URP+

Content

Shaders

Simple Lit

Performance: **Very Good**
Workflow Maps: Base Map, Mask Map, Specular Map, Normal Map.

Properties

Surface Options

Surface Options control the overall look of your Material's surface and how Unity renders the Material on screen.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Metallic	Use this slider to adjust how "metal-like" the surface of your Material is (between 0 and 1).
Smoothness	Use the slider to adjust the smoothness of your Material.
Metallic Remapping	Use this min-max slider to remap the metallic values from the **Mask Map** to the range you specify.
Smoothness Remapping	Use this min-max slider to remap the smoothness values from the **Mask Map** to the range you specify.
Ambient Occlusion Remapping	Use this min-max slider to remap the ambient occlusion values from the **Mask Map** to the range you specify.
Mask Map	Assign a channel-packed Texture with the following Material maps in its RGBA channels. • **Red**: Stores the metallic map. • **Green**: Stores the ambient occlusion map. • **Blue**: Empty. • **Alpha**: Stores the smoothness map.
Specular Color	Assign a texture that specifies specular color of Material.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Surface Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Surface Inputs** section.

Emission Inputs

The Emission Inputs settings affect the surface that emits light.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Performance: **Good**
Workflow Maps: Base Map, Mask Map, Specular Map, Normal Map, Bent Normal Map, Height Map, Coat Mask, Coat Normal Map.

Properties

Surface Options

Surface Options control the overall look of your Material's surface and how Unity renders the Material on screen.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Metallic	Use this slider to adjust how "metal-like" the surface of your Material is (between 0 and 1).
Smoothness	Use the slider to adjust the smoothness of your Material.
Metallic Remapping	Use this min-max slider to remap the metallic values from the **Mask Map** to the range you specify.
Smoothness Remapping	Use this min-max slider to remap the smoothness values from the **Mask Map** to the range you specify.
Ambient Occlusion Remapping	Use this min-max slider to remap the ambient occlusion values from the **Mask Map** to the range you specify.
Mask Map	Assign a channel-packed Texture with the following Material maps in its RGBA channels. • **Red**: Stores the metallic map. • **Green**: Stores the ambient occlusion map. • **Blue**: Stores the detail mask map. • **Alpha**: Stores the smoothness map.
Specular Color	Assign a texture that specifies specular color of Material.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.
Bent Normal Map	Assign a Texture that defines the bent normal map for this Material in tangent space. URP+ uses bent normal maps to simulate more accurate ambient occlusion.
Height Map	Assign a Texture that defines the heightmap for this Material. Unity uses this map to apply pixel or vertex displacement to this Material's Mesh.
Parametrization	Use the drop-down to select the parametrization method for the to use for the **Height Map**. •**Min/Max**: URP+ compares the **Min** and **Max** value to calculate the peak, trough, and base position of the heightmap. If the **Min** is -1 and the **Max** is 3, then the base is at the Texture value 0.25. This uses the full range of the heightmap. •**Amplitude**: Allows you to manually set the amplitude and base position of the heightmap. This uses the full range of the heightmap.

Min	Set the minimum value in the **Height Map**.
Max	Set the maximum value in the **Height Map**.
Offset	Set the offset that URP+ applies to the **Height Map**.
Amplitude	Set the amplitude of the **Height Map**.
Base	Use the slider to set the base for the **Height Map**.
Coat Mask	Assign a Texture that defines the coat mask for this Material. URP+ uses this mask to simulate a clear coat effect on the Material to mimic Materials like car paint or plastics. The Coat Mask value is 0 by default, but you can use the handle to modulate the clear Coat Mask effect using a value between 0 and 1.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Surface Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Surface Inputs** section.

Detail Inputs

The Detail Inputs enables you to overlay a second set of textures on top of the base surface information.

Emission Inputs

The Emission Inputs settings affect the surface that emits light.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Complex Lit

Performance: **Heavy**

Workflow Maps: Base Map, Mask Map, Specular Map, Normal Map, Bent Normal Map, Tangent Map, Thickness Map, Iridescence Mask Map, Iridescence Thickness Map, Height Map, Coat Mask, Coat Normal Map.

