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# Specular BSDF

EEVEE Only

The *Specular BSDF* combines multiple layers into a single easy to use node.

It is similar to the [Principled BSDF](#) node but uses the *specular* workflow instead of the metallic. It has far fewer parameters and supports less features. Both might be merged into one node in the future.

The specular workflow functions by specifying the facing (along normal) reflection color. The result may not be physically plausible because there is no energy conservation.

## Inputs

### Base Color

Diffuse surface color. For conductor materials (metals) it should be black.

### Specular

Amount of specular reflection. Specifies facing (along normal) reflectivity. Conductor materials (metals) can have colored specular reflection.

#### Hint

To compute this value for a realistic material with a known index of refraction, you may use this special case of the Fresnel formula:  $\text{specular} = ((\text{ior} - 1)/(\text{ior} + 1))^2$

For example:

- water: ior = 1.33, specular = 0.02
- glass: ior = 1.5, specular = 0.04
- diamond: ior = 2.417, specular = 0.17

### Roughness

Specifies microfacet roughness of the surface for diffuse and specular reflection.

#### Hint

When converting from the older *Glossy BSDF* node, use the square root of the original value.

### Emissive Color

Color of the emitted light. This light is added to the BSDF result.

### Transparency

Transparency factor. This is the inverse of the alpha channel (1 - alpha) you find in an image. Use an Invert node to convert alpha to transparency. This will only have an effect if the material uses a blend mode other than opaque.

### Normal

Controls the normals of the base layers.

### Clear Coat

Extra white specular layer on top of others. This is useful for materials like car paint and the like.

### Clear Coat Roughness:

Roughness of clear coat specular.

### Clear Coat Normal

Controls the normals of the *Clear Coat* layer.

### Ambient Occlusion

Amount of occlusion to apply to indirect lighting. Usually a baked ambient occlusion map. The final occlusion factor is the minimum of this input and the runtime ambient occlusion effect.

# Properties

This node has no properties.

# Outputs

## BSDF

Standard shader output.

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