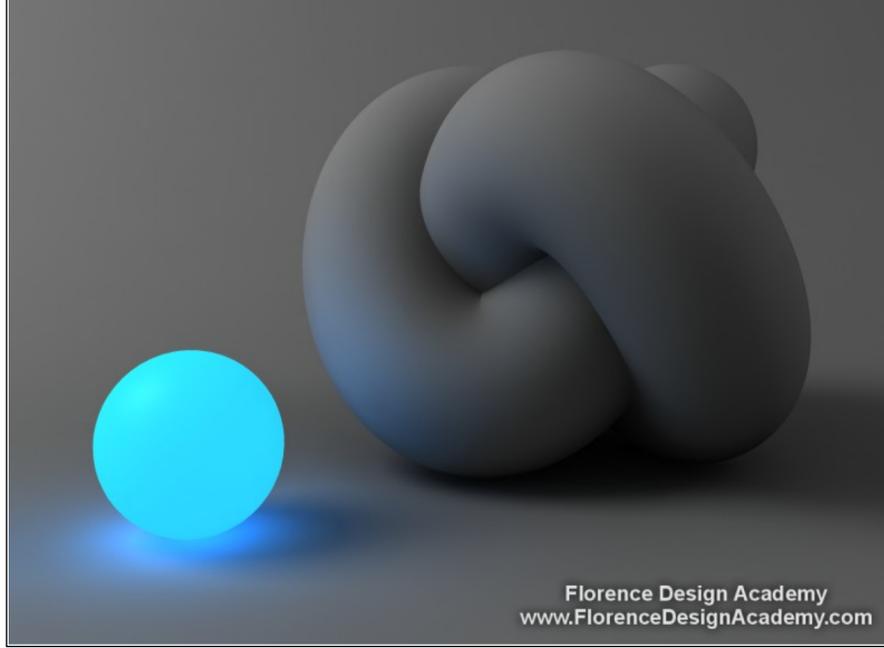


Material Tutorial: Glowing Material

Florence Design Academy



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For this material you must use Mental Ray.

Glowing materials are very useful to create light effects. For example a neon-light effect. This kind of material is a light-emitting material. It will create light and shadows like an Omni Light.

Let's see the steps to do:

1. Change in the material editor the Standard material to an **Architectural** -image 1-.
2. Choose the color of your glowing material in the diffuse color slot.
3. Now go to the setting "**luminance cd/m2**". This setting allows you to create a material which is able to emit light. This setting is very similar to the standard "self-illumination" slot. But in the architectural material you can add a value which is much more higher than 100. The higher the value the brighter the material's light emission.

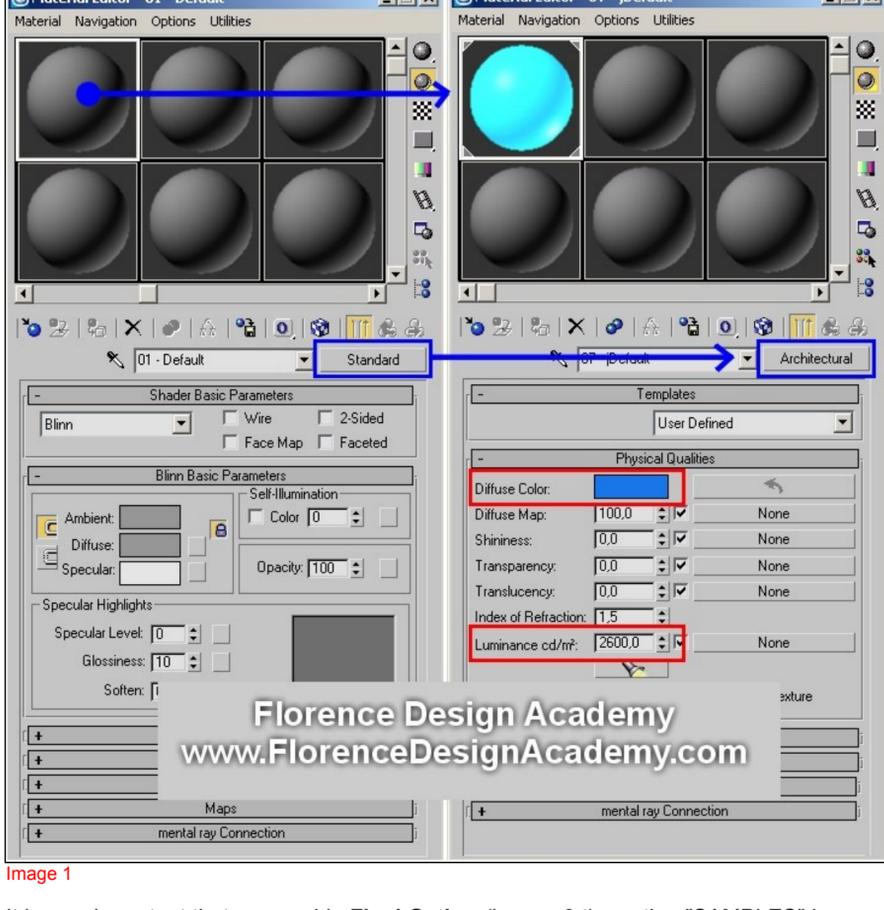


Image 1

It is very important that you enable **Final Gather** (in max 9 the option "SAMPLES" is called "rays per FG point") since the glow effect and the emission of light will be possible only with this setting. The higher the number in FG Samples/ FG point the better will be the quality. Put 1 for low quality (for test renderings -image 2-) and 250-400 for good quality.