Properties

Surface Options

Surface Options control the overall look of your Material's surface and how Unity renders the Material on screen.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Metallic	Use this slider to adjust how "metal-like" the surface of your Material is (between 0 and 1).
Smoothness	Use the slider to adjust the smoothness of your Material.
Metallic Remapping	Use this min-max slider to remap the metallic values from the **Mask Map** to the range you specify.
Smoothness Remapping	Use this min-max slider to remap the smoothness values from the **Mask Map** to the range you specify.
Ambient Occlusion Remapping	Use this min-max slider to remap the ambient occlusion values from the **Mask Map** to the range you specify.
Mask Map	Assign a channel-packed Texture with the following Material maps in its RGBA channels. • **Red**: Stores the metallic map. • **Green**: Stores the ambient occlusion map. • **Blue**: Stores the detail mask map. • **Alpha**: Stores the smoothness map.
Specular Color	Assign a texture that specifies specular color of Material.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.
Bent Normal Map	Assign a Texture that defines the bent normal map for this Material in tangent space. URP+ uses bent normal maps to simulate more accurate ambient occlusion.
Height Map	Assign a Texture that defines the heightmap for this Material. Unity uses this map to apply pixel or vertex displacement to this Material's Mesh.
Parametrization	Use the drop-down to select the parametrization method for the to use for the **Height Map**. •**Min/Max**: URP+ compares the **Min** and **Max** value to calculate the peak, trough, and base position of the heightmap. If the **Min** is -1 and the **Max** is 3, then the base is at the Texture value 0.25. This uses the full range of the heightmap. •**Amplitude**: Allows you to manually set the amplitude and base position of the heightmap. This uses the full range of the heightmap.

Min	Set the minimum value in the **Height Map**.
Max	Set the maximum value in the **Height Map**.
Offset	Set the offset that URP+ applies to the **Height Map**.
Amplitude	Set the amplitude of the **Height Map**.
Base	Use the slider to set the base for the **Height Map**.
SSS LUT	Assign a Texture that controls curvature and color of SSS. This property only appears when you select **PreIntegratedSSS** from the **SSS Model** drop-down in **URPPlus Settings(Script)**.
TC Map	Assign a channel-packed Texture with the following Material maps in its RGBA channels. • **Red**: Stores the thickness map. • **Green**: Stores the curvature map. • **Blue**: empty. • **Alpha**: empty. This property only appears when you select **Subsurface Scattering** or **Translucent** from the **Material Type** drop-down.
ScatteredShadows Color	Controls the color of scattered shadows. This property only appears when you tick "**Fake SSS Shadows**" box in **URPPlus Settings(Script)**.
Translucency Scale	Set the overall strength of the translucency effect for this Material. This property only appears when you select **Translucent** from the **Material Type** drop-down.
Translucency Power	Use the slider to set the power of the translucency. This property only appears when you select **Translucent** from the **Material Type** drop-down.
Translucency Ambient	Use the slider to set the ambient of the translucency. This property only appears when you select **Translucent** from the **Material Type** drop-down.
Translucency Distortion	Use the slider to set the distortion of the translucency. This property only appears when you select **Translucent** from the **Material Type** drop-down.
Translucency Shadows	Use the slider to control the strength of the shadows on translucency material. This property only appears when you select **Translucent** from the **Material Type** drop-down.
Tangent Map	Assign a Texture that defines the direction of the anisotropy effect of a pixel, in tangent space. This stretches the specular highlights in the given direction. This property only appears when you select **Anisotropy** from the **Material Type** drop-down.
Anisotropy	Use the slider to set the direction of the anisotropy effect. Negative values make the effect vertical, and positive values make the effect horizontal. This stretches the specular highlights in the given direction. This property only appears when you select **Anisotropy** from the **Material Type** drop-down.

