

Lesson 7 - Mapping

Geometry (More Detail/Slower) **VS** Pixels (Faster/Less Detail)

Two parts:

1. Mapped Material - Replacing a material settings with a map (i.e. Base Color)
2. Mapping Coordinates - Tells geometry what to do with the map (Scale, etc...)

1. **Mapped Material**

Map categories - "General", "Arnold", "OSL" & "Environmental"

General – Work across multiple rendering engines.

Common Parameters

“Coordinates” – Common settings

“Use Real-World Size” (default) sets mapping coordinate dimensions

Tile – Repeating of map if geometry exceeds coordinates.

Angle – Rotates map within coordinates. “W” most common.

Map Channel – Allows multiple coordinates within a material

“Output” – Additional tweaks to map

Invert – Creates “negative” image. Useful with grayscale images.

RGB Level – Boosts or reduces map’s brightness.

Bitmap (raster file) – Most common

“Bitmap Parameters”

Bitmap – File being used. Common formats:

JPG, PNG (alpha channel), TIFF

PSD – Photoshop Format

Only Flattened in Arnold

Layers available in other renderers (ART & V-Ray)

Motion – File’s frame synchronizes with animation’s frame

AVI (codec and rendering engine dependent, not Arnold)

Sequence of still images

Cropping/Placement

Click “View Image” and adjust crop marks

“Apply” to activate

Filtering – Superseded by Arnold filtering

Lesson 7 - Mapping (cont...)

2. Mapping Coordinates (Renderer neutral). Internal vs External

Internal (native Max geometry) - May need to be activated (i.e. Lathe)

1. Real-World Scale/Size – Best for most architectural materials
BOTH Geometry and Material must use "Real-World Scale/Size"
Map "Size" needs to match dimensions that image represents
2. Tiling – Number of times map repeats within mapping coordinate.
Can be controlled by:
 - Material - Affects all geometry with material
 - UVW Modifier – Only geometry with this modifier

External (UVW Modifier added to geometry)

UVW Map modifier – To add or override existing/internal coordinates

UVW (local) vs XYZ (global)

Gizmo - Sub-Object, Green is right side. Tick is top.

Planar – One side only

Box – Six sides

Cylindrical – Top and Bottom row of pixels become the caps

Spherical - Top and Bottom row of pixels become the “poles”

Dimensions - Length, Width, Height (“real-world” = 1 inch)

Tiling – Localized tiling (repeating)

U Tile – Repeats in “U” axis of mapping coordinates

V Tile – Repeats in “V” axis of mapping coordinates

W Tile – Repeats in “W” axis of mapping coordinates

Alignment

Fit - Resizes UVW coordinates to match the Geometry

View Align - Re-oriens gizmo to view (i.e. “Top”)

Normal Align - Re-oriens mapping gizmo to face normal)

Acquire - Gets coordinates from another object. Use “Absolute”

Reset – Returns to default UVW alignment