All About KeyShot
Textures and Labels
October 6, 2016

Richard Funnell
Topics

- General Overview
- Texture Types
- Projection Types
- Hands on:
  - Image textures
  - Procedural Textures
  - Labels
  - Material Graph
- Q & A
What are textures?
Generally speaking, KeyShot textures are images that define a specific material property.
Textures are not materials

They are a property of a material, and are used to customize the material's appearance or behavior.

The metal material here is using image textures to define color, roughness, and bump.
What are labels?
Generally speaking, labels are images that are used as graphics or printing on top of another material.
In KeyShot 6, labels can have materials AND textures
Stock Materials and simple labels
Bump and roughness textures added to materials
What are procedural textures?
Procedural textures are math based, not image based. They can be completely seamless and are highly customizable.
What is the Material Graph?
Textures Types
Color or Diffuse texture

- Overrides material color, available for most materials
- Can be JPG, PNG, TIFF, etc and supports transparency

Color: 50% Gray  Color texture applied
Bump Texture

- Uses grayscale values to simulate surface deformation
- KeyShot will accept any image as a bump texture and simply interpret grayscale values
Bump Texture

- White values become peaks, black values become valleys; grayscale values fill in space
- Negative values can be used to reverse direction
- Good values are usually between 1 or -1
  - 0.2 is a good starting value
Normal Map

- Uses RGB values to define reflection direction
- Can be generated using 3D geometry or via 3rd party applications like Crazy Bump, PixPlant, or Photoshop
Normal Map
- Uses RGB values to define reflection direction
Normal Map

- When using in normal map KeyShot, make sure check box is enabled (auto-detect enabled by default)
- Negative values can be used to reverse direction
Bump vs Normal

- Normal map has more information but has to be specifically created
- Bump map is easier to create (and understand)
Specular texture

- Defines specularity (reflectivity) of a material
- White is 100% reflective, black is 0% reflective
Color + Bump + Specular Textures
Roughness texture

- Determines roughness (gloss) value
- Roughness of 0 = 100% gloss value
- We can use colors to define roughness:
  - black = roughness 0 (smooth)
  - white = roughness 1 (matte)
Opacity texture
- Determines opacity/visibility of material
- Black is invisible, white is visible
Opacity texture

- Use with bump or normal maps to add realism
Other texturable properties...
- Keep an eye out for the icon that denotes a texture can be applied to that property
Projection Types
Box Map
- Default projection type
- Simple to use
- 1 image projected from 6 directions
Cylindrical
- 2D Image wrapped around 3D cylinder
- Updated in KeyShot 6 with fit buttons
Cylindrical
- Create labels 1:1 using height and circumference of part to define artboard size
Planar Projection

- Projected on X, Y or Z axis
- Very clean method for bump textures
- Great for flat surfaces
Planar Projection

- Perfect for Labels
- Create labels 1:1 and use DPI function for size
- Set artboard to same size as model
UV Coordinates

- Has to be defined in 3D modeling application
- Cannot be defined in traditional CAD modeling packages: SolidWorks, NX, Solid Edge
- CAN be defined in Rhino, Blender, Maya, ZBrush, 3ds Max, etc
Normal Projection
- Default projection for labels
- Great for curved surfaces
- Camera influences placement
- Depth slider is important
- Use DPI function for 1:1 size
Resources:

- KeyShot Cloud Library
- keyshot.com/forum
- www.poliigon.com *
- www.textures.com
- www.episcura.com
- Filter Forge

*two i’s in “poliigon”*
Questions?
Thank you for watching!

keyshot.com/learning