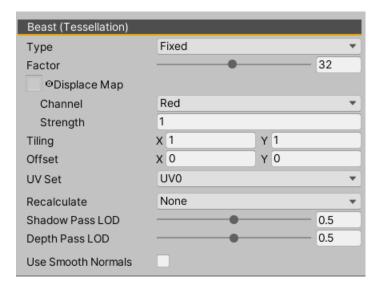# Beast

Advanced tessellation shader for Unity

Beast tessellation is integrated directly into Unity **Standard** (for Built-in RP) and **Lit** (for Universal RP) shaders and are available from **Amazing Assets/Beast** menu of the material editor.



**Type** – Beast offers 4 type of tessellation: Fixed, Distance Based, Edge Length and Phong.

**Factor** – Tessellation factor in the range of [1, 64].

**Displace Map** – Texture file used for vertex displace calculation.

**Channel** – Reads displace map channel.

**Strength** – Vertex displace strength.

**UV Set** – Displace map texture can be read using default UV0 coordinate or UV1.

**Recalculate** – Shader can recalculate displaced vertex normal and tangent.

**Shadow/Depth Path LOD** – Reduces tessellation factor in shadow and depth paths. Lower values increase shader performance.

**Use Smooth Normals** – Vertex displace is calculated based on its normal vector. For meshes with hard edges (for example Cube) this will create 'cracks' on edges, as normal direction for each vertex here is different. If this option is enabled, shader reads smooth normals saved inside mesh UV4 buffer, which noticeably reduces 'cracks' artifacts.

Smooth normal can be calculated and saved inside mesh using editor tool (**Unity Menu/Windows/ Amazing Assets/Beast**) or runtime by `using AmazingAssets.Beast;` directive, that adds **GenerateSmoothNormals** extension method to the Unity mesh class. Returns copy of the original mesh with smooth normals saved inside UV4 buffer.