Image 2

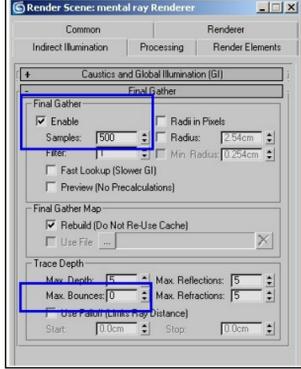


Image 3 -3D Studio Max 8-

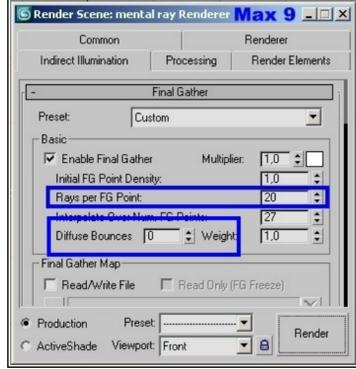


Image 4 -3D Studio Max 9-

If you go to increase the value in **MAX BOUNCES** -image 3- (in Max 9 it is called **DIFFUSE BOUNCES** -image 4-) in the Final Gather panel, you will be able to give more energy to your light effect. It is possible to illuminate an entire room by using the MAX BOUNCES setting: the indirect light that comes from the light that bounces on the walls will add more realism to the scene. But it takes much more time to render the scene. You should have additional lights anyway to achieve a perfect illumination of your interior (this kind of technique and all light settings are explained during the lessons of the Florence Design Academy).

Try to make this small experiment: Create a box, and place a sphere on top of it. Assign to the sphere a glowing material and enable all settings explained before (don't create any light). In the rendering you will see that all the scene is illuminated and that the sphere is emitting light. But it is clearly visible that the illumination is not coming only from the sphere. If you don't create any light 3D Studio Max will create a default light. But what if you don't want this additional default light of 3D Studio Max because you need a very dark scene in which **only** the sphere is visible as 3D object? Let's go on with our small experiment :Just create a Mr Omni light, and **disable** it from the modify panel (uncheck in the beginning of the panel the slot "ON")

Make a new rendering. Only now the scene is how it has to be in reality. The only light which is illuminating the scene is the sphere.

Here below you have a sample with a room.

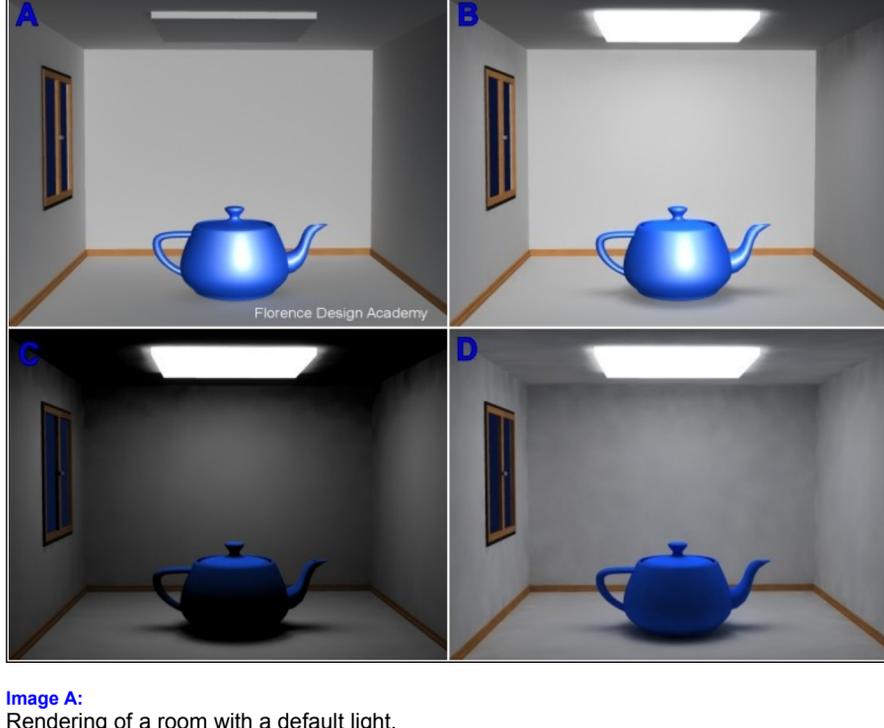


Image A: Rendering of a room with a default light.

Image B: Rendering of the same room with Architectural material assigned to the box on the ceiling. It is clearly visible that the entire room has the same illumination like before, now we can see shadows under the teapot. Since we are using a default light the entire scene looks wrong. The light should come only from the ceiling.

Image C: exactly the same scene of scene B, but now we have created and additional MR Omni and we have **disabled** it. Now finally we have a realistic result. It is clearly visible that the illumination is coming from the white on the ceiling.

Image D: same scene like image C, but now the MAX BOUNCE in the Final Gather panel has a value of 3.

From this sample you can see that it is possible to illuminate a room only trough this material, however I suggest to use always additional lights. A similar effect like the architectural material can be simulated with a simple self-illuminated material on which you apply an OUTPUT in which you increase the output value. But the architectural material is faster to manage.

That's it.

I hope you have enjoyed this tutorial.

Best Regards

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