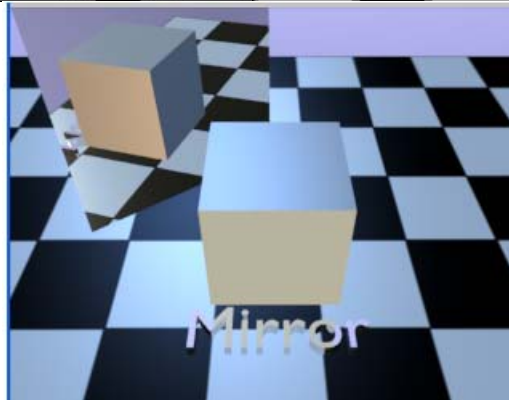
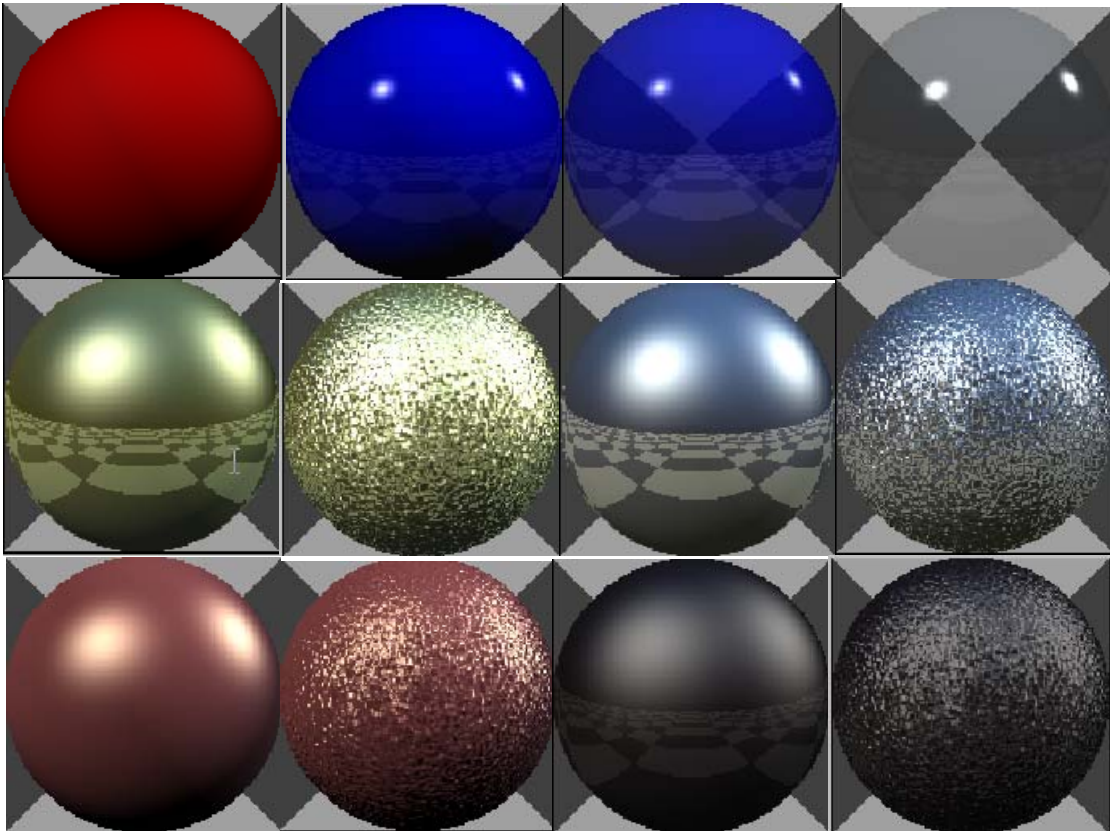


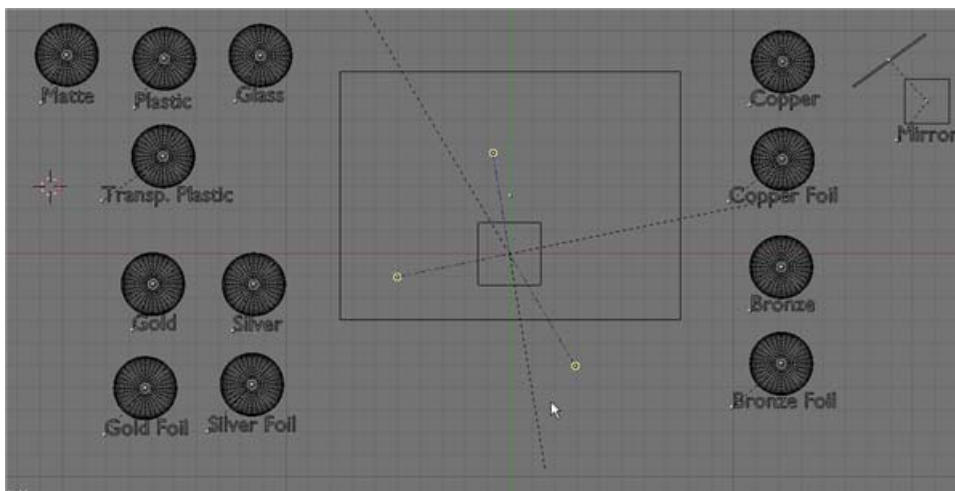
Course: 3D Design
Title: Simple Materials – MyMaterials.Blend
Dropbox File: MyMaterials.zip
Blender: Version 2.41
Level: Beginning
Author: Neal Hirsig (nhirsig@tufts.edu)

Simple Materials – MyMaterials.blend –
(Matte, Plastic, Transparent Plastic, Glass, Gold, Gold Foil, Silver, Silver Foil, Copper, Copper Foil, Bronze, Bronze Foil, Mirror)

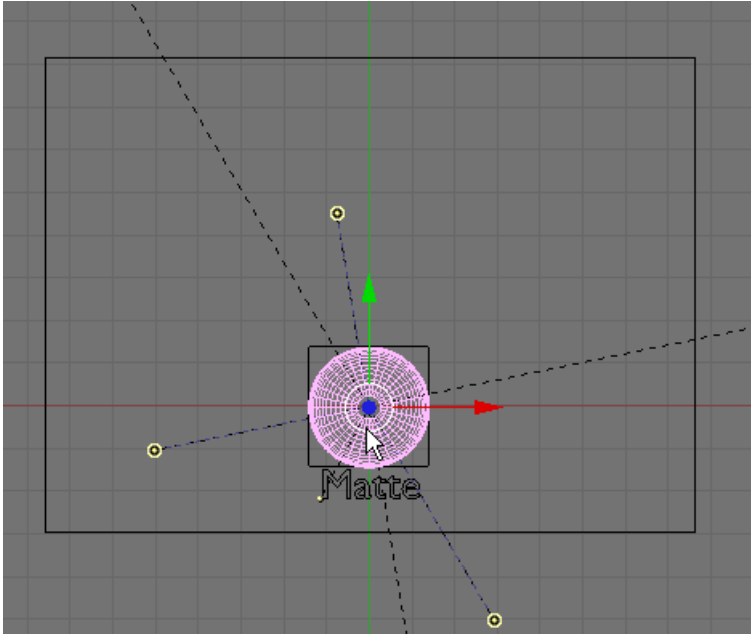


In this tutorial, we'll examine the material settings for some simple common materials used in modeling.

