

Tips to design 3D printable models

Like all production processes, 3D printing has constraints which are to be considered during the design phase. These tips will help you meet your project requirements.



Minimum wall thickness



Maximum overhang angle ²



Z axis embossed & engraved details



XY axis embossed & engraved details



Hole diameters



Horizontal bridges ²



Minimum feature size



Tolerance

Materials ¹	mm	°	mm	mm	mm	mm	mm	mm
PLA	1.2	65	15	0.3	0.4	20	0.4	0.15
Tough PLA	1.2	65	15	0.3	0.4	20	0.4	0.15
TPU	0.8 soft 1.2 hard	45	15	0.3	2	12	3	0.25
PET-G	1.2	70	15	0.3	1	20	1.5	0.15
ABS	1.2	65	15	0.3	2	10	1.5	0.2
PP	1.2	45	15	0.3	2	10	1.5	0.2
PA	1.2	65	15	0.3	1	10	1	0.2
PAHT CF15 ³	1.8	75	2	0.5	1	20	2	0.25
PP GF30 ³	1.8	75	2	0.5	1	20	2	0.25
Hotends ⁴								
0.4	0.8 - 1.2	65	15	0.3	0.4	20	0.4	0.1 - 0.15
0.6	1.2 - 1.8	60 - 75	2	0.5	1	20	0.6	0.2 - 0.25
0.8	1.6	55	25	0.6	1.5	15	0.8	0.25 - 0.25
1.0	2	50	27	0.8	1	15	2	0.3 - 0.35

¹ With 0.4mm hotend and 0.15mm layer height.

² Depends on cooling and layer height.

³ Only compatible with 0.6mm hotend X.

⁴ With standard printing profile.

We are here to help!
<https://support.bcn3d.com/knowledge/kb-tickets/new>