Anisotropy Map	Assign a Texture, with values from 0 to 1, that controls the strength of the anisotropy effect. URP+ only uses the red channel of this Texture to calculate the strength of the effect. This property only appears when you select **Anisotropy** from the **Material Type** drop-down.
Iridescence LUT	Assign a Texture, with values from -1 to 1, that controls the shift of IridescenceLUT. This property only appears when you select **Approximation** from the **Iridescence Model** drop-down in **URPPlus Settings(Script)**.
Iridescence Mask	Assign a Texture, with values from 0 to 1, that controls the strength of the iridescence effect. A texel with a value of 1 corresponds to full strength, while those with a value of 0 disables the iridescence effect. This property only appears when you select **Iridescence** from the **Material Type** drop-down.
Iridescence Layer Thickness map	Assign a Texture, with values from 0 to 1, that controls the thickness of the iridescence. This modifies the color of the effect. This property only appears when you select **Iridescence** from the **Material Type** drop-down.
Iridescence Layer Thickness remap	Use this min-max slider to remap the thickness values from the **Iridescence Layer Thickness map** to the range you specify. Rather than clamping values to the new range, Unity condenses the original range down to the new range uniformly.
Coat Mask	Assign a Texture that defines the coat mask for this Material. URP+ uses this mask to simulate a clear coat effect on the Material to mimic Materials like car paint or plastics. The Coat Mask value is 0 by default, but you can use the handle to modulate the clear Coat Mask effect using a value between 0 and 1.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Surface Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Surface Inputs** section.

Detail Inputs

The Detail Inputs enables you to overlay a second set of textures on top of the base surface information.

Emission Inputs

The Emission Inputs settings affect the surface that emits light.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Layered Lit

Performance: **Heavy**
Workflow Maps: Base Map, Mask Map, Normal Map, Bent Normal Map, Height Map.

Properties

Surface Options

Surface Options control the overall look of your Material's surface and how Unity renders the Material on screen.

Surface Inputs

Property	Description
Layer Count	Use the slider to set the number of layers this Material uses. You can set up to four layers.
Layer Mask	Assign a Texture to the field to manage the visibility of each layer. If you do not assign a Texture, the Material uses the maximum value for every channel. • Alpha channel for the **Main Layer**. • Red channel for **Layer 1**. • Green channel for **Layer 2**. • Blue channel for **Layer 3.**
Tiling	Set an **X** and **Y** tile rate for the **Layer Mask** UV.
Offset	Set an **X** and **Y** offset for the **Layer Mask** UV.
Vertex Color Mode	Use the drop-down to select the method URP+ uses to combine the **Layer Mask** to manager layer visibility. • **None**: Only the **Layer Mask** affects visibility. URP+ does not combine it with vertex colors. • **Multiply**: Multiplies the vertex colors from a layer with the corresponding values from the channel in the **Layer Mask** that represents that layer. The default value for a pixel in the mask is 1. Multiplying the vertex colors of a layer by the **Layer Mask** reduces the intensity of that layer, unless the value in the **Layer Mask** is 1. • **Add**: Remaps vertex color values to between -1 and 1, and then adds them to the corresponding values from the channel in the **Layer Mask** that represents that layer. Vertex color values between 0 and 0.5 reduce the effect of that layer, values between 0.5 and 1 increase the effect of that layer.
Main Layer Influence	Enable the checkbox to allow the **Main Layer** to influence the albedo, normal, and height of **Layer 1**, **Layer 2**, and **Layer 3**. You can change the strength of the influence for each layer.
Use Height Based Blend	Enable the checkbox to blend the layers with a heightmap. URP+ then evaluates the height of each layer to check whether to display that layer or the layer above.
Height Transition	Use the slider to set the transition blend size between the Materials in each layer.

Layers

Layering Options - Main Layer

Property	Description
Layer Influence Mask	Specifies a Texture that defines the areas where the **Main Layer** can influence the numbered layers. White pixels mean full influence and black pixels mean no influence. This property only appears when you enable the **Main Layer Influence** checkbox.