Open MyMaterials.blend. This file is located in the MyMaterials.zip file. This blend file contains a series of smoothed spheres with various materials applied to them. The spheres have a child Text object associated with it to identify the material. There is also a Floor plane that has a Black and White checkered pattern texture and smaller "Example" box. The material spheres, the Floor plane and the Example box are on layer 1. The scene is lighted by 3 Sun lamps located on layer 6 (a cool backlight, a white key light and a warm fill light). The lamps are focused on a lamp Target object (Layer 2). Layer 10 contains a Camera object and a Camera Focus object. The camera is focused on the camera focus object which (along with the lamp target) and is located at X, Y and Z = 0. The 3Dviewport is in Top View.



Select the sphere with the Matte material (Upper right) and press the GKEY (Grab). Place the sphere in the Example box as shown below.

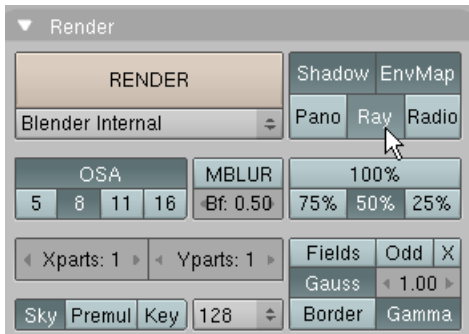


Render F12.



The sphere is rendered with a red matte material and the Floor plane is rendered with a Black and White checkered pattern. Press F5 (Materials) if not already displayed. To examine each material just grab it and drag it to the Example box and render. When finished drag the material back to its storage space and select a different material.

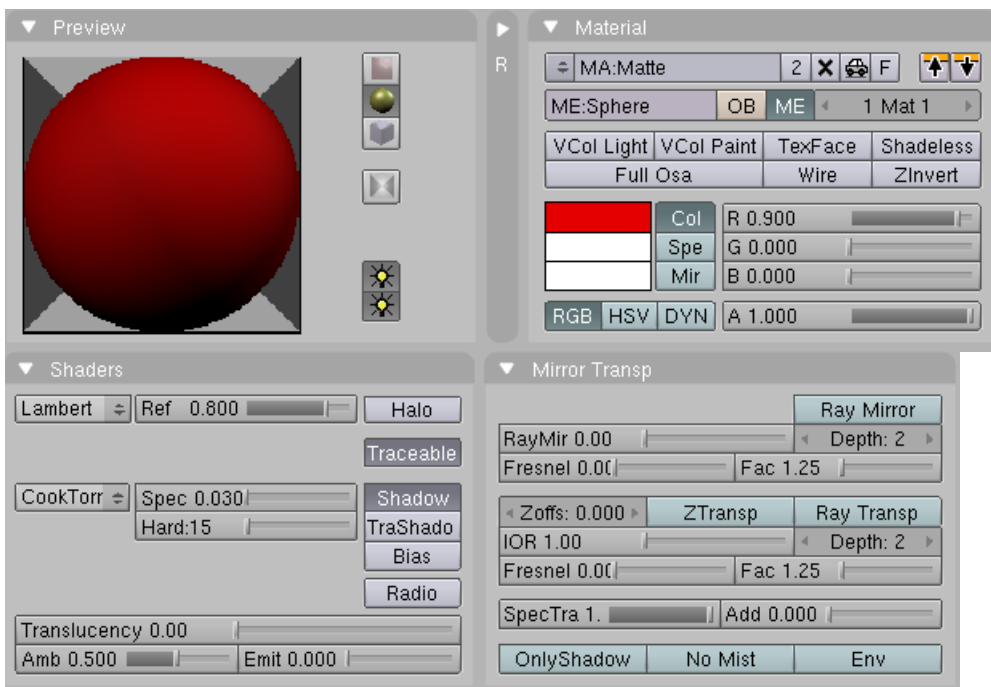
NOTE: The RAY button in the Scene (F10) Render Panel must be active.



The following displays the various Material Panel settings for these materials.

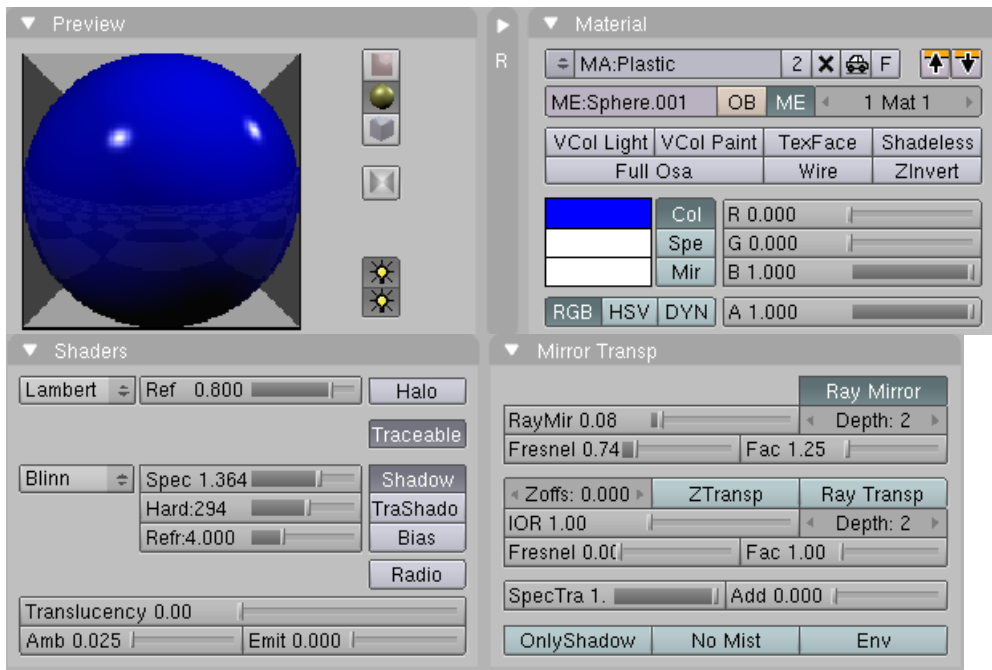
MATTE:

A matte material contains a flat color with little highlight. The basic color is set with the RGB color sliders. The Secularity and Hardness is generally set low and the reflection is generally set high.



