

## Smooth/Flat Shader

### Access:

Keyboard shortcut: **CTRL + F-KEY > Shade Smooth/Shade Flat** (Edit Mode)

Mode: 3D Editor: Object Mode  
3D Editor: Edit Mode

Panel: Tool Shelf > Shading Tab > Smooth (Object Mode)

Menu: None

### Description:

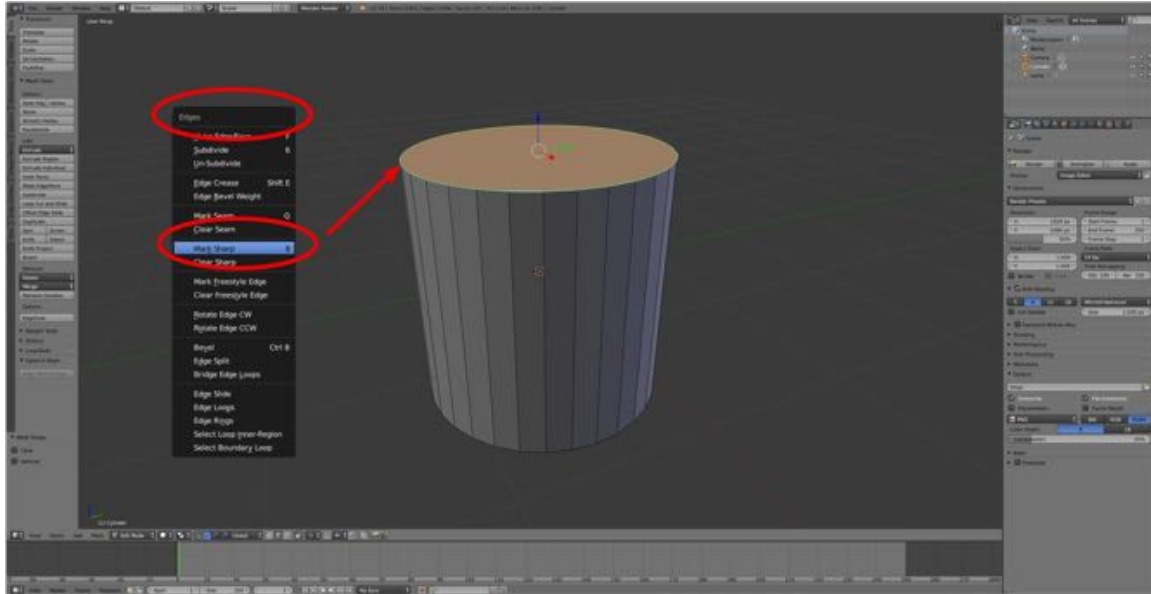
The Mesh Shading Tool (Shade Smooth) that smooths object does not add geometry (polygons/triangles), as does the Subdivide Modifier, so it is a preferred way to smooth your model. It is best used with the Mark Sharp Tool and the Edge Split Modifier to achieve smooth surfaces with sharp edges where needed. The smooth surface can also be removed (Shade Flat).

### To Use the Tool:

- Select the **object** to be smoothed.
- In **Edit Mode** press **CTRL + F-KEY > Shade Smooth** or in **Object Mode** select **Tool Shelf > Shading Tab > Smooth**.
- Select the **smoothed object** to be flattened.
- In **Edit Mode** press **CTRL + F-KEY > Shade Flat** or in **Object Mode** select **Tool Shelf > Shading Tab > Flat**.

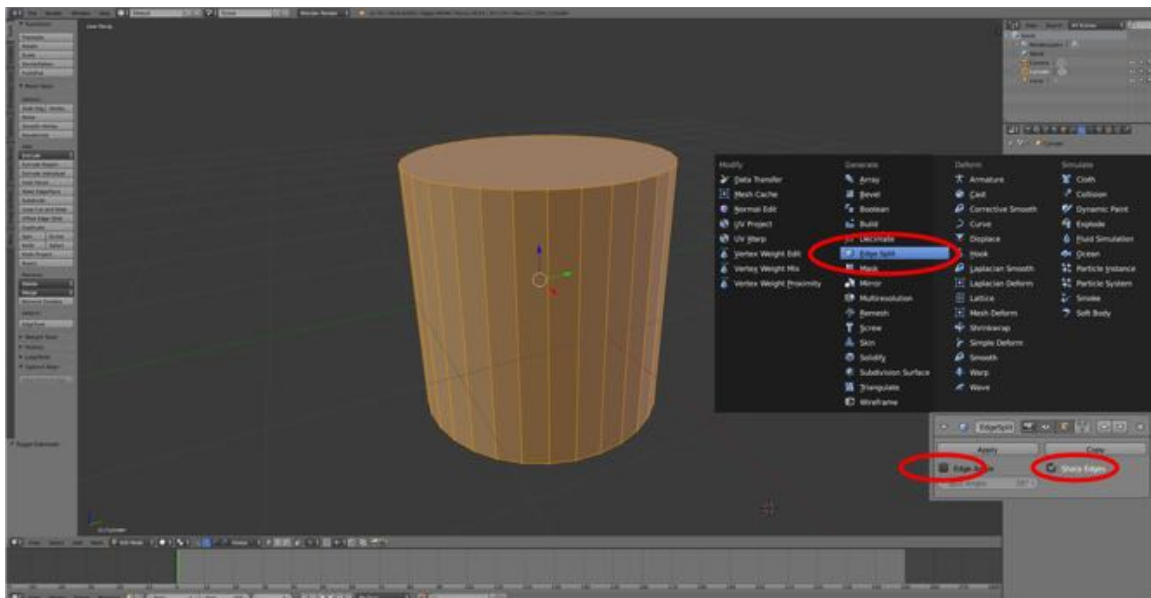
### Let's Try It:

