Mapping decals

Contributed by
Wednesday, 10 January 2007

Most rhino users understand the term Decal as placing a logo on a part of a model. In V-Ray for Rhino decal mapping is acheived in the material of the object by using mapped transparency.

The goal is to create a sphere with a carbon material and a decal applied to it.

- Rendered scene with materials (left) and Rhino3d viewport (right):

First we setup two mapping channels, the first is set to use "spherical" projection and the second is set to "planar" (example image below). The projection widget can be manipulated by enabling the show mapping option. (The widget is the white rectangle in the above image.)

- Mapping type control using Rhino3D RCM tool:

The material based on two diffuse layers. The layers of the material editor are in order of the calculation. The light goes from the upper layers to the lower layers. In this example the first layer is the decal. Image (3) show the layers and the maps. The first layer is set at full transparency with white color.

- Decal material and maps:

By disabling the tile option on the transparency map layer the transparency texture will not be tiled and will be used just once. The surface around the decal texture is controlled by the transparency color. In this example white becomes transparent. Image (4) shows the transparency control with the texure in decal mode. Attention: the map channel is set at channel 2 (planar projection - see above). The transparency map is a black&white map. If a normal alpha texture is used with a white object and black background, the invert option helps to get the right effect.

- Texture dialog of the transparency layer:

The same settings are used for the second diffuse layer. The only difference is that the color map is used instead. Not shown here is a clear finish coat that is added using an additional reflection layer with fresnel enabled .