

Creating the Effect of a Solid Material to Wireframe

You are trying to achieve a material fading from a standard (mental ray) material to a wireframe.

3DS MAX Users

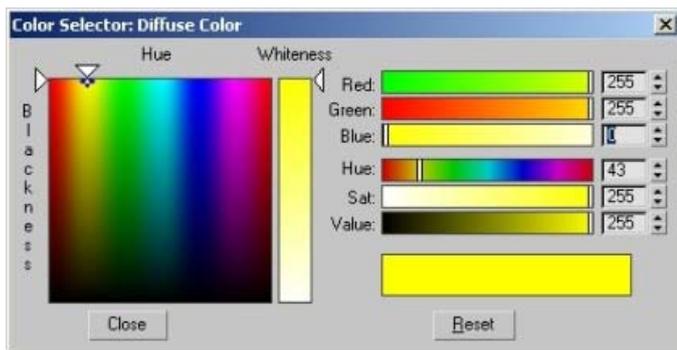
The Material Editor's Wire parameter is a global material parameter that cannot be used as a sub-material when creating a compound material. Instead, it is applied to the entire material.

To create the effect of a solid material fading to a Wire material, you can use two different materials. The first material is the Wire material and the second uses a Top/Bottom material type to create the fading material.

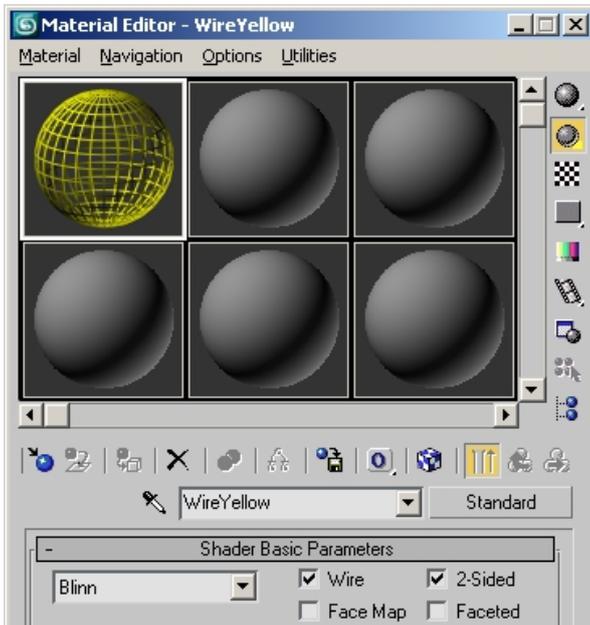
Creating the materials:

To create one wireframe material and one semi-solid material

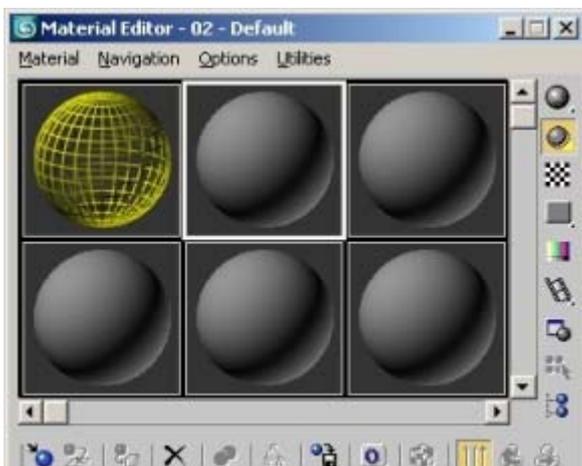
1. Open the Material Editor (keyboard shortcut is M).
2. In the Material Editor, select one of the sample spheres and click on the Diffuse colour swatch.
3. In the Colour Selector dialog box, set the Red, Green and Blue values to 255, 255, 0 to create a bright yellow colour, and then click Close.



