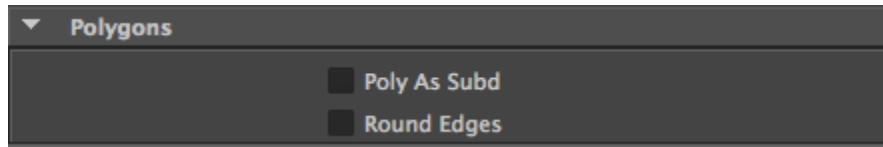


# Polygons



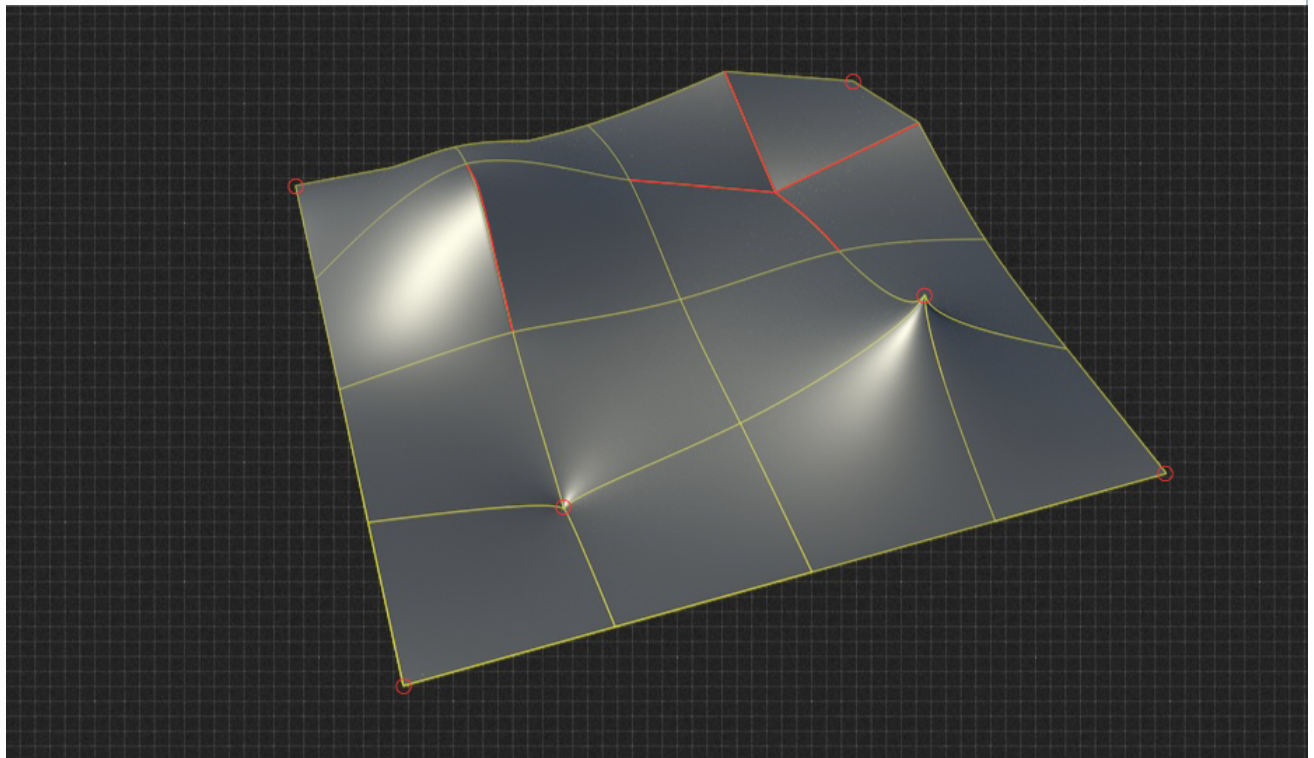
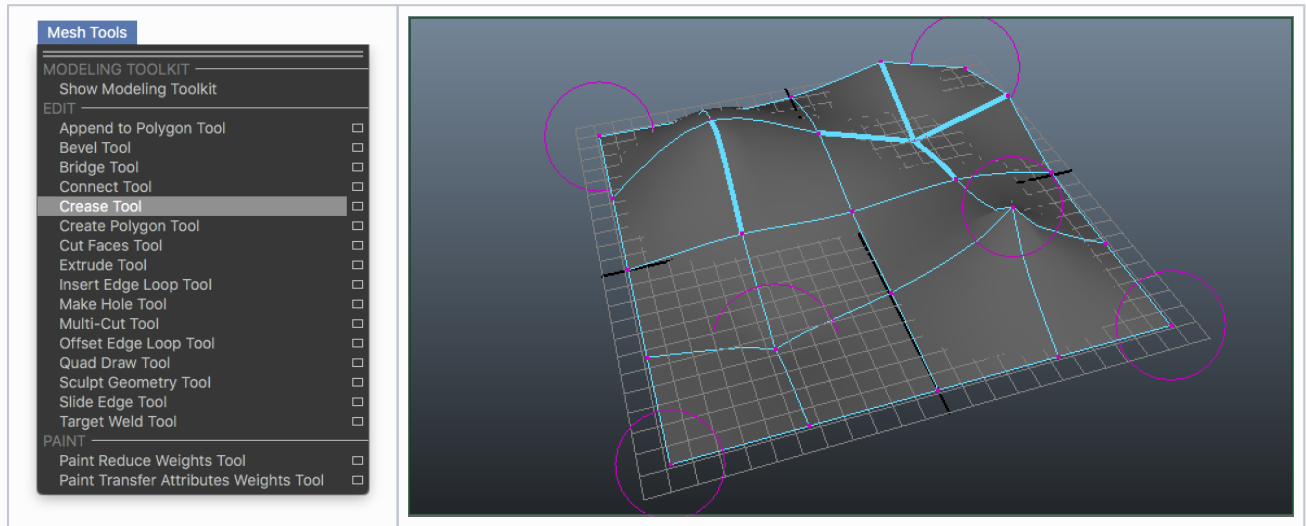
*Polygons group of attributes in [The Geometry Attribute Node](#)*