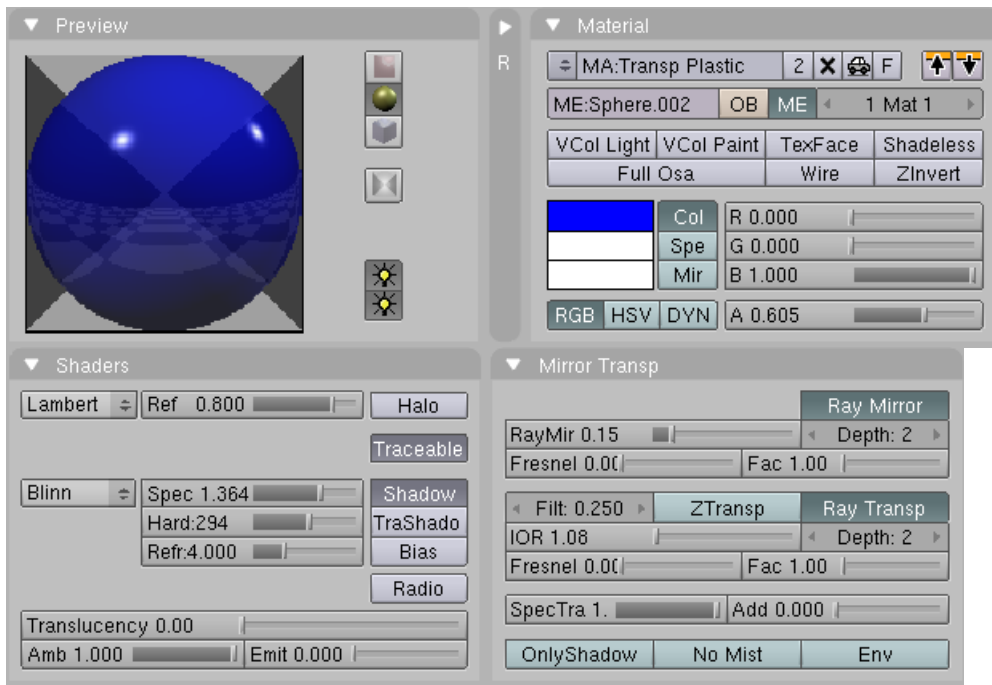
PLASTIC:

Plastic has a hard and shiny surface. The general color is set with the RGB sliders. Secularity and Hardness is generally high and is rendered using the Binn shader. There is a very slight Ray Mirror effect to reflect some of the environment.



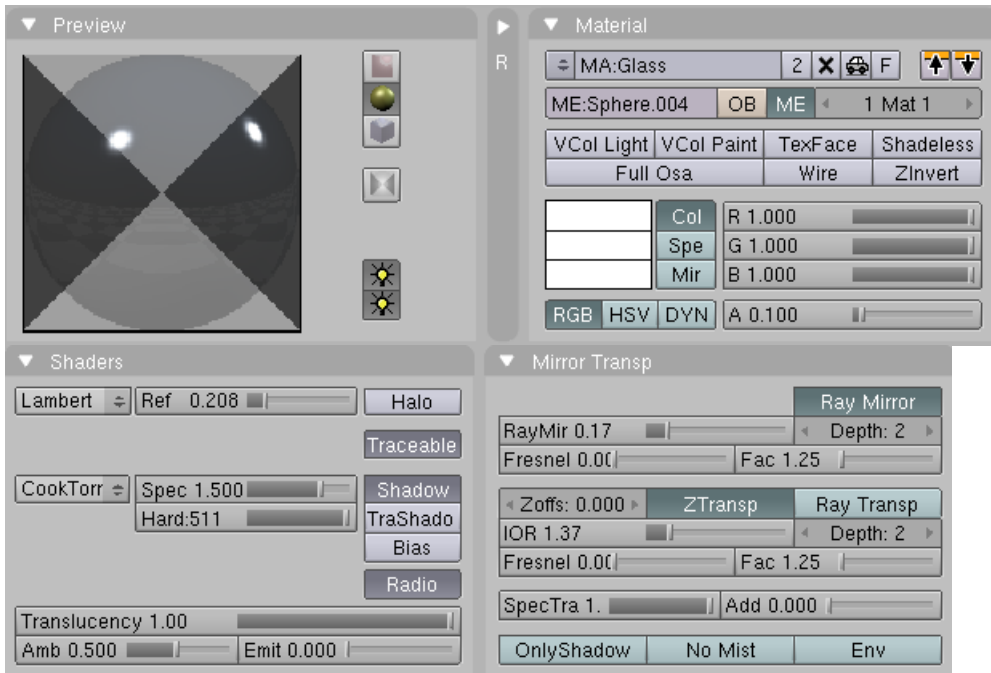
TRANSPARENT PLASTIC:

The general color is set with the RGB sliders. The Alpha is set near half. The Secularity and Hardness is generally high. There is a slight Ray Mirror effect and Ray Transparency is enabled at a low level to render some of the transparent parts providing a slight refraction effect.