Layering Options - Numbered layers

Property	Description
Use Opacity map as Density map	Indicates whether to use the alpha channel of the **Base Map** as the opacity threshold.
BaseColor Influence	The strength of the **Main Layer**'s influence on this layer's base color. As you increase this value, the **Main Layer** color becomes more visible, but the Material maintains the other layers' variance. This property only appears when you enable the **Main Layer Influence** checkbox.
Normal Influence	The strength of the **Main Layer**'s influence on this layer's normals. URP+ adds the **Main Layer**'s normal values to the layer's normals. This property only appears when you enable the **Main Layer Influence** checkbox.
Heightmap Influence	The strength of the **Main Layer**'s influence on this layer's heightmap. URP+ adds the **Main Layer**'s heightmap values to the layer's heightmap. This property only appears when you enable the **Main Layer Influence** checkbox.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Metallic	Use this slider to adjust how "metal-like" the surface of your Material is (between 0 and 1).
Smoothness	Use the slider to adjust the smoothness of your Material.
Metallic Remapping	Use this min-max slider to remap the metallic values from the **Mask Map** to the range you specify.
Smoothness Remapping	Use this min-max slider to remap the smoothness values from the **Mask Map** to the range you specify.
Ambient Occlusion Remapping	Use this min-max slider to remap the ambient occlusion values from the **Mask Map** to the range you specify.
Mask Map	Assign a channel-packed Texture with the following Material maps in its RGBA channels. • **Red**: Stores the metallic map. • **Green**: Stores the ambient occlusion map. • **Blue**: Stores the detail mask map. • **Alpha**: Stores the smoothness map.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.

Bent Normal Map	Assign a Texture that defines the bent normal map for this Material in tangent space. URP+ uses bent normal maps to simulate more accurate ambient occlusion.
Coat Mask	Assign a Texture that defines the coat mask for this Material. URP+ uses this mask to simulate a clear coat effect on the Material to mimic Materials like car paint or plastics. The Coat Mask value is 0 by default, but you can use the handle to modulate the clear Coat Mask effect using a value between 0 and 1.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Surface Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Surface Inputs** section.

Detail Inputs

The Detail Inputs enables you to overlay a second set of textures on top of the base surface information.

Emission Inputs

The Emission Inputs settings affect the surface that emits light.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Fabric

Performance: **Normal**
Workflow Maps: Base Map, Mask Map, Sheen Map, Normal Map, Thickness Map, Thread Map, Fuzz Map.

Properties

Surface Options

Surface Options control the overall look of your Material's surface and how Unity renders the Material on screen.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Smoothness	Use the slider to adjust the smoothness of your Material.
Anisotropy	Use the slider to control the anisotropy of your Material.
Smoothness Remapping	Use this min-max slider to remap the smoothness values from the **Mask Map** to the range you specify.
Ambient Occlusion Remapping	Use this min-max slider to remap the ambient occlusion values from the **Mask Map** to the range you specify.
Mask Map AO(G) S(A)	Assign a channel-packed Texture with the following Material maps in its RGBA channels. • **Green**: Stores the ambient occlusion map. • **Alpha**: Stores the smoothness map.For more information on channel-packed Textures and the mask map, see mask map.
Sheen Map	Assign a Texture that controls both sheen color of your Material.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Surface Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Surface Inputs** section.

Thread Inputs

Property	Description
Thread Map	Assign a Texture that defines parameters for fabric thread, with the following maps in its RGBA channels. • **Red**: Stores the ambient occlusion map.• **Green**: Stores the normal's Y component.• **Blue**: Stores the smoothness map.• **Alpha**: Stores the normal's X component.
Thread AO Strength	Modifies the strength of the AO stored in the Thread Map.
Thread Normal Strength	Modifies the strength of the Normal stored in the Thread Map.

Thread Smoothness Scale	Modifies the scale of the Smoothness stored in the Thread Map.
Fuzz Map	Assign a Texture that adds fuzz detail to the Base Color of your Material.
Fuzz Size	Sets the scale of the Thread UV used to sample the Fuzz Map.
Fuzz Scale	Sets the strength of the Fuzz Color added to the Base Color.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Thread Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Thread Inputs** section.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Performance: **Very Good**
Workflow Maps: Base Map, Normal Map, Height Map, Opacity Map.

Properties

Surface Options

Property	Description
Parallax	Select this check box to enable the Parallax feature.
Hue	Select this check box to enable the Hue feature.
Saturation	Select this check box to enable the Saturation feature.
Geometric Specular AA	Indicates whether URP+ performs geometric anti-aliasing on this material. This modifies the smoothness values on the surfaces of curved geometry to remove specular artifacts.
Screen Space Variance	The strength of the geometric specular anti-aliasing effect between 0 and 1. Higher values produce a blurrier result with less aliasing.
Threshold	The maximum value for the offset that URP+ subtracts from the smoothness value to reduce artifacts.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Hue	Use this slider to offset the hue of Iris.
Saturation	Use the slider to adjust the saturation of Iris.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.
Height Map	Assign a Texture that defines the heightmap for this Material.
Amplitude	Set the amplitude of the **Height Map**.
Opacity Map	Assign a Texture that defines where the iris is.
Smoothness	Use the slider to adjust the smoothness of your Material.
Sclera Smoothness	Use the slider to adjust the smoothness on the Sclera area of your Material.
Cornea Smoothness	Use the slider to adjust the smoothness on the Cornea area of your Material.