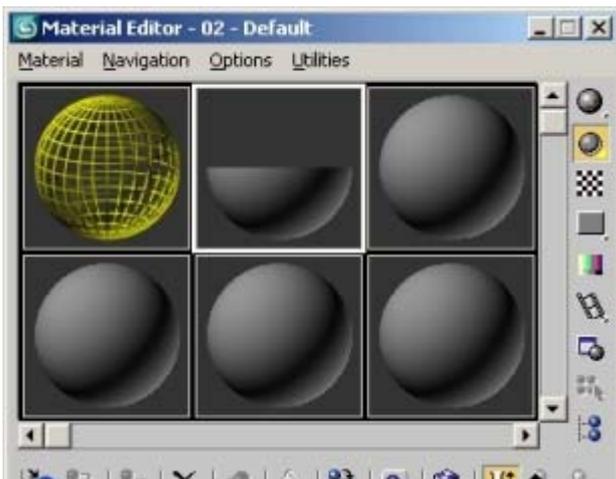
4. In the Material Editor, under Shader Basic Parameters, select Wire and 2-Sided (in order to see the back faces of the wireframe as well as the front).
5. Name this material WireYellow.



6. Select another sample sphere.
7. Change the material type to Top/Bottom, and then click OK.
8. Select Discard old material, and then click OK.



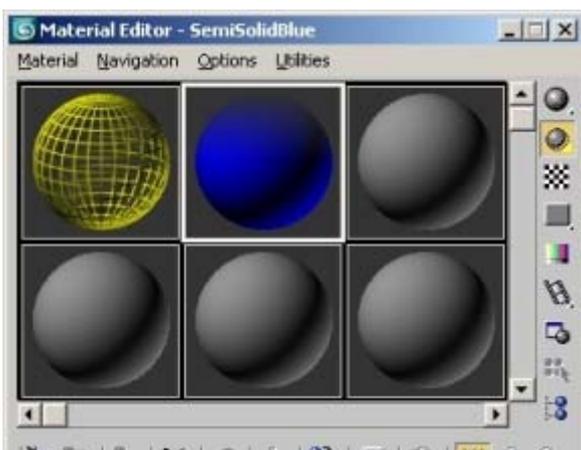
9. Select the Top Material option and click the Diffuse colour swatch.
10. Set the Red, Green and Blue values to 0, 0, 255 to create a bright blue colour and click Close.
11. Set the Opacity spinner to zero.



12. Click the Go to Parent button.



13. Select the Bottom Material option and click the Diffuse colour swatch.
14. Set the Red, Green and Blue values to 0, 0, 255 to create a bright blue colour, and then click Close.
15. Click the Go to Parent button.
16. Set the Blend value in the Top/Bottom Basic Parameters rollout to 50 and change the Position value to 75.
17. Name this material SemiSolidBlue.

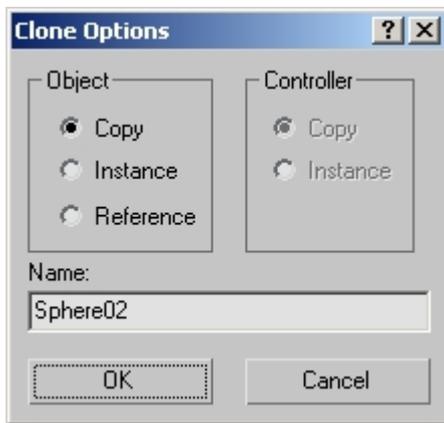


The two materials are completed and ready to be used in a 3ds Max scene file.

Using the materials in a scene:

The following steps demonstrate the effect of using standard primitives.

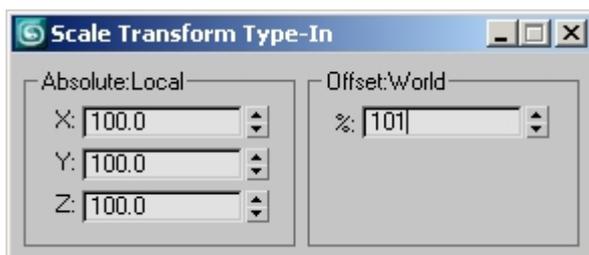
1. In the Command Panel, click the Create tab.
2. On the Create tab, make sure that Standard Primitives is selected, and then select Sphere under Object Type.
3. While the Sphere tool is active, click and drag in a viewport to create a sphere. A sphere named Sphere01 will be created.
4. On the Edit menu, click Clone.
5. In the Clone Options dialog box, under Object, select Copy, and then click OK. A sphere named Sphere02 will be created.



6. With Sphere02 still selected, select the Select and Scale button and right-click.



7. In the Scale Transform Type-In dialog box, set the Offset:World parameter to 101 and press Enter.
8. Close this dialog box.