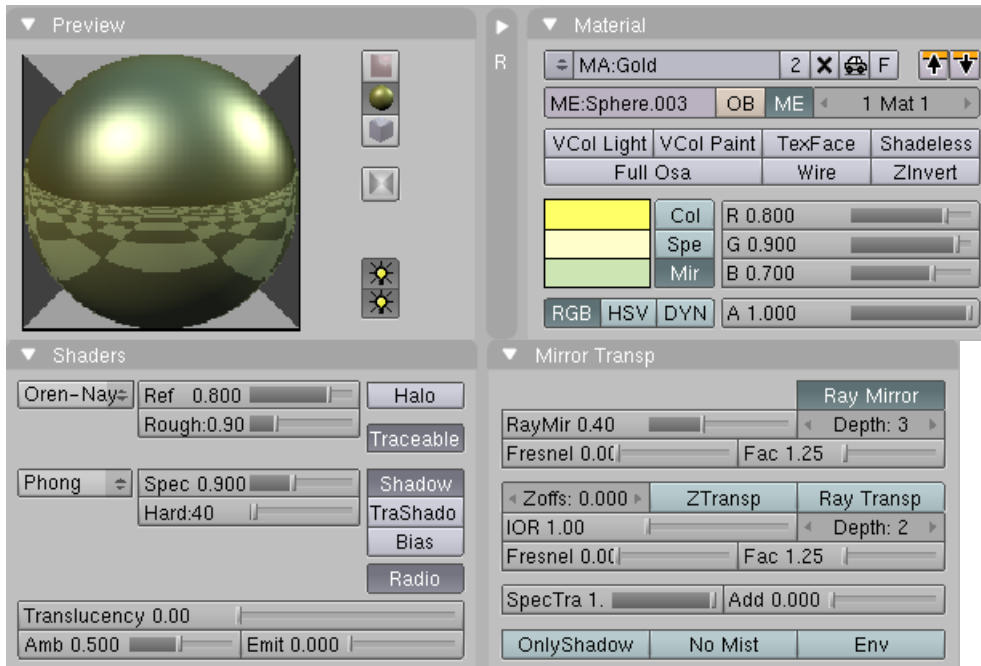
GLASS:

The example is clear but color can be affected with the color sliders. Alpha and Reflect is very low. Secularity and Hardness and Translucency are very high. There is a moderate Ray Mirror effect and ZTransparency is used.



GOLD:

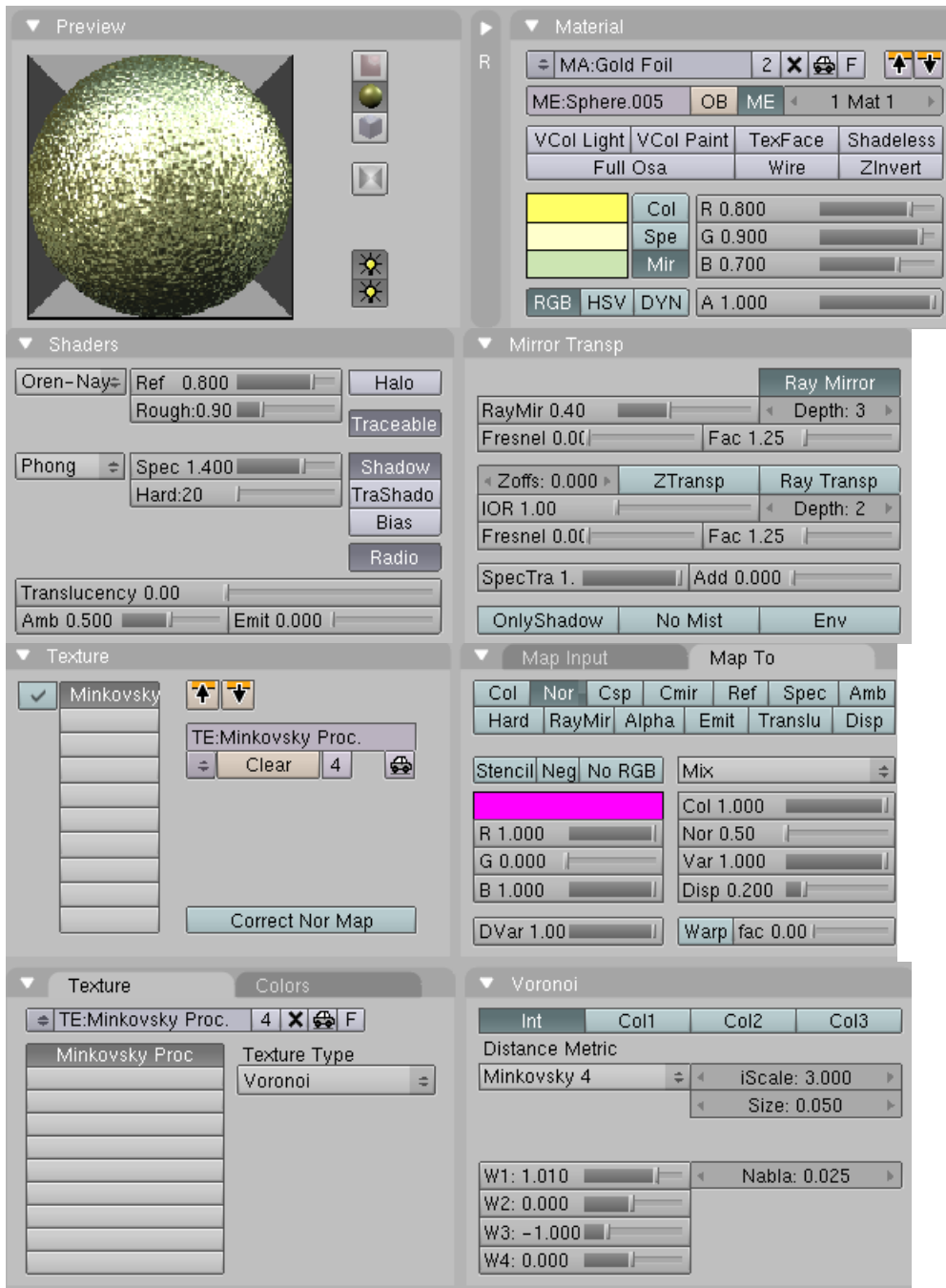
The Gold color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.



GOLD FOIL:

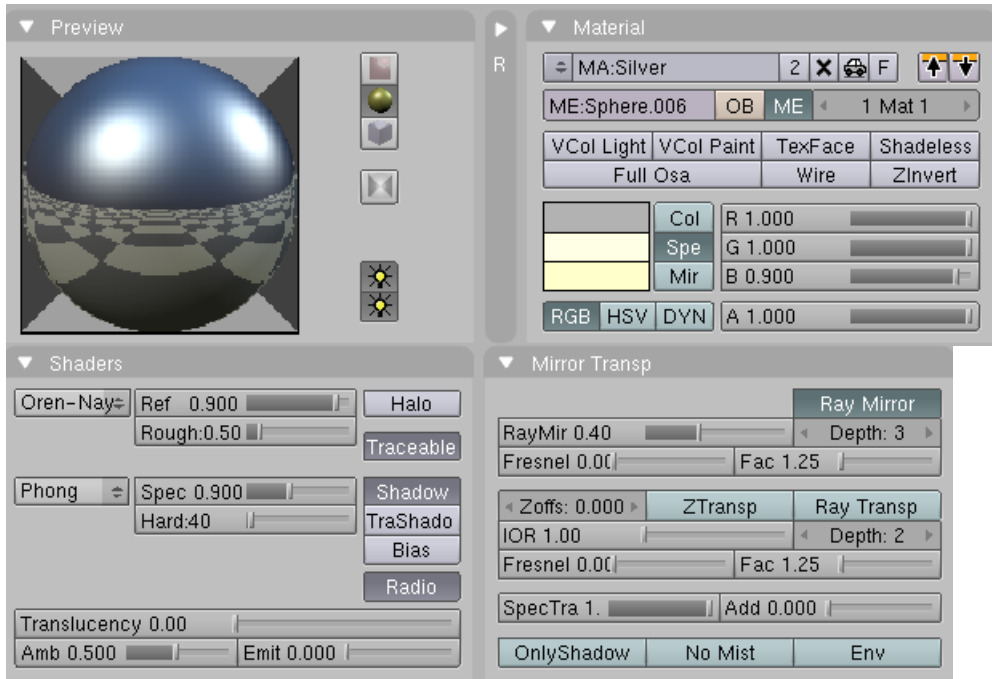
The Gold color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.