## *Poly As Subd*

When this attribute is checked, *3Delight for Maya* will consider this polygonal geometry as being a smooth subdivision surface. If this attribute is off, the polygon mesh will be considered as just that, a polygon mesh. This attribute is ignored when the attached object is not a polygonal geometry, and it is off by default.



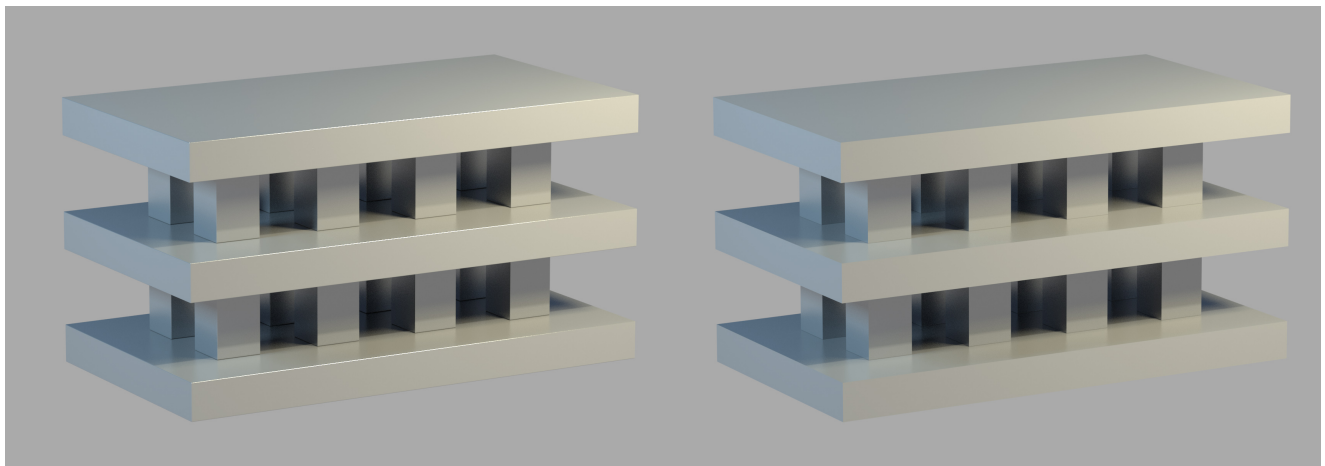
Note that *3Delight for Maya* correctly translates vertex and edge creases on subdivision surface following the native Maya workflow: Polygons Mesh Tools Crease Tool.



Subdivision Creases on vertexes (red circles) and edges (red curves).  
Featuring [outline rendering](#) performed on *faceid*.

### Round Edges

This toggle will convert sharp polygonal edges to a slightly rounder representation. Many man-made objects do not have perfectly sharp edges and modelling soft edges can add a significant amount of complexity to otherwise simple geometry.



