

» Emitters

■ A word on emitters

It is important to remember that the amount of light emitted from an emitter is spread out across its surface. This means that the same emitter material will look dimmer on a large emitting surface and brighter on a smaller emitting surface. You may also think something is wrong when scaling up your small emitter, since the amount of light falling on your subject looks like it has decreased:



The two emitters are using the same emitter material. On the right, the emitter emits the exact same amount of light as the smaller emitter, but since it is emitting it over a much larger area, there is less light focused on the statue, so it appears darker.

If you would like to keep your emitter the same brightness no matter the surface, then you should use the lumens/m² units. Keep in mind though that this will actually change the amount of light emitted from the surface of the emitter when you change the emitter size.

■ Watts vs. lumens

There are several units to choose from when specifying emitter strength. The watts+efficacy setting is useful when you want to match a certain manufactured emitter with the emitter in your scene. Usually, ordinary incandescent light bulbs have a power rating, like 40w. This is the amount of electricity the light bulb consumes, but it does not convert all that electricity into light. In fact an incandescent bulb is very inefficient. Normally, for every watt consumed it outputs only 12.6 lumens, so this is the default efficacy setting when using the watts+efficacy setting. If you know you want to use average incandescent light bulbs in your scene, type in their watt rating, and leave the efficacy at 12.6. However, other bulbs such as compact fluorescents consume much less electricity for the same amount of light output. In this case, you need to increase the efficacy setting. Usually you can get the necessary data from the manufacturer.

The lumens setting can be easier to use, because you simply specify the amount of visible light to be emitted. Many manufacturers also provide this information for their lights. In some cases, when dealing with

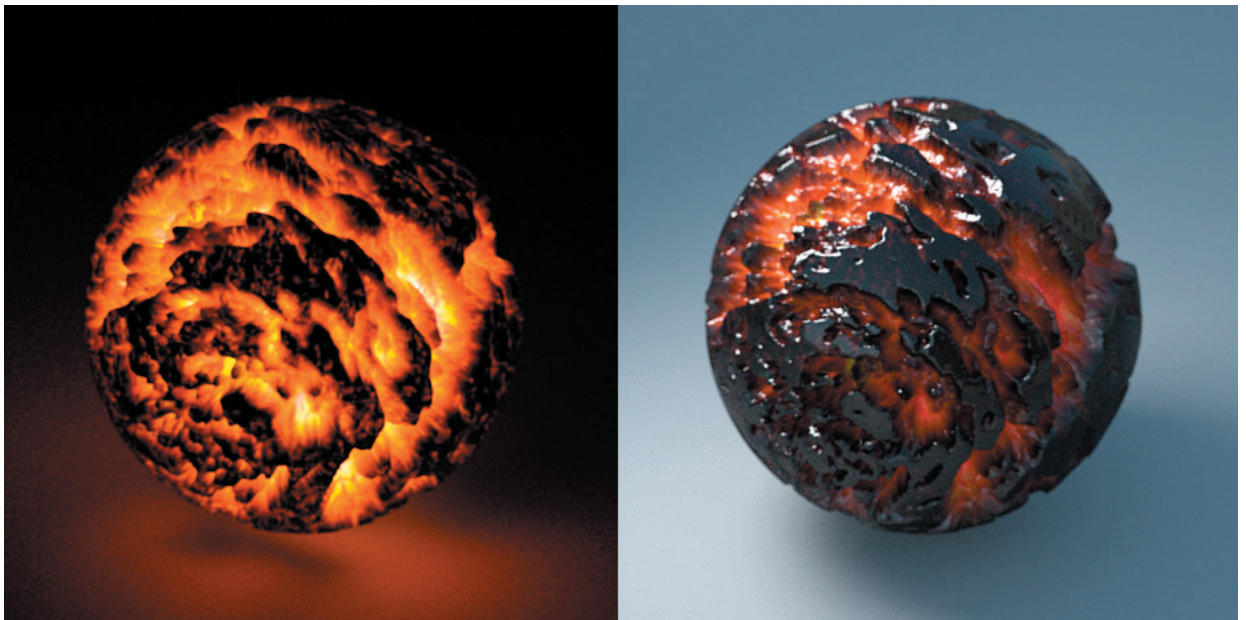
photography flash bulbs for example, the manufacturer specifies how many lumens the flash will emit at a certain distance. So you can simply enter that number if you want to mimic the strength of the flash bulb.

■ Mixing emitters with materials

This can be a very handy “trick”, especially when used with multilight. Normally, when turning off an emitter surface it will appear black in the rendered image. What if instead of showing the black surface when turning off the emitter, you would like to show the actual light bulb? This can be easily done by adding an emitter component to any material (only one emitter component per material is possible).

You create your material as usual and add an emitter to it. When applying this material to an object, it will appear as a multilight slider. When the emitter is active, it will show as a regular emitter. When the emitter is turned off, the actual material will be visible.

In the example below, a “plastic lava” material was applied to the object, and an emitter component added. The emitter uses an mxi map which was made from the jpg version of the lava texture. When the emitter is turned off the material is revealed, instead of the object showing up as a solid black object:



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