The foil effect is created by adding a Procedural map (built in to Blender). In the Textures Panel Texture Type dropdown box choose Voronoi (instead of "Image"). In the Voronoi Panel Metric Distance dropdown box choose Minkovsky 4. This Procedural texture must be applied to the NOR (Normals) in the MAP TO Panel.



SILVER:

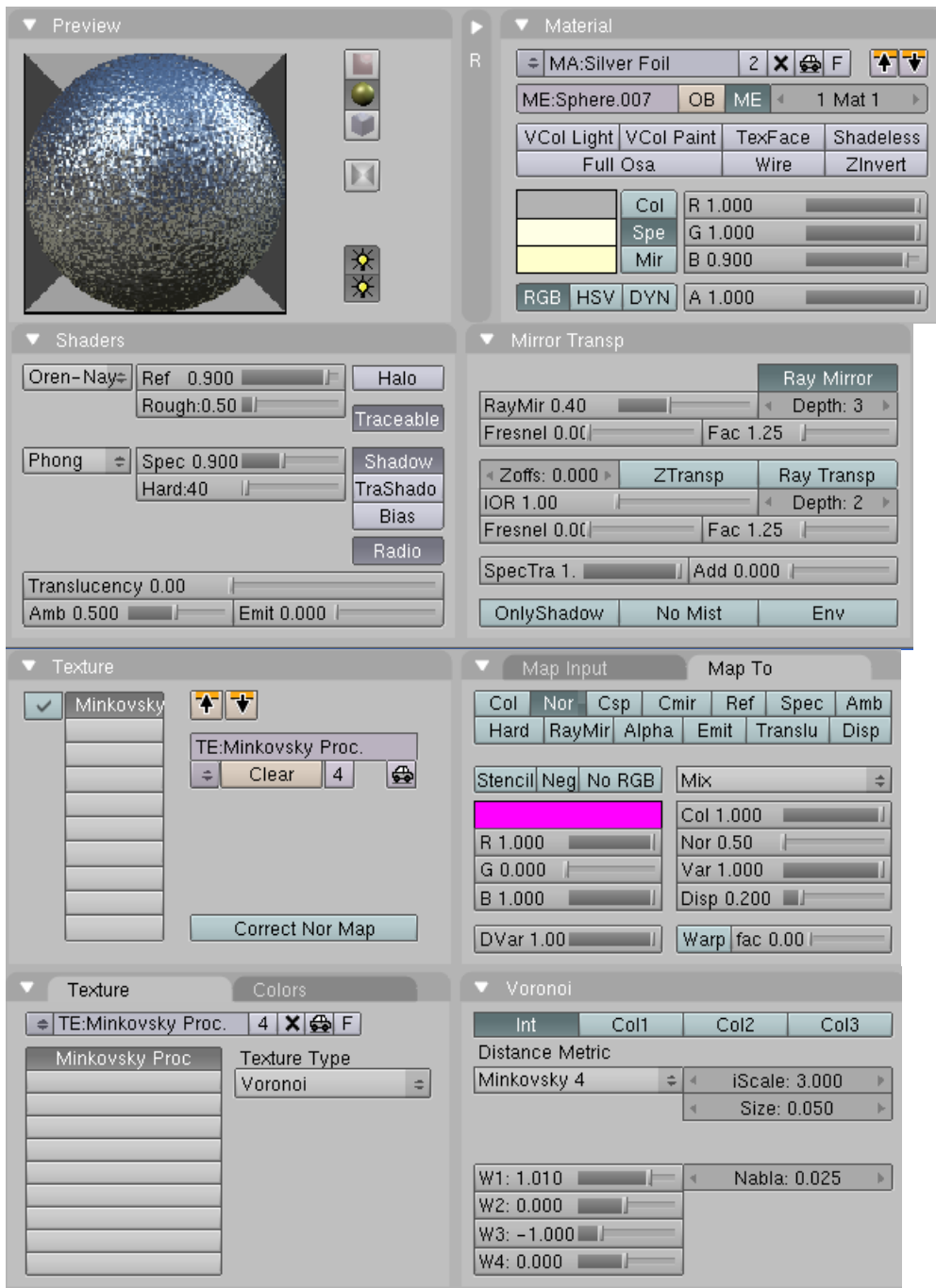
The Silver color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.



SILVER FOIL:

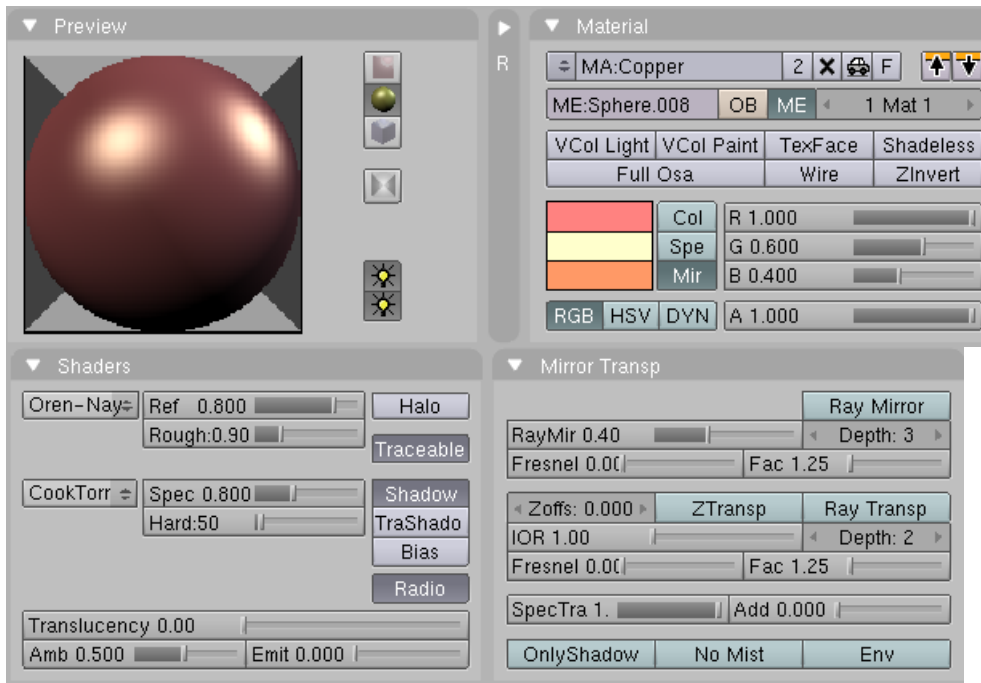
The Silver color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.

