

## HLH DESIGN GUIDE

### SLA 3D PRINTING

#### Address

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High Quality Rapid Prototypes,  
Rapid Injection Moldings and Rapid Parts

**TIPS & TRICKS:** Reduce weight to save costs  
Add escape holes for resin in closed sections  
Fillet walls and pins for extra strength

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**BUILD VOLUME:** 800\*800\*550mm

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**MATERIALS:**

ABS like materials  
High temperature  
"tough" materials  
Transparent materials

**SURFACE FINISHES:**

Polishing、  
Sand blasting、  
Painting、  
Plating、  
Etc.

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**ADVANTAGES:**

Advantages  
Accurate to CAD  
Fast build times  
No tooling costs  
Complex geometries possible  
Good surface finish

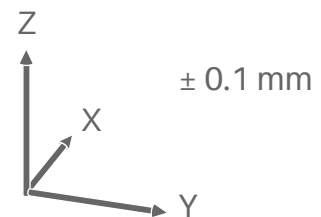
**DRAWBACKS:**

Brittle materials  
Need support material

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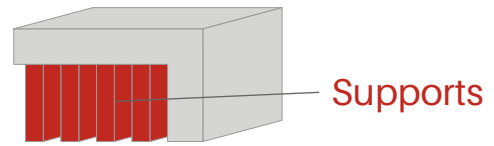
**TOLERANCES:**

Layer thickness is 0.1 – 0.2mm. SLA is very accurate in the x and y directions, meaning models are very accurate to CAD. General tolerance is +/- 0.1mm.



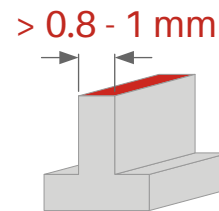
### OVERHANGS:

Not a problem for SLA due to the supports. Unsupported overhangs will warp.



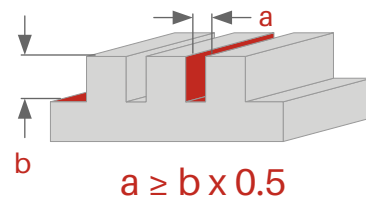
### WALLS:

SLA can manage very thin walls but HLH do not recommend anything under 0.8 - 1mm.



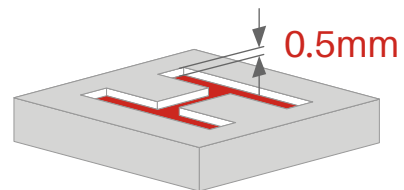
### HOLES & SLOTS:

We recommend a minimum of 0.5mm but the larger the better especially as wall thickness or depth increases.



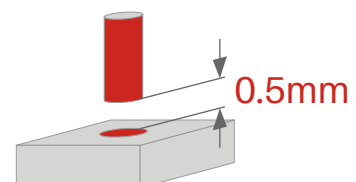
### TEXT & ENGRAVED DETAILS:

Are at risk of closing up if not designed with 0.5mm > minimum height.



### MATING PARTS:

Minimum 0.5mm gap between axel and bore or other moving parts.



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**PINS & EMBOSSED FEATURES:**

Pins  $\geq 0.8\text{mm}$  but even then risk breaking. Embossed features  $\geq 0.3\text{mm}$ .

