



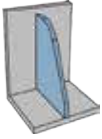
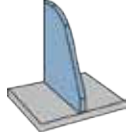

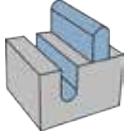
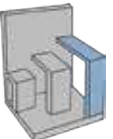
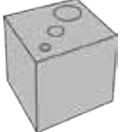

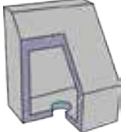

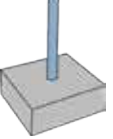

# PROTOTAL

## DAMVIG

**Prototal Damvig A/S**

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# 3D Print Guidelines

	Supported Walls	Unsupported Walls	Support & Overhangs	Embossed & Engraved Details	Horizontal Bridges	Holes	Connecting/ Moving Parts	Escape Holes	Minimum Features	Pin Diameter	Tolerance
											
<b>SLS</b> Selective Laser Sintering	P3XX 0,8 mm P110 0,6 mm	1 mm	Not relevant	1 mm wide and high	Not relevant	> Ø1,5 mm Depending on Thickness	> 0,3 mm for moving parts & > 0,1 mm for connections ASSEMBLIES >0,5 mm Radial	>12 mm multiple holes are preferred	P3XX 0,6 mm P110 0,5 mm	>1 mm diameter <15 mm height	Minimum ± 0,2 mm and ± 0,25% of dimension.
<b>SLA</b> Stereolithography	HR 0,25 mm NR 0,5 mm	HR 0,5 mm NR 1 mm	Support always required	0,4 mm wide & high	Not Relevant	>Ø0,5 mm Depending on thickness	> 0,1 mm for moving parts & > 0,1 mm for connections	>3 mm multiple holes are preferred	0,25 mm	>0,5 mm diameter <15 mm height	Minimum ± 0,1 mm and ± 0,15% of dimension.
<b>MJF</b> Multi Jet Fusion	0,5 mm	1 mm	Not Relevant	0,4 mm wide & high	Not Relevant	>Ø0,8 mm Depending on thickness	> 0,3 mm for moving parts & > 0,3 mm for connections ASSEMBLIES >0,3 mm Radial	>6 mm multiple holes are preferred	0,5 mm	>1 mm diameter <15 mm height	Minimum ± 0,2 mm and ± 0,25% of dimension.
<b>SAF</b> Selective Absorption Fusion	0,8 mm	1 mm	Not Relevant	1 mm wide & high	Not Relevant	>Ø1,5 mm Depending on thickness	> 0,3 mm for moving parts & > 0,1 mm for connections ASSEMBLIES >0,5 mm Radial	>12 mm multiple holes are preferred	2 mm	>2 mm diameter <15 mm height	Minimum ± 0,2 mm and ± 0,25% of dimension.
<b>PolyJet</b> Material Jetting	0,8 mm	1 mm	Support always required	0,5 mm wide & high	Not Relevant	>Ø0,5 mm	> 0,2 mm for moving parts & > 0,1 mm for connections ASSEMBLIES >0,8 mm Radial	>20 mm multiple holes are preferred	0,5 mm	>1 mm diameter <15 mm height	Minimum ± 0,2 mm and ± 0,25% of dimension.
<b>FDM</b> Fused Deposition Modelling	0,8 mm	1 mm	> 45° Or support is needed	0,6 mm wide & high	10 mm	>Ø2mm	>0,5 mm	>20 mm	2 mm	>3 mm diameter <15 mm height	Minimum ± 0,2 mm and ± 0,25% of dimension.

The above is a guide to troublefree 3D printing. Tighter tolerances and smaller details are possible but have to be verified from geometry to geometry.

This guide is intended for parts with uniform wallthickness throughout the entire 3D model, variation in wall thickness is equal to 0,7 x wall thickness (eg. 2 mm x 0,7 = 1.4 mm growing wall this also minimize warping).

Recommended font size for embossing and engraving text is Arial (Black) use Bold setting and Font minimum 12 (still notice details smaller than the recommended size can disappear) Best result is in the planar region in the Z direction