The foil effect is created by adding a Procedural map (built in to Blender). In the Textures Panel Texture Type dropdown box choose Voronoi (instead of "Image"). In the Voronoi Panel Metric Distance dropdown box choose Minkovsky 4. This Procedural texture must be applied to the NOR (Normals) in the MAP TO Panel.



COPPER:

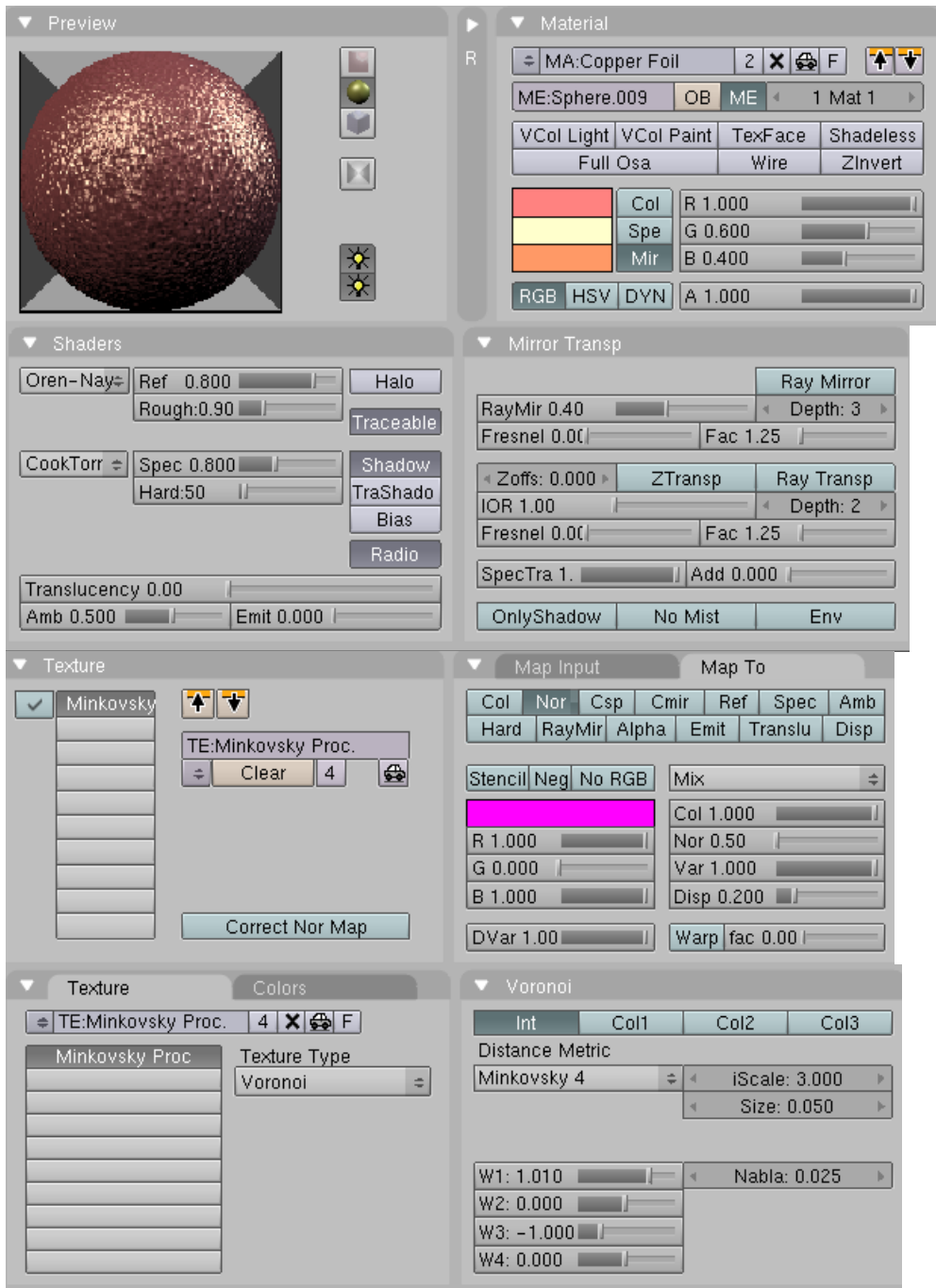
The Copper color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.



COPPER FOIL:

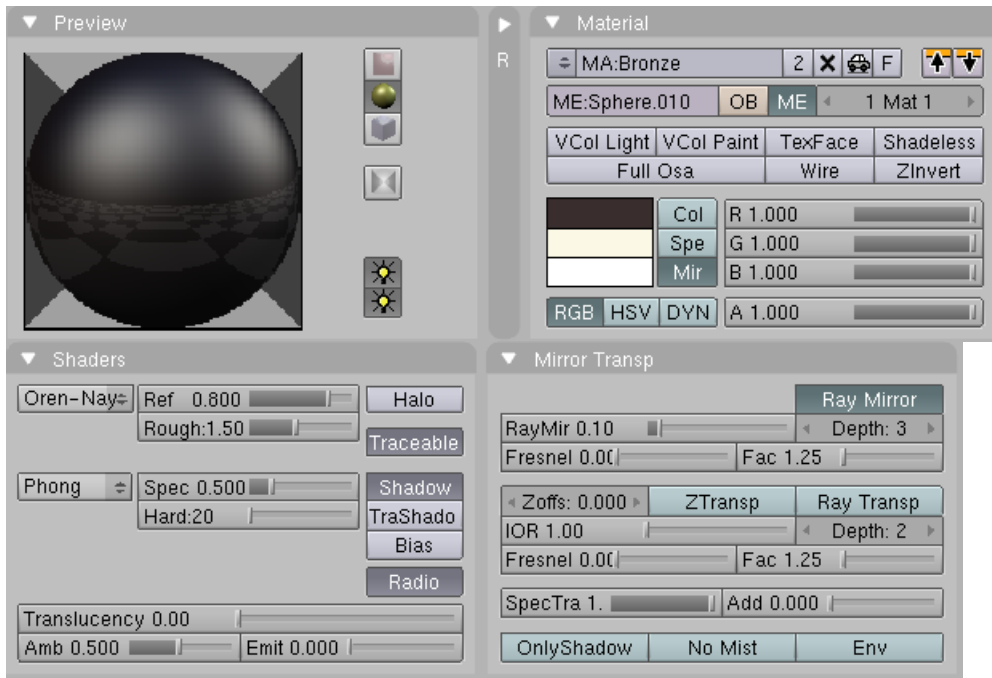
The Copper color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.

