UV islands inside of a tile. It is read similar to coordinate graphing. In place of the X and Y axis, it would read as U and V axis respectively. UDIM tiles cannot be located in the negative range, so are only located on the upper left (positive values) of the graph, and cannot go past 10 on the U-axis; however, V-axis has no limit.



- When importing a 3D mesh, enable “create a texture set per UDIM tile”. Material IDs and names will be discarded and will be named according to the location of the UDIM number (i.e. 1001,1002, etc)

## E. Layers

- Similar to Photoshop, the user is able to create a series of layers to edit Texture Sets. When a layer is selected, you can rename the layers and edit the blending mode and opacity on the far right.




## F. Properties

1. Displays tool-selected parameters that can be modified. If this window isn't visible, follow this path:

a) Window > Views > Properties

## G. Tools

1. On the far left of the interface. These tools are accessible *only* when a paint layer is selected. 

a) Revisiting the layers window, with the Texture Set that you want to edit is selected, create a new paint layer for editing.

# III. Setting Up

## A. Formatting

1. Open the image in an editing software such as Photoshop.
2. **Both** full-color and alpha images should have an 1:1 aspect ratio. This can be edited by following the path: Image > Canvas Size
  - a) Failure to re-size the image prior to exporting will skew the image *after* its imported.
3. If its an **Alpha Image**, the entire image should be white, 1 with a pure black background, 0, to read the image's transparency
  - a) (anything in-between will be interpreted in Substance as slightly transparent, unless that is the intent, disregard the disclaimer)
4. If its a **Full-Color Image**, disable any background layers.
5. Export the image as a PNG. PNG format is a lossless image format, that preserves transparency.
6. Name the image appropriately, it will be the title of the stamp once imported to your shelf.

## B. Checklist

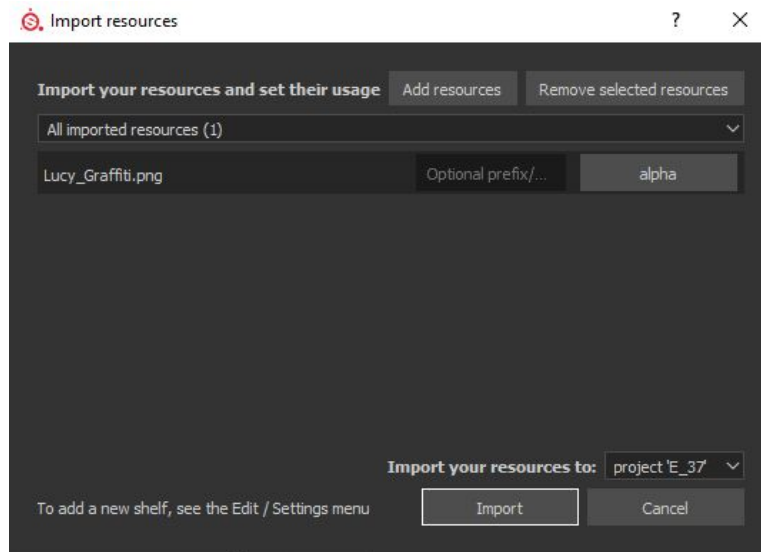
1. Does the image have a 1:1 aspect ratio?
2. If its an alpha image, is the image white? Are the areas that are transparent, black?
3. If its a full-color image, is the background layer disabled?
4. Was the image exported as a PNG?

