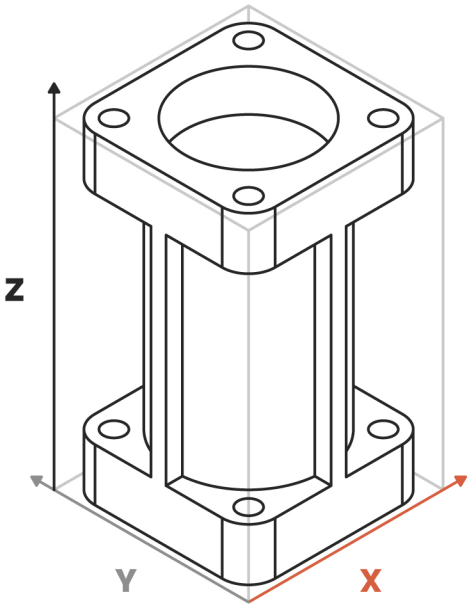
SLA

Design Guidelines

Maximum part size

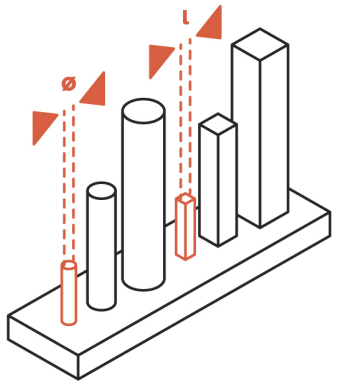
Maximum dimensions taking into account production volume. Parts, even within the range shown, must be analyzed due to possible limiting geometric details.



	Width	Length	Height
All Materials	145 mm	145 mm	185 mm

Minimum Diameter/Side (Pillars)*

The minimum pillar size is the smallest dimension that can be successfully printed.

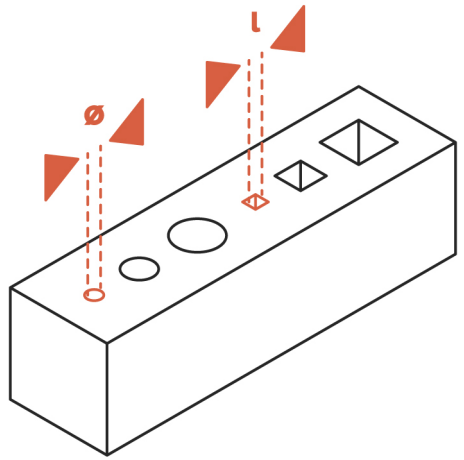


	Circular Pillars [Ø]	Square Pillars [l]
Hyperion Grey	0,5 mm	0,6 mm
Hyperion Clear	0,8 mm	0,8 mm
Hyperion Flex 50A	0,8 mm	0,9 mm
Hyperion Flex 80A	0,6 mm	0,7 mm
Hyperion Dura 710	0,5 mm	0,6 mm
Hyperion Stiff 4100	0,8 mm	0,9 mm
Hyperion Resistent	0,5 mm	0,6 mm
Hyperion HT240	0,6 mm	0,7 mm

Note: In order to avoid brittle areas when post-processing the parts, at these base-pillar connection locations, add a fillet or a chamfer.
*Please note that a pillar should not be higher than five times the dimension of the pillar base. Otherwise, they will be more susceptible to shear in layer lines.

Minimum Diameter/Side (Holes)

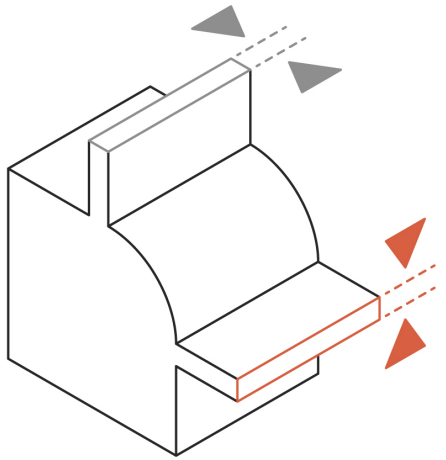
Holes that are too small can cause melting of the material in the peripheral zone and thus promote hole closure or a poor finish.