The foil effect is created by adding a Procedural map (built in to Blender). In the Textures Panel Texture Type dropdown box choose Voronoi (instead of "Image"). In the Voronoi Panel Metric Distance dropdown box choose Minkovsky 4. This Procedural texture must be applied to the NOR (Normals) in the MAP TO Panel.



BRONZE:

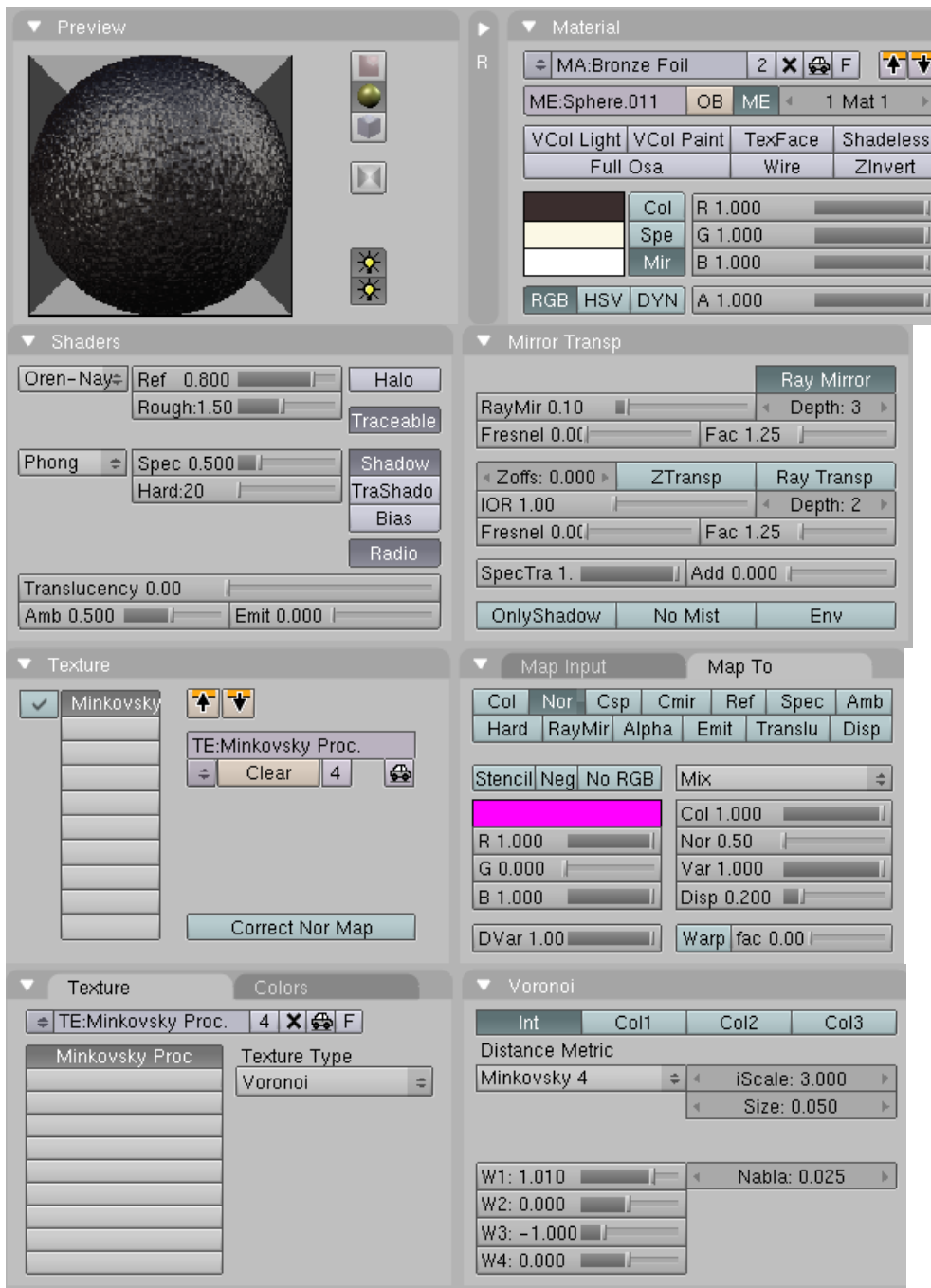
The Bronze color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.



BRONZE FOIL:

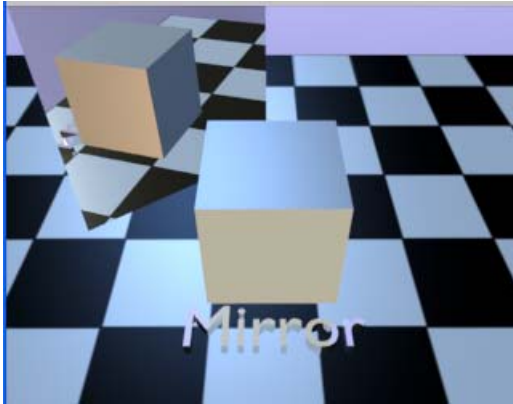
The Gold color is derived from the color sliders in the COL, SPE and MIR settings (only COL is shown below). The Oren-Nay and Phong Shaders are used as well as a Ray Mirror effect.

The foil effect is created by adding a Procedural map (built in to Blender). In the Textures Panel Texture Type dropdown box choose Voronoi (instead of "Image"). In the Voronoi Panel Metric Distance dropdown box choose Minkovsky 4. This Procedural texture must be applied to the NOR (Normals) in the MAP TO Panel.



