

3D PRINTING GUIDELINES

We provide some of Denmark's most innovative startups and established brands with **prototypes & serial produced parts** in polymer using additive manufacturing.

Let us help you **bring your ideas to life** or challenge your current way of manufacturing products and components.

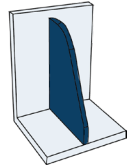
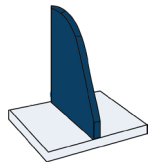
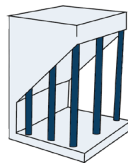
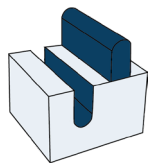
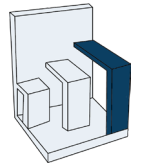
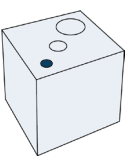
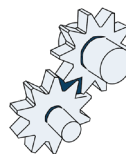
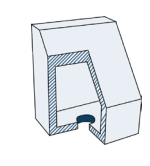
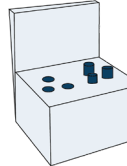
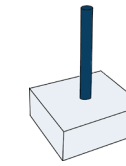
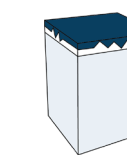
As a member of Protototal Industries, we are a part of Europe's biggest digital manufacturing network that also offers manufacturing capacity within vacuum casting, injection moulding and related aluminium tooling.

Learn more by scanning the QR below, send an email to 3dp@damvig.dk, or call one of our 3D printing experts at **+45 43 99 37 36**.

SLS	SAF	MJF	SLA	FDM	PolyJet
Selective Laser Sintering	Selection Absorption Fusion	Multi Jet Fusion	Stereolithography	Fused Deposition Modelling	Material Jetting
PA 2200 PA 3200 GF PA 2210 FR	PA 11	PA 12 PA 12 GF	Clearvue Accura Extreme Accura SI 25	Ultem ABS-ESD7 Nylon 12 CF PEEK CF 30 ... and many more materials	VeroWhite VeroClear VeroVivid VeroUltra
Material Selection					
Manufacturing via ultra violet laser from nylon powder.	Manufacturing via infrared light from biobased nylon powder.	Manufacturing via infrared light from nylon powder.	Manufacturing via ultra violet laser from epoxy fluid.	Manufacturing via extrusion from a polymer thread.	Manufacturing via ultra violet laser from acrylicbased fluid.
Manufacturing Details					
700 x 380 x 580mm	250 x 250 x 250mm	380 x 284 x 380mm	750 x 650 x 550mm	500 x 500 x 500mm	490 x 390 x 200mm
Maximum Build Size					
Technology Application					
With a high dimensional accuracy producing sturdy parts, the technology is used for serial production, prototypes, and models. Raw parts will appear white.	With a high dimensional accuracy producing sturdy parts, the technology is used for serial production, prototypes, and models. Raw parts will appear dark grey.	With a high dimensional accuracy producing sturdy parts, the technology is used for serial production, prototypes, and models. Raw parts will appear dark grey.	With an exceptional high dimensional accuracy, the technology is used for prototypes, and models. Raw parts will appear grey, white or transparent depending on the material.	With a lower dimensional accuracy, the technology is used for prototypes, and models where there is a specific requirement for the plastic material. Raw parts will appear in colors depending on the material.	With an exceptional high dimensional accuracy, options for printing in 500.000 different colors and in different shore values, combined in the same print, the technology is used for prototypes, and models.
Post Processing Offerings					
Assembly, sanding, coating, coloring, lacquering, painting, metal plating, threaded/non-threaded inserts, vibration & vapor smoothing.	Assembly, sanding, coating, coloring, lacquering, painting, metal plating, threaded/non-threaded inserts, vibration & vapor smoothing.	Assembly, sanding, coating, coloring, lacquering, painting, metal plating, threaded/non-threaded inserts, vibration & vapor smoothing.	Assembly, support removal, sanding, coating, lacquering, painting, metal plating, threaded/non-threaded inserts.	Support removal, sanding, threaded/non-threaded inserts.	Support removal, sanding, threaded/non-threaded inserts.





	Supported Walls	Unsupported Walls	Support & Overhangs	Embossed & Engraved Details	Horizontal Bridges	Holes	Connecting & Moving Parts	Escape Holes	Minimum Features	Pin Diameter	Tolerance
											
SLS Selective Laser Sintering	P1XX 0,6 mm P3XX 0,8 mm P7XX 0,8 mm	1 mm	N/A	1 mm width & height	N/A	>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	P1XX 0,5 mm P3XX 0,6 mm P7XX 0,6 mm	>1 mm diameter <15 mm height	Minimum ± 0,2 mm & ± 0,25% of dimension
MJF Multi Jet Fusion	0,5 mm	1 mm	N/A	0,4 mm width & height	N/A	>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 & ± 0,25% of dimension.
SAF Selective Absorption Fusion	0,8 mm	1 mm	N/A	1 mm width & height	N/A	>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 & ± 0,25% of dimension
SLA Stereolithography	HR 0,25 mm NR 0,5 mm	HR 0,5 mm NR 1 mm	Support ≤ 30°	0,4 mm width & height	N/A	>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 & ± 0,15% of dimension
PolyJet Material Jetting	0,8 mm	1 mm	Support always required	0,5 mm width & height	N/A	>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 & ± 0,25% of dimension
FDM Fused Deposition Modelling	0,8 mm	1 mm	Support ≤ 45°	0,6 mm width & height	10 mm	>Ø2 mm	>0,5 mm	>20 mm	2 mm	>3 mm diameter <15 mm height	Minimum ± 0,2 mm & ± 0,25% of dimension

The above is a guide to a trouble free 3D printing. Smaller tolerances and smaller details are possible but will have to be verified for every geometry. This guide is intended for parts with uniform wall thickness throughout the entire model, variation in wall thickness is equal to wall thickness x 0,7 (e.g. 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.