Flakes Example

There are several ways to use the *flakes* shader, and this tutorial aims to demystify some of its uses. In this short, making-of tutorial we demonstrate how to use the *Flakes* shader (in combination with the *standard_surface*) to create some glitter make up.

### Specular Color

- To start off with, here we have a default *standard_surface* shader with a color texture map connected to the *Specular Color*. *Base Weight* is not necessary for this example.
If we want variations in the color of the flaked reflection, we need to have the *flakes* in a lower layer (Normal - Bump Mapping under Geometry). This effect is evident in materials such as metallic car paint.

![Image](image.jpg)

**Normal and Coating (Default White Color)**

- If we increase the *coating_weight*, we just get a white *coating_color* (default). This effect would be useful for car paints or plastics but does not look suitable, as it is, for glitter makeup. We must also add the *flakes* to the *coat_normal* as well.

![Image](image.jpg)

The color you assign to the *coating* will just tint the lower *base*, *metal*, and *specular* layers. The *coat* layer is a semi-opaque dielectric type layer that will always reflect white, no matter the color you assign it. The color of the *coat* layer will tint the underlying *base* and *specular* layers. For example, and somewhat counter-intuitively, a green-tinted glass does not have green reflections. It is the
refraction of what is underneath the glass that is tinted green. The same thing happens with colored plastics.

Normal and Coat Normal

- Connecting the *Flakes* into both the **Normal** attribute and the **Coat Normal** gives us the final result that we want. In the end, we have used the **normal** on both the **specular** and **coat** layers. This method makes sense. However, the appearance would also depend on how much clear enamel/oil/whatever the glitter in the makeup is mixed with.

With car paint, the **coat** layer would be quite thick, giving it a smooth polished appearance that is easy to reproduce. However, with this makeup example, the **coat** layer would be quite thin and less polished. The **normal** of the **coat** layer would be a blend of the bumpiness of the underlying skin, the orientation of the flakes of glitter, the distribution of the makeup itself with thicker and thinner patches, and the smooth surface that the surface tension of a thin layer of liquid gives you over pretty much any rough surface. As the makeup dries and the face expresses, the surface of the **coat** layer could also become cracked and dulled.

Ensure that the **output_space** of the **flakes** shader is set to **world**.

A scene file can be downloaded here.
Flakes shader connected to Normal Camera of Standard Surface. Flakes shader Coord Space (object) and Output Space (World).