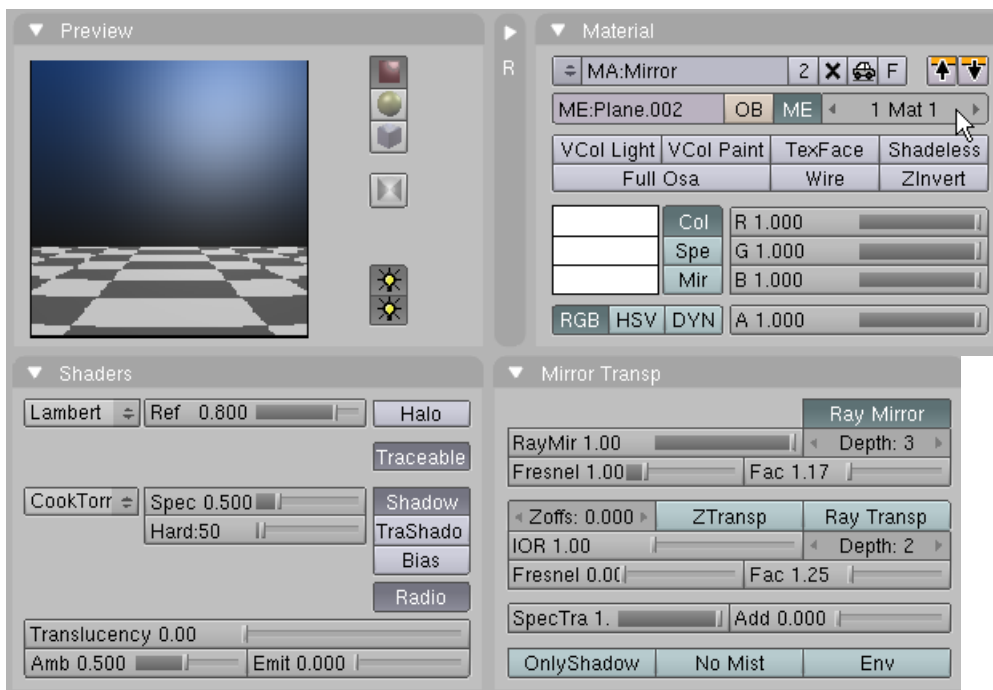
MIRROR:

The Mirror material is applied to a flat plane object which is angled toward a basic cube object. (It is the rectangle in the upper left corner of the image below)

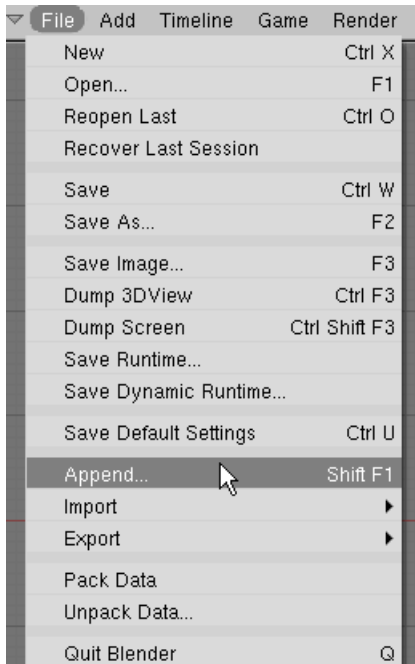


The mirror acts like a real mirror reflecting everything in front of it.

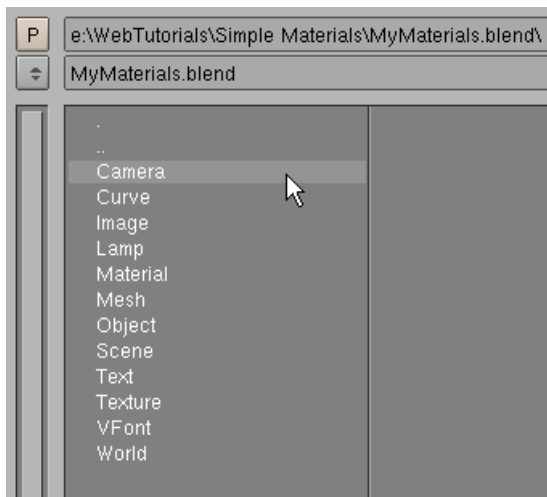
The COL settings have no effect. The RAY MIRROR effect is set very high.



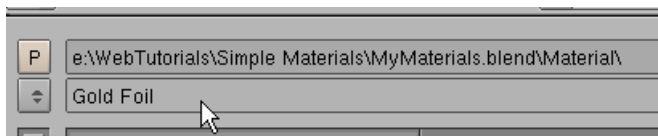
You can use this MyMaterials.blend to add materials to your models. Close MyMaterials.blend and open a new blank Blender file. Add a mesh object to the scene. To add the material press File /Append (or SHIFT-F1)



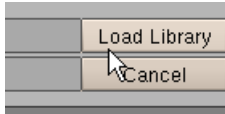
Select MyMaterials.blend. This displays the items in the file.



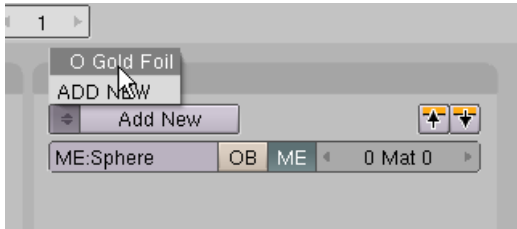
Select Material. This will display all of the materials in the blend file. Select one of the materials (like Gold Foil).



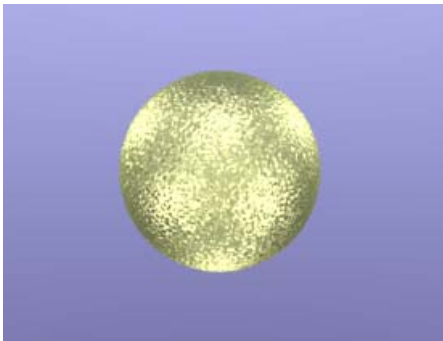
Then press Load Library.



With the object selected press F5 (Shading). Use the dropdown box to the left of the Add New button and select the appended material.



The appended material from the MyMaterials file is now added to the object in the scene.



Note: You can also use the MyMaterials.blend file as a sort of Materials Lab. Create a new UV Sphere and place it at X, Y, Z = 0 and experiment with the material creation tools. Save your new material with the file creating a library of materials that you can use with any Blender project.