Emission Inputs

The Emission Inputs settings affect the surface that emits light.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Performance: **Heavy**
Workflow Maps: Sclera Map, Sclera Normal Map, Iris Map, Iris Normal Map.

Properties

Surface Options

Property	Description
Enable Mydriasis/Miosis	Check this box to enable the mydriasis/miosis effect. This allows the eye to respond to the direction and strength of the light.
Sun Sensitivity	The force of the reaction to the sun.
Enable Light Sensitivity	Check this box to enable the mydriasis/miosis effect from the additional light.
Light Sensitivity	The force of the reaction to the additional light.
Pupil Factor Min	The minimum factor of light influence on the pupil.
Pupil Factor Max	The maximum factor of light influence on the pupil.
Geometric Specular AA	Indicates whether URP performs geometric anti-aliasing on this material. This modifies the smoothness values on the surfaces of curved geometry to remove specular artifacts.
Screen Space Variance	The strength of the geometric specular anti-aliasing effect between 0 and 1. Higher values produce a blurrier result with less aliasing.
Threshold	The maximum value for the offset that URP+ subtracts from the smoothness value to reduce artifacts.

Surface Inputs

Property	Description
Sclera Map	Assign a Texture that controls the color of the Sclera.
Sclera Normal Map	Assign a Texture that defines the normal map for the Sclera. Modulates the Sclera normal intensity between 0 and 8.
Iris Map	Assign a Texture that defines the heightmap for this Material.
Iris Normal Map	Assign a Texture that defines the normal map for the eye's Iris. Modulates the Iris' normal intensity between 0 and 8.
Iris Clamp Color	Sets the color that will be used if the refraction ray reached the inside of the Cornea.
Pupil Radius	Sets the radius of the Pupil in the Iris Map as a percentage.
Pupil Aperture	Sets the state of the pupil's aperture, 0 being the smallest aperture (**Min Pupil Aperture**) and 1 the widest aperture (**Max Pupil Aperture**).

Min Pupil Aperture	Sets the minimum pupil aperture value.
Max Pupil Aperture	Sets the maximum pupil aperture value.
Sclera Smoothness	Sets the smoothness of the Sclera.
Cornea Smoothness	Sets the smoothness of the Cornea.
Iris Offset	Sets the offset of the Iris placement, useful since real world eyes are never symmetrical and centered.
Limbal Ring Size Iris	Sets the relative size of the Limbal Ring in the Iris.
Limbal Ring Size Sclera	Sets the relative size of the Limbal Ring in the Sclera.
Limbal Ring Fade	Sets the fade out strength of the Limbal Ring.
Limbal Ring Intensity	Sets the darkness of the Limbal Ring.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Hair

Performance: **Normal**
Workflow Maps: Base Map, Mask Map, Specular Map, Normal Map.
Properties

Surface Options

Surface Options control the overall look of your Material's surface and how Unity renders the Material on screen.

Surface Inputs

Property	Description
Base Map	Assign a Texture that controls both the color and opacity of your Material.
Normal Map	Assign a Texture that defines the normal map for this Material in tangent space. Use the slider to modulate the normal intensity between 0 and 8.
AO Map	Assign a Texture that defines the ambient occlusion for this material.
Ambient Occlusion Remapping	Use this min-max slider to remap the ambient occlusion values from the **Mask Map** to the range you specify.
Smoothness Mask	Assign a Texture that defines the smoothness for this material..
Smoothness	Use the slider to adjust the smoothness of your Material.
Smoothness Remapping	Use this min-max slider to remap the smoothness values from the **Smoothness Map** to the range you specify.
Specular Color	Set the representative color of the highlight that Unity uses to drive both the primary specular highlight color, which is mainly monochrome, and the secondary specular highlight color, which is chromatic.
Specular Multiplier	Modifies the primary specular highlight by this multiplier.
Specular Shift	Modifies the position of the primary specular highlight.
Secondary Specular Multiplier	Modifies the secondary specular highlight by this multiplier.
Secondary Specular Shift	Modifies the position of the secondary specular highlight.
Transmission Color	Set the fraction of specular lighting that penetrates the hair from behind. This is on a per-color channel basis so you can use this property to set the color of penetrating light. Set this to (0, 0, 0) to stop any light from penetrating through the hair. Set this to (1, 1, 1) to have a strong effect with a lot of white light transmitting through the hair.
Transmission	Set the intensity of back lit hair around the edge of the hair. Set this to 0 to