5. Named appropriately? This is necessary to re-navigate the imported resource within the shelf.

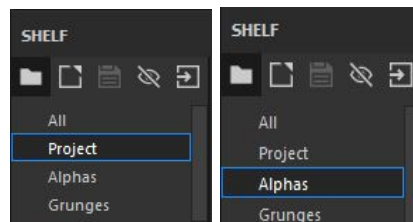
#### IV. Getting Started

A. Within your project in Substance, import the image as a resource:

1. File > Import Resources



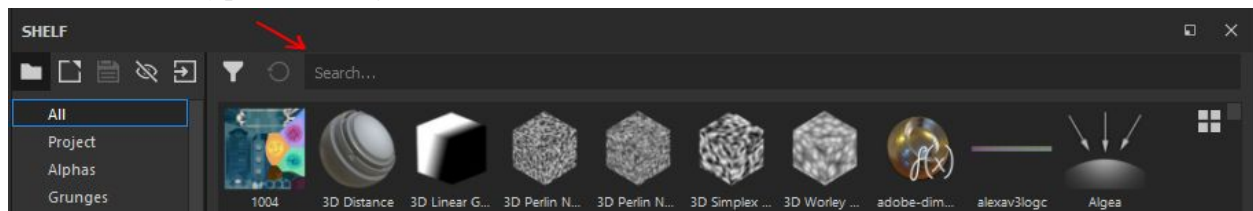
2. 'Add resources' - navigate the PNG file within the computer directory
3. The image title will populate, change the file type, '*undefined*' to '*alpha*'. This will allow substance to upload the resource in the correct shelf section.
4. 'Import your resources to:' - You can choose between the project 'projectname' (in this example, the filename is E\_37), or shelf 'shelf'. Either choice will only affect the project save file independently from Substance overall. So, to illustrate this, if you were to create a new file, the imported resources will not be present.
5. Project 'projectnamehere' will populate the imported resource to the *project* section of the shelf.



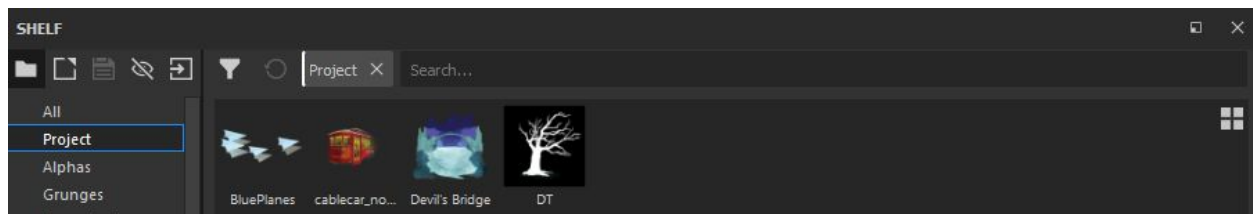
6. Shelf 'shelf' will populate the imported resource to the *alpha* folder along with the other alpha presets that Substance has to offer. They are organized alphabetically.

## V. Full-Color Images

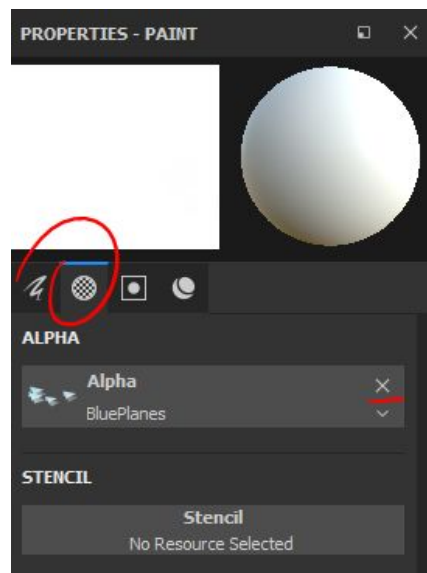
- A. After importing your resource (image), you can use the search bar and type the image file name



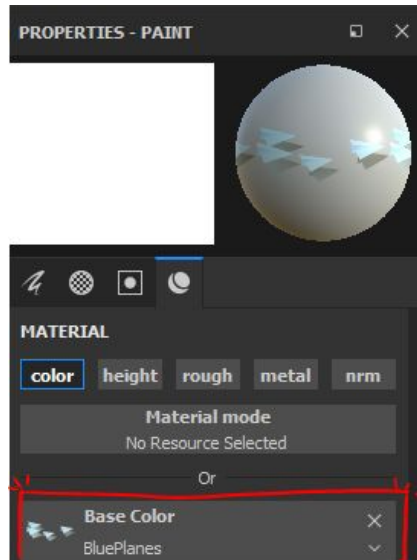
- B. Or, you can find your file if it was imported to Project 'projectnamehere'. In your shelf section to the left, select the tab and your imported resources should be there.



