

Design -Rules for HP Multi Jet Fusion

—• Wall thickness

We recommend in general a wall thickness of at least 0.9 mm, larger parts may require larger wall thicknesses or added ribs or fillets for reinforcement. It is possible to have thinner features with walls of only 0.5 mm for living hinges, but here the length needs to be limited to 10 mm when they are only attached at one end or 25 mm when attached from two sides. The hinges will be positioned by our application specialists in a way that the function is optimized.

—• Holes

It is possible to create holes or perforations and ducts. The recommended diameter size of these holes is 2 mm, with a minimum of 1 mm, but some post-production will be needed to remove excess powder. Some residual powder may be stuck on the inside of complex ducts. It is advised to design a strip or chain through the duct to help in dislodging the powder once the part has been printed. In general, complex holes or ducts require larger diameters in order to achieve thorough removal of the unfused powder.

—• Hollow model

Parts can be hollowed to save weight and material; we recommend a wall thickness of 2 mm and the inclusion of at least two holes with a minimum diameter of 6 mm for powder removal.

—• Interlocking parts

It is possible to print interlocking parts and assemblies in a single build. Parts that are printed together should have a minimum clearance of 0.5 mm, for higher wallthickness it should be 0.7 mm – 1 mm.

—• Lattice structures

Lattice structures allow you to reduce weight and material. Keep in mind that you must maintain a minimum gap of 1 mm between the lattice beams so the unfused powder can be removed.

—• Embossed and engraved details

For embossed or engraved textures, we advise a minimum thickness of 0.25 mm. For legible engraved or embossed text, we recommend letters with a minimum line thickness of 0.5 mm, a depth of 1 mm and an overall height of at least 2.5 mm.