

# FIRE SHADER MANUAL

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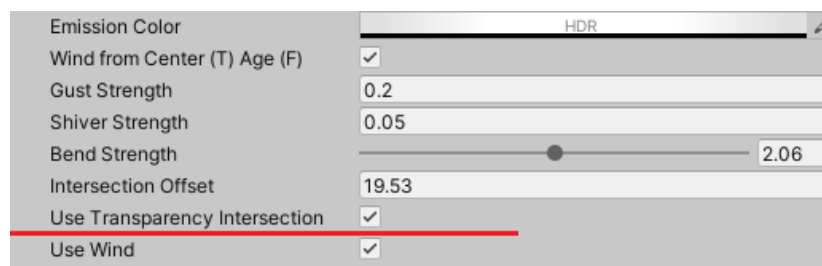
## CAUTION:

### Unity HD, URP , Standard import:

- If you import asset into HD RP please import HD RP support pack from “HD and URP Support Packs Smoke and Fire” folder. It will replace prefabs, materials and shaders directly for your engine and hd rp version.
- If you import asset into URP please import URP support pack from “HD and URP Support Packs Smoke and Fire” folder. It will replace prefabs, materials and shaders directly for your engine and URP version.

### If you want to use particles at mobiles:

1. Try to use Unlit variants - they are cheaper.
2. **Turn off** transparency intersection for unity standard render at every used material, it works at URP normally.

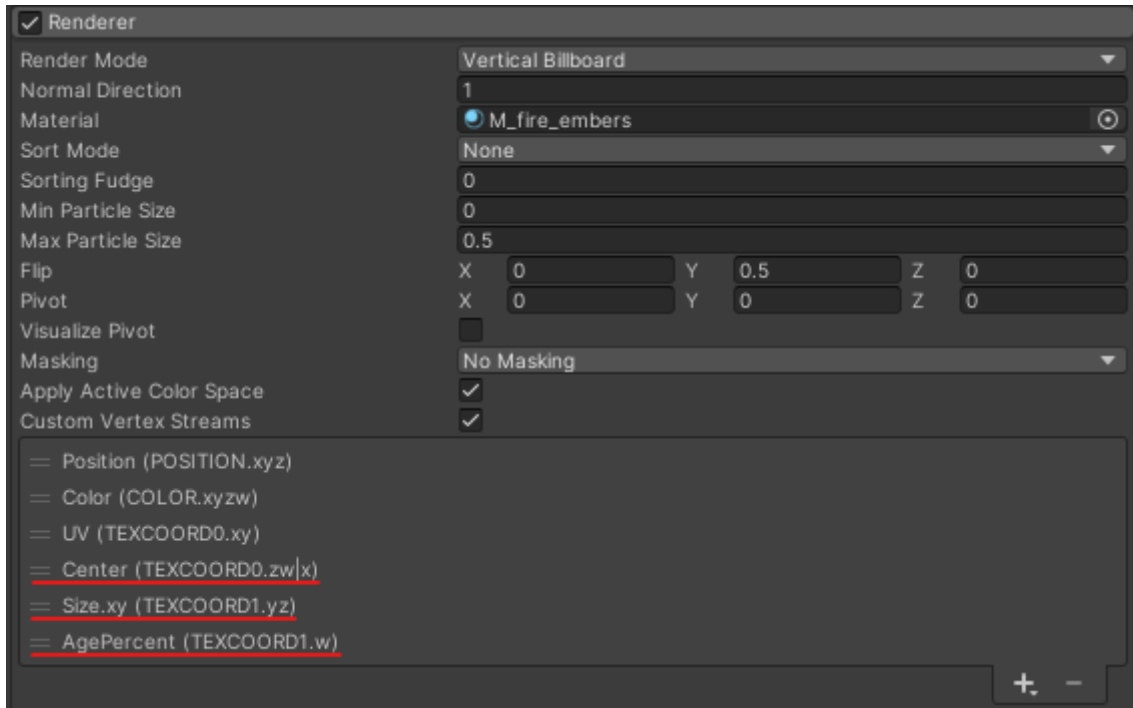


3. Remember that emissive materials activate emission if there is bloom post process at scene



### If you build own particle with our shading:

1. For use of the wind based on pivots, add to the particle Custom Vertex Stream (in Renderer) **Center (TEXCOORD0.w|xy) and Size.xy (TEXCOORD1.zw)**.
2. For use of the wind based on age, add to the particle Custom Vertex Stream (in Renderer) **Center (TEXCOORD0.w|xy), Size.xy (TEXCOORD1.zw) and AgePercent (TEXCOORD0.z)**.
3. **Make sure to place Custom Vertex Streams in order shown below:**



## 1. About the shader:

This shader is intended to be used for emissive particles with an Additive Blending Mode, although it is possible to use it with an Alpha Blending, where the Emission Flipbook equals the Alpha. The shader also supports wind, which will match our other shaders.

