

# Hair - Diffuse

## Root Color

Diffuse color at the root of the hair.

## Tip Color

Diffuse color at the tip of the hair.



Root Color - purple. Tip Color - blue.

## Ambient Diffuse

Ambient Diffuse controls the blending between two different diffuse shading models: fully isotropic and the Kajiya-Kay diffuse BRDF. When set to 0, the diffuse part of the shader will be fully isotropic, which means that the strand will reflect the same amount of light towards the camera no matter which direction the light is coming from. When set to 1, the diffuse part of the shader will follow the Kajiya-Kay diffuse equation, which means that light shining down on the tip of a hair will not brighten the strand as much as light shining in from the sides. Any value between 0 and 1 is also valid, and will just blend between the two models.

## Indirect Diffuse

Indirect diffuse controls the amount of indirect diffuse light (GI light rays) reflected by the shader. Setting it to 0 disables indirect lighting and is the fastest to render. The higher the setting, the more that global illumination will affect the final color of the shader. It is *strongly* recommended to stay in the 0 to 1 range, as values higher than 1 will create energy out of nowhere and therefore break energy conservation and introduce excessive noise. The example below shows an exaggerated value of 5 merely for illustrative purposes.



0



5

### Diffuse Cache

When enabled, global illumination rays will only see the automatically baked direct diffuse illumination from each control point of the strands rather than a full shader evaluation as they normally would. This can give a big reduction in render times, especially with scenes containing many lights.