- C. For this step, we'll be working with a full-color image. With the brush tool selected, select the BluePlanes icon in the shelf.
- D. In the properties window, scroll down to the alpha settings or click the icon:



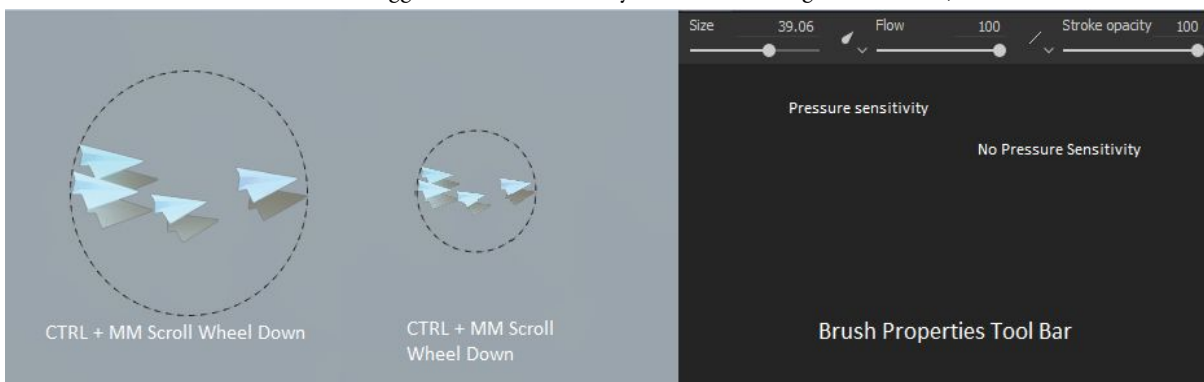
- E. Since we're working with a full-color image, we don't need the alpha channel. Remove the image by clicking the x in the upper right corner.



- F. The last tab icon, is the Base Color setting. From the shelf, drag the icon over the area, or select it and search for the file type to use it.

- G. Drag the brush icon in the 3D viewport (A) or the 2D viewport (B)

1. Resize the brush tool by using the brush properties tool bar near the top of the window
  - a) Or use the hotkey: CTRL + scroll wheel (up is smaller, down is bigger; it'll be reversed if your mouse settings are inverted)



2. Rotate the brush using CTRL + LMB drag (vertically)
3. Control the flow of the brush using CTRL + LMB drag (horizontally)
  - a) The difference between flow and stroke opacity:

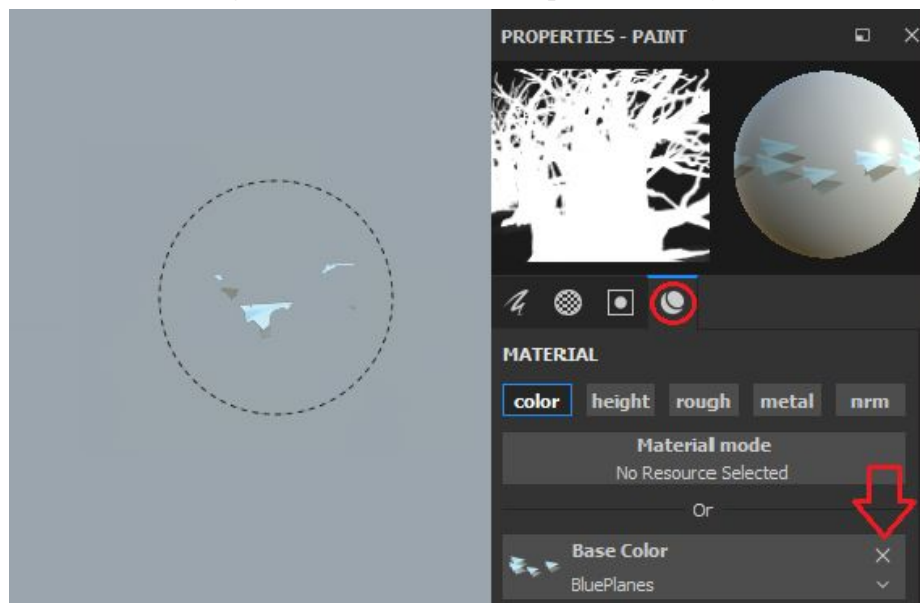


Image Courtesy of Retouching Academy

And that concludes how to import *Full-Color Images*. For an Alpha image, however, the next step encompasses how to import and use the image resource.