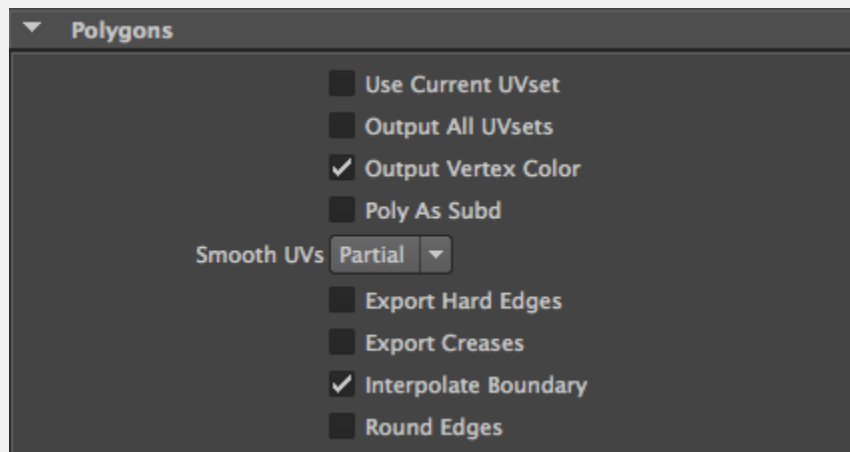
An object rendered with rounded edges (left) and as a normal polygonal mesh (right). Notice how round edges catch specular highlights.



This feature will convert polygons to subdivision surfaces, so a performance hit is expected. The upside is a lower polygon count on polygonal objects as well as richer visuals mostly because of apparent specular highlights on polygonal edges.

## Deprecated Attributes

The following attributes are deprecated. They are not offered anymore by *3Delight for Maya* but can still be found in older scenes, in which case they will continue to work as before.



Polygons group of attributes in [The Geometry Attribute Node](#)

### Use Current UVset

When this attribute is on, the current UV set is exported as the 's' and 't' primitive variables; no other UV set will be exported. When it is off, the default UV set will be exported as 's, t' primitive variables; extra UV sets are exported as an array of 'u' values named 'uvsets\_u' and 'v' values named 'uvsets\_v'; the set names are exported in a 'uvsets\_name' string array. This attribute is off by default and is ignored when "Output All UVsets" is turned on.

### Output All UVsets

When this attribute is turned on, the UV sets are outputted as follows:

- The default UV set is output as 's, t' primitive variables.
- Each other UV set is output as a float array bearing the same name as the UV set being exported.

When this attribute is off, the behaviour defined by the "Use Current UVset" attribute prevails. This attribute is off by default.

### Output Vertex Color

When this attribute is checked and the attached object is a polygon mesh, any color sets it contains that defines per-vertex color will be exported to rendering. Each color set will be exported as a color array bearing the same name as the color set. Additionally, a float array is also exported; its name consists of the color set name with ' alpha' appended to it. It contains '0's for vertices where the color set is not defined, and '1's where it is defined. This attribute is off by default. See [Exporting Per-Vertex Attributes on Polygon Meshes](#) for an example on how to use this.

*Poly As Subd*

When this attribute is checked, *3Delight for Maya* will consider this polygonal geometry as being a smooth subdivision surface. If this attribute is off, the polygon mesh will be considered as just that, a polygon mesh. This attribute is ignored when the attached object is not a polygonal geometry, and it is off by default.

*Smooth UVs*

High quality rendering of textured subdivision surfaces cannot be accomplished without properly interpolated texture coordinates. This control enables precisely that. The options are:

|         |   |
|---------|---|
| No      | No smoothing is performed. This will not lead to high quality results but has the advantage of not stretching texture coordinates over face boundaries.   |
| Partial | Will ask <i>3Delight</i> to perform some work to minimize UV distortion on the surface. Seams are left untouched. This is the default.  |
| Full    | Will use more advanced algorithms to minimize distortion of UV coordinates at texture seams. This will usually yield better results but might cause some textures to look misplaced. It is best to try it to see what it does. Note: This also controls the interpolation of vertex colors and other quantities that are attached to geometry's vertices. |

*Export Hard Edges (for Poly as Subd)*

If the attached object is made of polygonal geometry that contains hard edges, setting this attribute to on will export the hard edges. The effect of this attribute is similar to the "Keep Hard Edges" attribute of a "Maya Subdiv Proxy" node. This attribute is ignored if the "Poly As Subd" attribute is turned off (it is off by default).

*Export Creases (for Poly As Subd)*

If the attached object is made of polygonal geometry and is connected to a sub-division proxy containing creases, turning this attribute on will export creases (creases on edges and vertices are exported). This attribute is ignored if the "Poly As Subd" is turned off (it is off by default).

*Interpolate Boundary*

When this attribute is on, boundary edges and vertices are infinitely sharp. This attribute is on by default.

*Round Edges*

This toggle will convert sharp polygonal edges to a slightly rounder representation. Many man-made objects do not have perfectly sharp edges and modelling soft edges can add a significant amount of complexity to otherwise simple geometry.