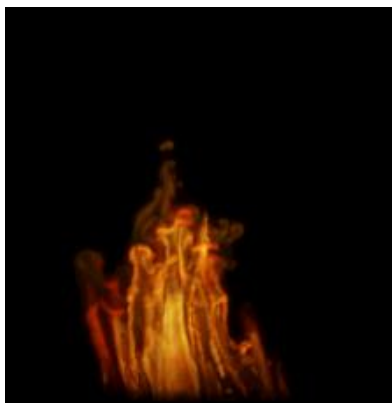


## 2. Used Texture Input:

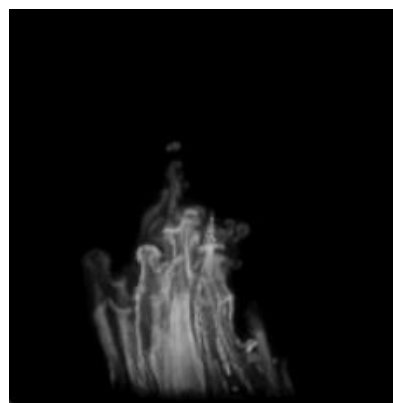
### Emission Flipbook (RGB):



This texture contains emission and alpha inputs on RGB channels. The emission uses RGB channels, the alpha is an average of RGB channels.









*RGB texture input*



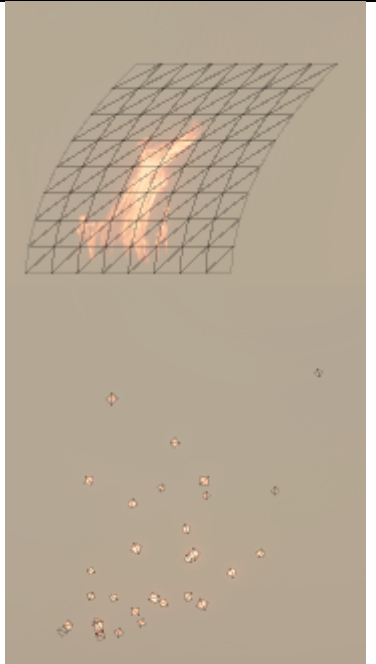
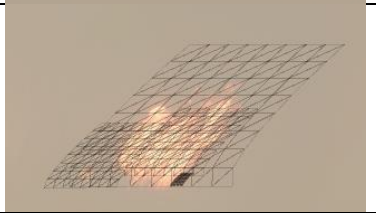
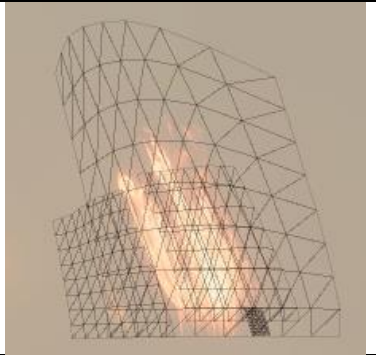
*The same texture input as an alpha*

### 3. Shader properties:

Property	Description	Example
<b>Use Texture as Alpha</b>	Enable the checkbox to use the emission texture as the alpha.	
<b>Alpha Multiplier</b>	Set this value to strengthen or weaken the alpha. (Only when <b>Use Texture as Alpha</b> parameter is enabled)	
<b>Emission Intensity</b>	This value determines the intensity of the emission.	
<b>Emission Color</b>	This HDR color determines the color and intensity of the emission.	
<b>Intersection Offset</b>	This value defines the distance between the particle and other objects from which it'll start to decrease the particle's alpha.	
<b>Use Transparency Intersection</b>	Enable the checkbox to decrease the alpha value of a particle on intersection with other objects.	

#### 4. Wind Properties:

**TO USE THE WIND, ENABLE THE “USE WIND” CHECKBOX.**

<p><b>Wind from Center (T) Age (F)</b></p>	<p>Enable the checkbox to use the wind by the height from the particle base (calculated with the use of the Center Vertex Stream) – mostly useful for static meshes, as in the example on the right.</p> <p>Disable the checkbox to use the wind by the age of each particle. Useful for dynamic meshes where each particle should act individually, as in the example on the right.</p>	
<p><b>Gust Strength</b></p>	<p>This parameter controls large gusts of wind, which will bend particles.</p>	
<p><b>Shiver Strength</b></p>	<p>This parameter controls small but strong gusts of wind, which will also highly distort the mesh.</p>	
<p><b>Bend Strength</b></p>	<p>This parameter controls blend between linear and geometrical influence of the wind on the particles.</p>	