Thumbnail Guidance

Embedded Thumbnails in the 3MF test files are derived from the following sources:

- Autodesk NetFabb Ultimate 2021 – This was the primary source for thumbnail images where the beam lattice features used in the test case mapped to the features supported by the application. Thumbnails will show “NetFabb”.

- HP MJF – This are images captured from Meshlab of a point cloud image generated by a simulator of the HP Multi Jet Fusion printer. These images were used where a Netfabb image was not available. Thumbnails will show “HP MJF”

A few thumbnails will show the word “Monochrome” indicating that the intent of the test is to show the impact of color resource, but the renderer did not support color.

The following test files do not have thumbnails as there are no applications that support the minlen or clippingmode features of the Beam Lattice extension. A brief description of the expected rendering is provided below.

Test Case	Expected Rendering
P_BXX_2003_01	Test consists of 6 rows of vertical beams of varying lengths. Each row has a different min length and should render progressively fewer beams.
P_BXX_2003_02	This test consists of a cube with a cylindrical region filled with a lattice. As minlen is set greater that any beam length, the lattice should not render.
P_BXX_2004_03	A cone shaped lattice is bisected with a cylindrical clippingmesh. The inside clipping mode should result in the upper half of the cone shaped lattice being rendered.
P_BXX_2004_04	A cone shaped lattice is bisected with a cylindrical clippingmesh. This outside clipping mode should result in the lower half of the cone shaped lattice being rendered.
P_BXX_2004_05	A cone shaped lattice and mesh cube is bisected with a cylindrical clippingmesh. The inside clipping mode should result in the upper half of the cone shaped lattice being rendered along with the full cube which should be unaffected by the clipping behavior.
P_BXX_2004_06	A cone shaped lattice and mesh cube is bisected with a cylindrical clippingmesh. The outside clipping mode should result in the lower half of the cone shaped lattice being rendered along with the full cube which should be unaffected by the clipping behavior.

P_BXX_2004_07	Two rendered objects: 1) A screw shaped clippingmesh is positioned in a cylindrical lattice with outside clipping resulting in void area inside the lattice in the shape of the screw 2) A gear shaped clippingmesh is positioned in a cylindrical lattice with inside clipping resulting in a lattice in the shape of the gear.
P_BXX_2004_08	There are two cone shaped lattice objects with neither lattice bisected by a cylindrical clipping mesh. For one lattice the clippingmode is set to inside and for the other lattice to outside. The result is that one cone shape lattice is completely rendered and the other completely clipped.
P_BXX_2004_09	There are two cone shaped lattice objects each completely enclosed by a cylindrical clipping mesh. For one lattice the clippingmode is set to inside and for the other lattice to outside. The result is that one cone shape lattice is completely rendered and the other completely clipped.
P_BXX_2004_11	Same as P_BXX_2004_05 except lattice and mesh are separate objects. Result should be identical to P_BXX_2004_05.
P_BXX_2004_12	Same as P_BXX_2004_06 except lattice and mesh are separate objects. Result should be identical to P_BXX_2004_06 .
P_BXX_2015_06	This test consists of a cube with a cylindrical region filled with a lattice. The cube is bisected by another cube with inside clipping. The rendering will result in half the lattice being remove.