

Blend Modes

This document teaches you the difference between the different blending modes available in Paint in 3D.

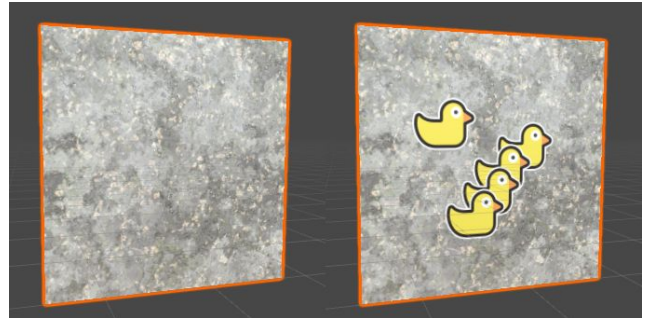
If you're painting in the editor, then you can set the blending mode in your brush settings.

If you're painting in game, then you can set the blending mode in the painting components (e.g. P3dPaintSphere, P3dPaintDecal).

Alpha Blend

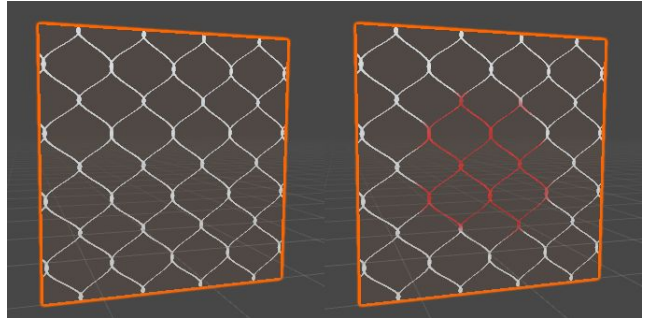
This works by increasing the RGBA channels of your texture based on the alpha of the source texture.

NOTE: This blending mode doesn't work well if your texture is transparent. This will cause the edges of your paint to 'bleed' in, unless the transparent color matches your new paint. If this is an issue, you should use the "Alpha Blend Advanced" mode instead, which handles transparent pixels better.



Alpha Blend RGB

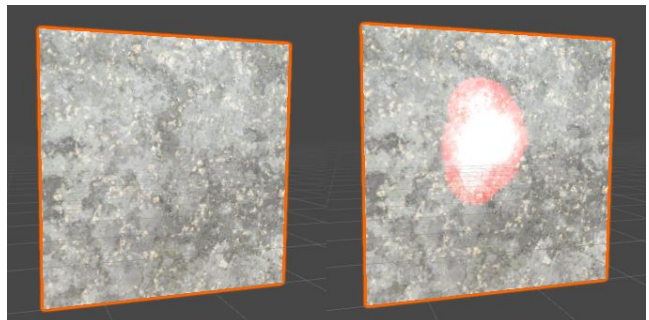
This works similar to "Alpha Blend", but the alpha channel is not modified. This is ideal when you want to paint on only the solid parts of an already transparent texture.



Additive

This works by increasing the RGBA values of your texture based on the paint color.

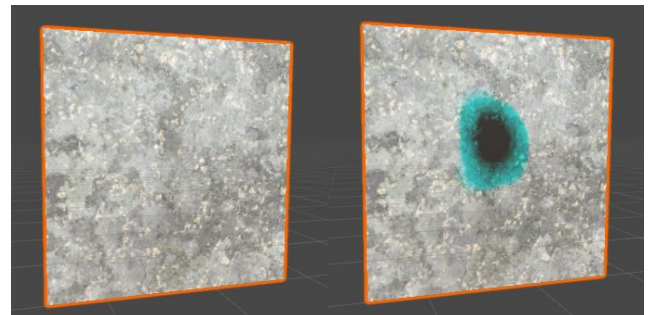
NOTE: This modifies alpha as well, set the alpha to 0 if you don't want this.



Subtractive

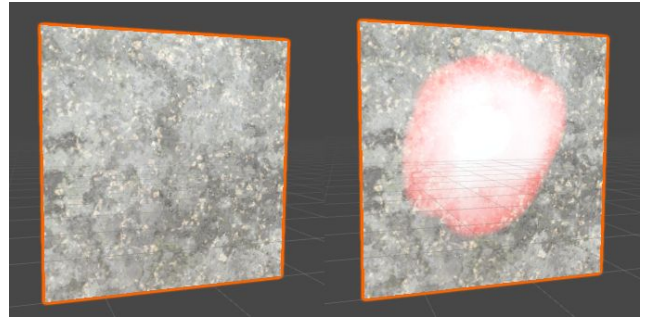
This works by decreasing the RGBA values of your texture based on the paint color.

NOTE: This modifies alpha as well, set the alpha to 0 if you don't want this.



Soft Additive

This works similar to “Additive”, but the strength of the blending fades based on how bright the texture already is.



Alpha Blend Advanced

This works similar to “Alpha Blend”, but it correctly handles the scenario where the texture’s alpha is 0 before painting. This avoids texture color bleeding.

NOTE: This blend mode uses two passes, so it’s slower than “Alpha Blend”. If your painting doesn’t need to modify the alpha channel then you don’t need to use this.

Replace

Normally the shape of your paint is defined by the alpha channel, but for advanced texture effects (e.g. PBR), you need to modify the alpha channel in specific ways. This blending mode allows you to define the alpha channel using the alpha channel of the paint, and the shape of the paint is instead stored in a separate “Shape” texture.

Multiply

This works by multiplying the texture with the paint color, which can darken your texture.

Unlike the “Subtractive” blending mode, this won’t cause your texture color to shift. This is useful for painting things like blood stains.