



## Design guidelines

# Fused Deposition Modeling (FDM)

### File format

STL, STEP

### Wall thickness

Minimum wall thickness is 1 mm.

### Support and overhangs

45°, the maximum angle at which a wall can be printed without support.

### Embossed details

Minimum line thickness 2.5 mm and minimum height 0.5 mm.

### Engraved details

Minimum line thickness 1 mm and depth 0.3 mm.

### Interlocking parts

Only possible with ABS ESD7 and ABS M30. When you print parts that are interlocked with others in a single build, you need to create a minimum clearance of 0.5 mm.

### Accuracy

+/- 0.1% with lower limit of +/- 0.254 mm.

### Fillets

To reduce the stress while printing and strengthen the printed model, add fillets or ribs in 90° corners.

### Holes

It is difficult to achieve accurate hole diameters in FDM parts; they are often undersized. When high accuracy is required, you need to drill the hole afterwards to ensure that the diameter is correct.

### Assembled parts

Assembled parts need a minimum clearance of 0.3 mm around all sides to ensure they will fit together. (Parts printed separated and mounted afterwards.)

### Infill

The internal structure of the model, choose between sparse infill or solid infill.

Most FDM prints are often printed with a low-density infill.

Sparse - Lower density infill, creates a lighter part with less material and shorter printing time.

Solid - Higher density percentage than the sparse infill. Creates a heavier and stronger part but requires more material and longer printing time.