## VI. Alpha Images

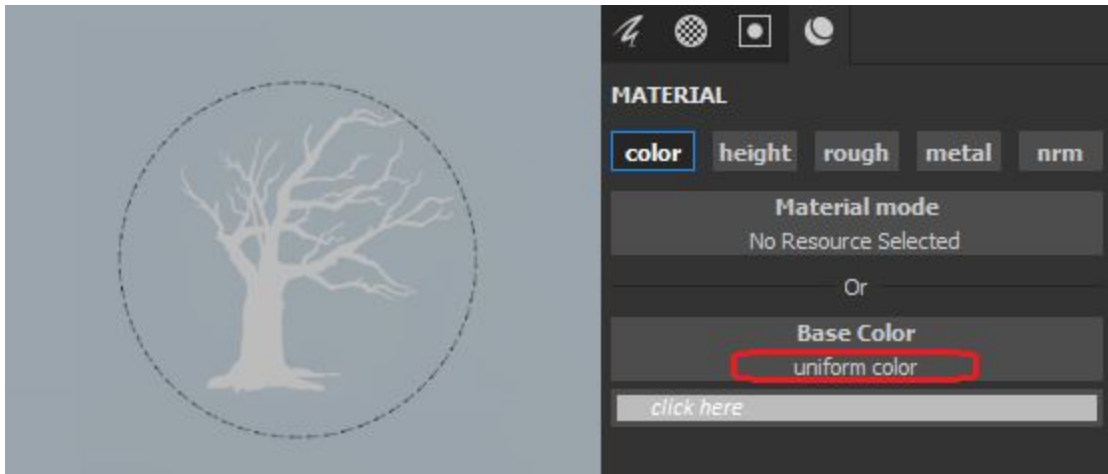
- A. After importing your alpha image, there are a few ways of searching for it:
  1. Via the Project folder tab in the Substance Painter shelf
  2. The Alpha folder tab in the Substance Painter shelf
  3. With the *All* tab selected, use the search bar to navigate the image that was imported.
- B. After selecting the brush, the brush preview may look a bit off like this:



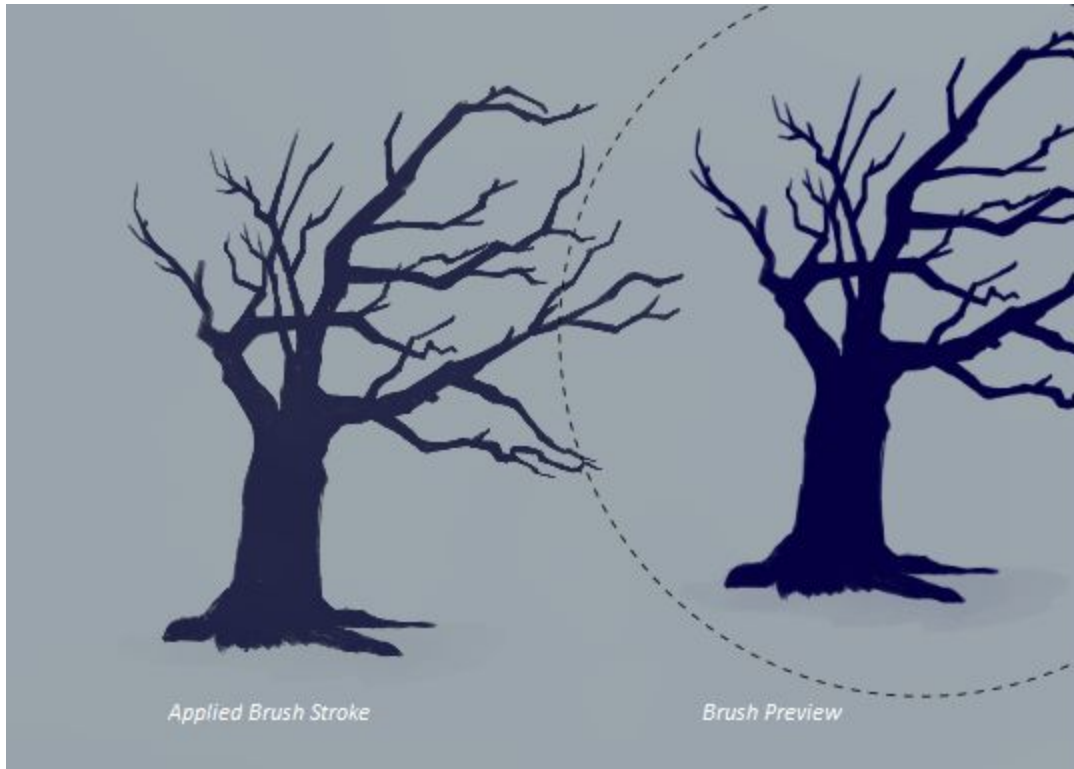
- C. The reason *why* the brush preview looks off is because the base color, our previous *BluePlanes* brush preset, is filling in the alpha- which is our DT image for our example. With the brush tool still selected, go to the



