

# MATERIALS COMPARISON - DESIGN GUIDELINES



## Resins

	LAYER THICKNESS	MINIMUM WALL THICKNESS	ACCURACY	MAX SIZE (mm)	MINIMUM VISIBLE DETAIL	ENGRAVING	EMBOSSING	ENLARGEMENT RATIO	INTERLOCKING & ENCLOSED PARTS	ASSEMBLY	HOLLOWING
	Print resolution	Minimum recommended wall size to ensure there are no errors during printing	Expected degree of dimensional accuracy	Maximum dimensions possible to respect an item	Minimum dimension to ensure detail visibility	Graphic elements hollowed out on the surface of the model	Graphic elements raised above the surface of the model	Minimum ratio to be observed between the diameter of a hole and the thickness of the wall of the model	Possibility to print parts that will articulate between each other & Possibility to print a model with volume inclusions	Possibility of assembling parts while leaving a minimum space between them	Optimization of the weight and price of a model by removing internal material
<b>MATERIAL</b>											
Technology DLS											
<b>Rigid Polyurethane</b>	100 µm	Unsupported : 2.5mm Supported : 1mm	XY: ± 0.1mm Z: ± 0.4mm	180 x 110 x 290 (z) mm	0.5mm	0.3mm	0.3mm	1/1	No & No	Yes (min space 0.4mm)	No
<b>Elastomeric Polyurethane</b>	100 µm	Unsupported : 2.5mm Supported : 1mm	-	180 x 110 x 100 mm	0.6mm	0.3mm	0.3mm	1/1	No & No	Yes (min space 0.5mm)	No
Technology SLA											
<b>Prototyping Resin</b>	100 µm	0.8mm	±0.2% (with a lower limit of ±0.2 mm)	144 x 144 x 174 mm	-	0.5mm	0.5mm	-	Not recommended	No	Not recommended
Technology Polyjet											
<b>VeroWhite</b>	28 µm	2mm	-	203 x 254 x 251 mm	0.2mm	0.5mm	0.5mm	1/1	No & No	Yes (min space 0.4mm)	Yes
<b>VeroClear</b>	28 µm	2mm	-	203 x 254 x 251 mm	0.2mm	0.5mm	0.5mm	1/1	Yes & Yes	Yes (min space 0.4mm)	Non
Technology DLP / LCD											
<b>Ultracur3D® EPD 1086 3D</b>	100 µm	0.6mm	± 100µm	120 x 120 x 120 mm	-	0.3mm	0.3mm	1/1	No & No	No	No
<b>Ultracur3D® ST 45</b>	100 µm	0.6mm	± 200µm	192 x 108 x 330 mm	-	0.3mm	0.3mm	-	No & No	-	No
<b>Ultracur3D® RG 3280</b>	100 µm	0.6mm	± 100µm	120 x 120 x 120 mm	-	0.3mm	0.3mm	-	No & No	-	No