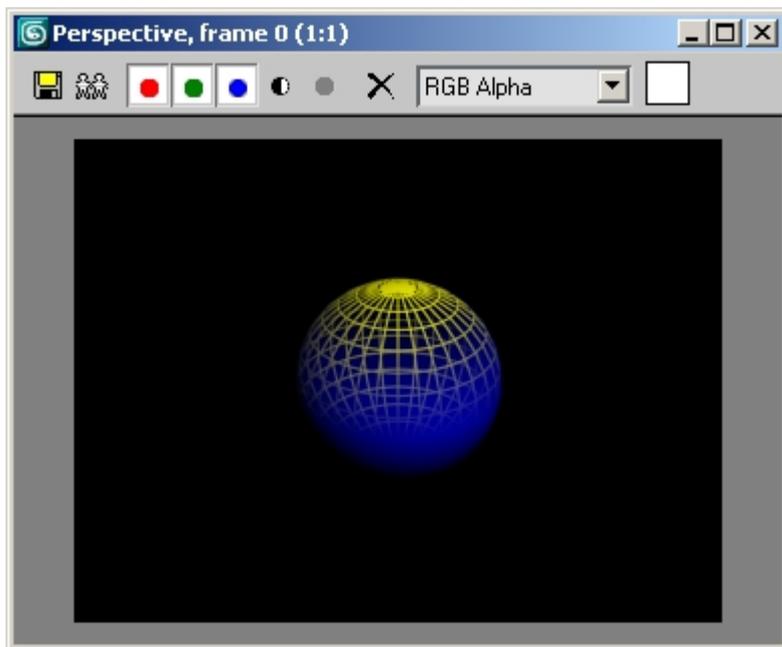
This scene now contains Sphere01 and Sphere02 which is 1% larger than Sphere01.

9. Open *Select by Name* (keyboard shortcut is H).
10. Select Sphere01 and click *Select*.
11. Open the Material Editor (keyboard shortcut is M).
12. Select the *WireYellow* material and click *Assign Material to Selection*.



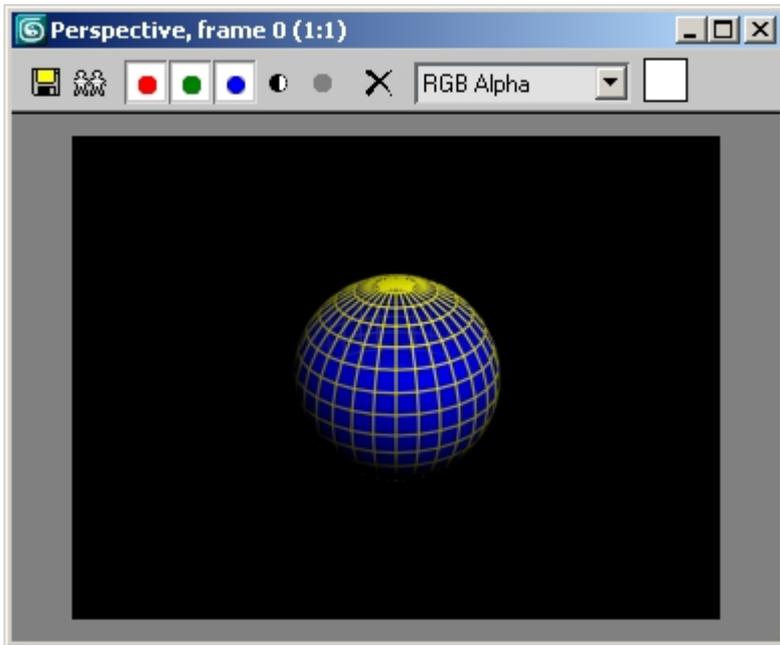
13. Open *Select by Name* (keyboard shortcut is H).
14. Select Sphere02, and then click *Select*.
15. In the Material Editor, select the *SemiSolidBlue* material, and then click *Assign Material to Selection*.
16. Render the scene (keyboard shortcut is F9).

Conclusion:



The sphere appears solid blue at the bottom but blends to a yellow wireframe at the top.

Adjusting the Blend and Position settings of the blue material will change how much of the object appears solid. These settings can also be animated. Additional effects can be achieved by experimenting with this technique. For instance, applying the *WireYellow* material to Sphere02 and applying the *SemiSolidBlue* material while adjusting/increasing the Position value to 100 will give you the result shown below.



Another approach would be to render the scene twice, once with wireframe materials and once with solid materials. You could then use a compositing application, such as Combustion, to control the blend between the two renders to achieve the desired result.