Rim	completely remove the transmission effect.
Tiling	Set an **X** and **Y** UV tile rate for all of the Textures in the **Surface Inputs** section.
Offset	Set an **X** and **Y** UV offset for all of the Textures in the **Surface Inputs** section.

Advanced Options

The Advanced Options settings affect the underlying calculations of your rendering. They do not have a visible effect on your surface.

Remarks to Shaders

Surface Options

Property	Description	Shaders
Workflow Mode	Use this drop-down menu to choose a workflow that fits your Textures, either **Metallic** and **Specular**.	**Simple Lit, Lit, Complex Lit**
Surface Type	Use this drop-down to apply an **Opaque** or **Transparent** surface type to the Material.	**Simple Lit, Lit, Complex Lit, Layered Lit, Fabric, Hair**
Blending Mode	Use this drop-down to determine how URP+ calculates the color of each pixel of the transparent Material by blending the Material with the background pixels. **Alpha** uses the Material's alpha value to change how transparent an object is. 0 is fully transparent. 1 appears fully opaque, but the Material is still rendered during the Transparent render pass. This is useful for visuals that you want to be fully visible but to also fade over time, like clouds. **Premultiply** applies a similar effect to the Material as **Alpha**, but preserves reflections and highlights, even when your surface is transparent. This means that only the reflected light is visible. For example, imagine transparent glass. **Additive** adds an extra layer to the Material, on top of another surface. This is good for holograms. **Multiply** multiplies the color of the Material with the color behind the surface. This creates a darker effect, like when you look through colored glass.	
Depth Write	Indicates whether URP+ writes depth values for GameObjects that use this material.	
Depth Test	Specifies the comparison function URP+ uses for the depth test.	
Cull Mode	Use this drop-down to determine which sides of your geometry to render.	
Normal Mode	Specifies the modes to calculate the normals for back facing geometry.	
Alpha Clipping	Makes your Material act like a Cutout Shader.	**Simple Lit, Lit, Complex Lit, Layered Lit, Fabric, Hair**
Threshold	You can set the **Threshold** by moving the slider, which accepts values from 0 to 1. All values above your threshold are fully opaque, and all values below your threshold are invisible.	
Use Shadow Threshold	Indicates whether URP+ uses another threshold value for alpha clipping shadows. This property only appears if you enable **Alpha Clipping**.	
Shadow Threshold	The alpha value limit that URP+ uses to determine whether it should render shadows for a pixel. This property only appears if you enable **Use Shadow Threshold**.	
Material Type	Allows you to give your Material a type, which allows you to customize it with different settings depending on the Material Type you select.	**Complex Lit, Fabric**
Transmission	Indicates whether URP+ simulates the translucency of the material	**Only for Complex**