- **Open Blender** and delete (**X-KEY > Delete**) the **Default Cube**.
- From the **Add Menu** select **Mesh > Cylinder**.
- **Switch** to **Edit Mode** (**TAB-KEY**) and **Edge Selection Mode**.
- **Select** the **top ring of edges** (**ALT/OPT + RMB**).
- **Press CTRL + E-KEY** and from the **Edge Special Menu** select **Mark Sharp**.



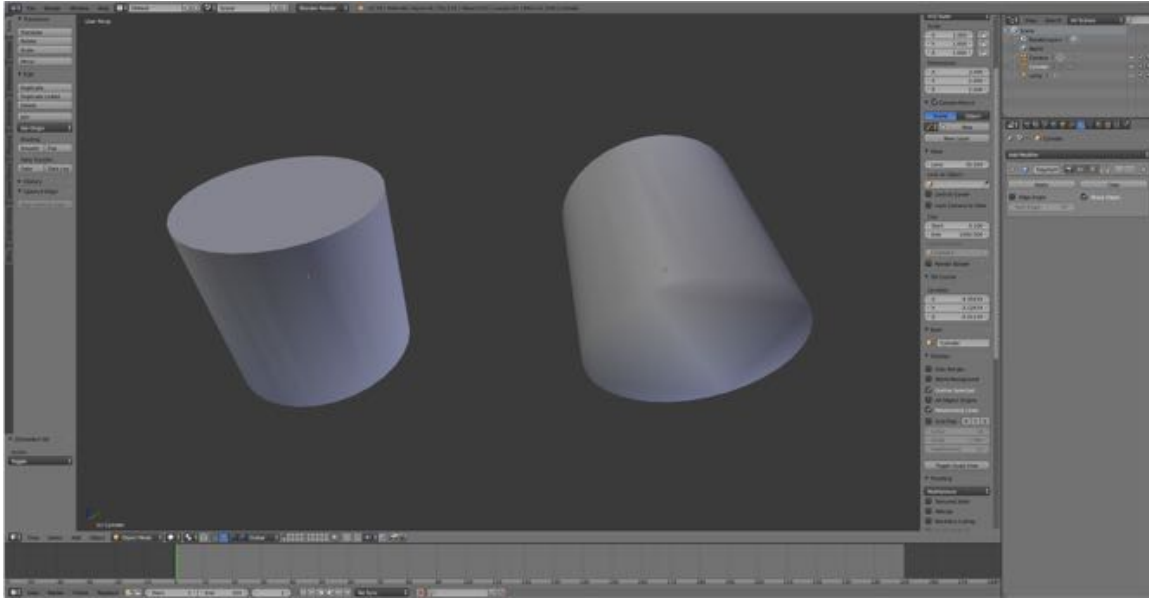
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- Select (A-KEY) the cylinder.
- In the Properties Editor, select the Modifier Icon (a wrench), LMB on **Add Modifier**, from the **Generate Column** select **Edge Split** and make sure the **Sharp Edges** checkbox is checked (When enabled, edges will be split if they were marked as sharp using Edge Specials.) **Uncheck** the **Edge Angle** checkbox.



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- With the cylinder selected **press CTRL + F-KEY > Shade Smooth.**



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Notice how the cylinder was smoothed but the edge at the top end remained sharp. Rotate the view (ALT/OPT + Drag) to see the difference between the sharp top end and smooth bottom end.

### **Additional Comments:**

As with all modifiers they must be applied to remain in effect (more about modifiers later).

### **For More Information:**

Blender Reference Manual, **Smoothing**

<https://www.blender.org/manual/modeling/meshes/smoothing.html>

Edge Split Modifier

[https://www.blender.org/manual/modeling/modifiers/generate/edge\\_split.html](https://www.blender.org/manual/modeling/modifiers/generate/edge_split.html)