properties window, it should be on *PAINT*, and select the last image tab, this will direct you straight to Base Color. For the alpha, we don't need the BluePlanes for our base color, so remove it by closing the window.



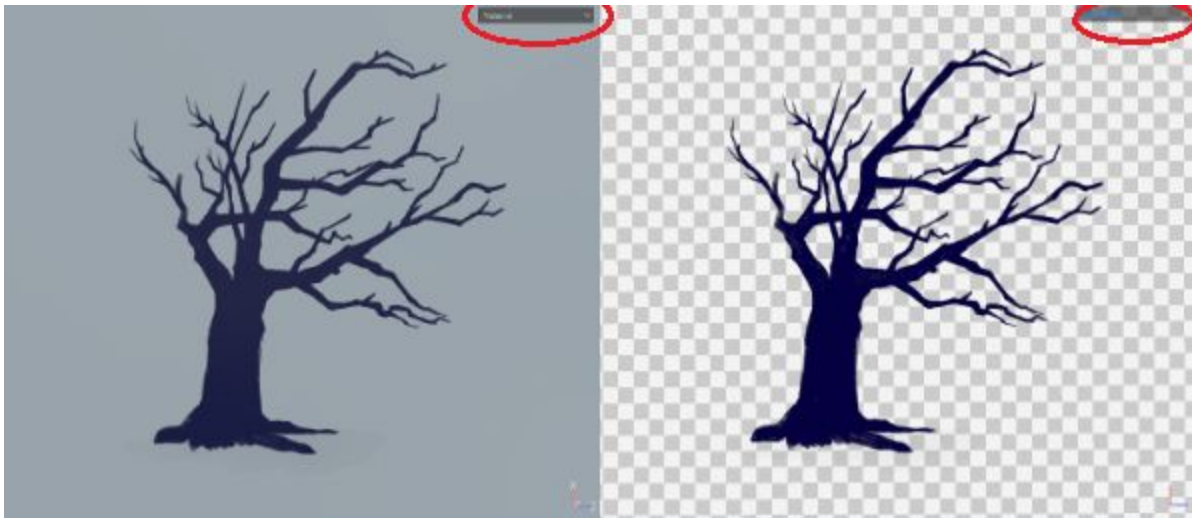
- D. By default, the alpha brush will be gray (**R**: 0.500 **G**: 0.500 **B**: 0.500 ) and also note that the Base Color window no longer displays the brush type name. It changed to *Uniform Color*.
- E. The entire alpha can change colors. This can be achieved by selecting the bar. A color properties window will pop-up and you can color pick and toggle with the HSL levels or hue cube.
- F. After using the brush you may notice that the color is dull or lighter in opacity in comparison to the brush preview:



G. Double check a few things:

1. Check the brush settings- are the Flow and Stroke Opacity at 100?
2. Is Pressure Pen sensitivity enabled?

H. If the answer is *no* to all the above, its most likely *how* its displayed in the 3D/2D viewport.



I. On the upper right of either viewport, there's a droplist- by default, the viewport is set to *Material*. This viewing mode displays the mesh with full

lighting and shadows. When changed to *Base Color*, (displayed on the right) it displays the applied brushstroke with full color/opacity integrity without lighting and shadows.

#### Work Cited

<https://docs.substance3d.com/spdoc/substance-painter-20316164.html>  
<https://docs.substance3d.com/spdoc/interface-28737558.html>