	using a thickness map.This property only appears when you select **Subsurface Scattering** from the **Material Type** drop-down.	**Lit**
Sheen	Select this check box to enable Sheen for Silk.	**Only for Fabric**
Translucency	Indicates whether URP+ simulates the translucency of the material using a thickness map.	
Geometric Specular AA	Indicates whether URP performs geometric anti-aliasing on this material. This modifies the smoothness values on the surfaces of curved geometry to remove specular artifacts.	**All**
Screen Space Variance	The strength of the geometric specular anti-aliasing effect between 0 and 1. Higher values produce a blurrier result with less aliasing.	
Threshold	The maximum value for the offset that URP+ subtracts from the smoothness value to reduce artifacts.	
Displacement Mode	Specifies the method URP+ uses to alter the height of the Material's surface. The options are: • **None**: Applies no displacement to the material. • **Vertex displacement**: Displaces the mesh's vertices according to the **Height Map**. • **Pixel displacement**: Displaces the pixels on the mesh surface according to the **Height Map**.	**Lit, Complex Lit, Layered Lit**
Minimum steps	Use the slider to set the minimum number of Texture samples which Unity performs to process pixel displacement.	
Maximum steps	Use the slider to set the maximum number of Texture samples which Unity performs to process pixel displacement.	
Fading mip level start	Use the slider to set the mip level at which the pixel displacement effect begins to fade out.	
Primitive length	The length of the Mesh (in meters) on which Unity applies the displacement mapping.	**Lit, Complex Lit**
Primitive width	The width of the Mesh (in meters) on which Unity applies the displacement mapping.	
Depth Offset	Enable the checkbox to modify the depth buffer according to the displacement.	

Tessellation Options

Property	Description
Tessellation Mode	The mode that URP+ uses to calculate specular occlusion. The options are: • **None**: Controls the edge factor with the slider. • **Edge**: Controls the edge factor with screen space and factor. • **Distance**: Controls the edge factor by distance.
Phong Tessellation	Specifies whether URP+ applies Phong tessellation or not.
Tessellation Factor	The number of subdivisions that a triangle can have. If you want more subdivisions, set this to a higher value. More subdivisions increase the strength

	of the tessellation effect and further smooths the geometry. Note that higher values also increase the resource intensity of the tessellation effect. To maintain good performance on the Xbox One or PlayStation 4, do not use values greater than 15. This is because these platforms cannot consistently handle this many subdivisions.
Tessellation Edge Length	Calculate the tessellation factor for an edge
Start Fade Distance	The distance (in meters) to the Camera at which tessellation begins to fade out. URP+ fades tessellation out from this distance up until **End Fade Distance**, at which point it stops tessellating triangles altogether.
End Fade Distance	The maximum distance (in meters) to the Camera at which URP+ tessellates triangles. URP+ does not tessellate triangles at distances that are further from the Camera further than this distance.
Triangle Culling Epsilon	Specifies how URP+ culls tessellated triangles. If you want to disable back-face culling, set this to **-1.0**. If you want more aggressive culling and better performance, set this to a higher value.

Detail Inputs

Property	Description
Detail Map	Specifies a channel-packed Texture that URP+ uses to add micro details into the Material. The Detail Map uses the following channel settings: • **Red**: Stores the grey scale as albedo. • **Green**: Stores the green channel of the detail normal map. • **Blue**: Stores the detail smoothness. • **Alpha**: Stores the red channel of the detail normal map.
Tiling	The per-axis tile rate for the **Detail Map** UV.
Offset	The per-axis offset for the **Detail Map** UV.
Detail Albedo Scale	Modules the albedo of the detail map (red channel) between 0 and 2. This is an overlay effect. The default value is 1 and applies no scale.
Detail Normal Scale	Modulates the intensity of the detail normal map (green and alpha channel), between 0 and 2. The default value is 1 and applies no scale.
Detail Smoothness Scale	Modulate the intensity of the detail smoothness map (blue channel) between 0 and 2. This is an overlay effect. The default value is 1 and applies no scale.

Emission Inputs

Property	Description
Emission	Select this check box to enable the Emission feature.
Emission Map	Makes the surface look like it emits lights. When enabled, the **Emission Map** and **Emission Color** settings appear.
Emission Intensity	Set the overall strength of the emission effect for this Material.

Emission Multiply with Base	Enable the checkbox to make URP+ use the base color of the Material when it calculates the final color of the emission. When enabled, URP+ multiplies the emission color by the base color to calculate the final emission color.
Global Illumination	Use the drop-down to choose how color emission interacts with global illumination. • Realtime: Select this option to make emission affect the result of real-time global illumination. • Baked: Select this option to make emission only affect global illumination during the baking process. • None: Select this option to make emission not affect global illumination.

Advanced Options

Property	Description	Shaders
Cast Shadows	Tick this box to enable your GameObject to cast shadows in **Transparent** mode in **SurfaceType**. This property only appears when you select **Transparent** from the **SurfaceType** drop-down.	**Simple Lit, Lit, Complex Lit, Layered Lit, Fabric, Hair**
Receive Shadows	Tick this box to enable your GameObject to have shadows cast upon it by other objects. If you untick this box, the GameObject will not have shadows on it.	**All**
Specular Highlights	Enable this to allow your Material to have specular highlights from direct lighting, for example Directional, Point, and Spot lights. This means that your Material reflects the shine from these light sources. Disable this to leave out these highlight calculations, so your Shader renders faster. By default, this feature is enabled.	**All**
Environment Reflections	Sample reflections using the nearest Reflection Probe, or, if you have set one in the Lighting window, the Lighting Probe. If you disable this, you will have fewer Shader calculations, but this also means that your surface has no reflections.	**All**
ClearCoat Second Normal	Separately calculates the normal for ClearCoat. This appears when the **Coat Mask** is greater than 1.	**Lit, Complex Lit**
Render Queue	Determine in which order objects are rendered. This way for example transparent objects are rendered after opaque objects, and so on.	**All**
Enable GPU Instancing	Makes URP+ render meshes with the same geometry and Material in one batch, when possible. This makes rendering faster. URP+ cannot render Meshes in one batch if they have different Materials or if the hardware does not support GPU instancing.	**All**
Horizon Occlusion	This helps a lot with the apparent intensity of the leaked "reflections".	**SimpleLit, Lit, Complex Lit, Layered Lit**
Horizon Fade	Use the slider to set the Fade for Horizon Occlusion.	

| Specular Occlusion Mode | The mode that URP+ uses to calculate specular occlusion. The options are:
• **Off**: Disables specular occlusion.
• **From AO**: Calculates specular occlusion from the ambient occlusion map and the Camera's view vector.
• **From AO and Bent Normal**: Calculates specular occlusion from the ambient occlusion map, the bent normal map, and the Camera's view vector.
• **From GI(Experimental)**: Calculates specular occlusion from the baked GI and indirect light. | **Lit, Complex Lit, Layered Lit** |

Nodes

Unpack Nodes

Detail Mapping Node
This node for unpacking and modifying the Detail Map.

Mask Mapping Node
This node for unpacking and modifying the Mask Map.

Thread Mapping Node
This node for unpacking and modifying the Thread Map.

Emission Node
The Emission Node allows you to apply emission in your Shader Graph.

Eye Nodes

Circle Pupil Animation Node
This node applies a deformation to a normalized IrisUV coordinate to simulate the opening and closure of the pupil.

Cornea Refraction Node
This node performs the refraction of the view ray in object space and returns the object space position that results. This is used to simulate the refraction that can be seen when looking at an eye.

Eye SurfaceType Debug Node
Debug node that allows you to visually validate the current pupil radius.

Iris Limbal Ring Node
Calculates the intensity of the Limbal ring, a darkening feature of eyes.

Iris Offset Node
Applies an offset to the center of the Iris as real world eyes are never symmetrical and centered.

IrisOutOfBoundColorClamp Node
Clamps the color of the Iris to a given color. This is useful in case the refraction ray reaches the inside of the cornea.

Iris UV Location Node
This node converts the object position of the cornea/iris to a UV Sampling coordinate.

Sclera Iris Blend Node
This node blends all the properties of the Iris and the Sclera so that they can be fed to the master node.

Sclera Limbal Ring Node
Calculates the intensity of the Sclera ring, a darkening feature of eyes.

Sclera UV Location Node
This node converts the object position of the sclera to a UV Sampling coordinate.

Lighting Nodes

Horizon Occlusion Node

Node for calculation of SpecularOcclusion with HorizonOcclusion.

SpecularOcclusionFromAO Node

Node for calculation of SpecularOcclusion from ambient occlusion.

SpecularOcclusionFromBentAO Node

Node for calculation of SpecularOcclusion from ambient occlusion and bent normal.

MicroShadows Node

Node for calculation of microshadows from AO.

FresnelAO Node

Node for calculation ambient occlusion with fresnel.

Geometric Normal Filtering Node

Node for performing geometric specular anti-aliasing on material.

Projected Space Geometric Normal Filtering Node

Node for performing advanced geometric specular anti-aliasing on material.