	Circular Holes [Ø]	Square Holes [l]
Hyperion Grey	2,0 mm	2,0 mm
Hyperion Clear	1,5 mm	1,5 mm
Hyperion Flex 50A	0,8 mm	0,8 mm
Hyperion Flex 80A		
Hyperion Dura 710	0,5 mm	0,5 mm
Hyperion Stiff 4100	1,5 mm	1,5 mm
Hyperion Resistent	1,1 mm	1,1 mm
Hyperion HT240	1,0 mm	1,8 mm

Minimum unsupported walls thickness

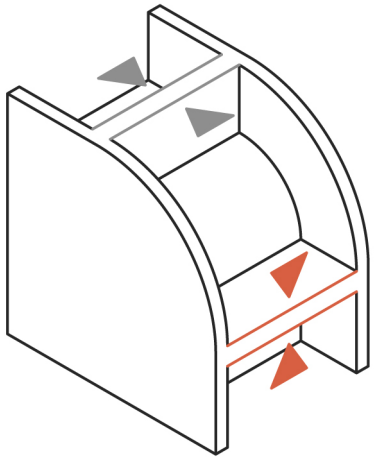
The minimum unsupported wall thickness is the minimum thickness required for a wall supported on less than two sides. Walls that are too thin may warp or separate from the model.



	Thickness
Hyperion Grey	0,6 mm
Hyperion Clear	0,8 mm
Hyperion Flex 50A	
Hyperion Flex 80A	
Hyperion Dura 710	0,5 mm
Hyperion Stiff 4100	0,7 mm
Hyperion Resistent	0,6 mm
Hyperion HT240	0,8 mm

Minimum supported walls thickness

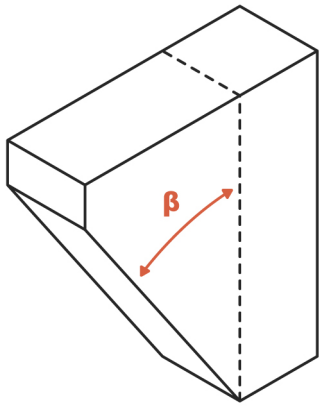
A supported wall is connected to other walls on two or more sides. A supported wall smaller than 0.4 mm may deform during the peeling process.



	Thickness
Hyperion Grey	0,4 mm
Hyperion Clear	0,6 mm
Hyperion Flex 50A	
Hyperion Flex 80A	
Hyperion Dura 710	0,4 mm
Hyperion Stiff 4100	0,5 mm
Hyperion Resistent	
Hyperion HT240	0,6 mm

Maximum overhang angle without supports

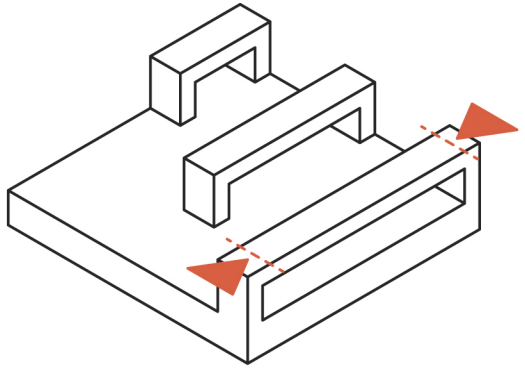
Overhangs are geometric shapes in a 3D model that extend outside the model and beyond the previous layers. These geometries have no direct support, so they can add problems when printing, but up to a certain inclination, it is possible to materialize them.



	Maximum	Recommended
Hyperion Grey	70°	55°
Hyperion Clear	60°	50°
Hyperion Flex 50A	50°	45°
Hyperion Flex 80A	70°	60°
Hyperion Dura 710		
Hyperion Stiff 4100	60°	50°
Hyperion Resistent	70°	60°
Hyperion HT240	55°	50°

Maximum bridge without supports

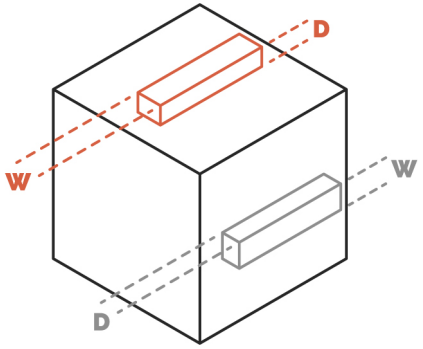
Similar to the FDM process, bridges in SLA printing refer to segments/zones of a layer whose only support is located at the edges, and therefore there is a central resin zone that will have to be sintered, with no other layer below providing support.



	Maximum	Recommended
Hyperion Grey	10 mm	9 mm
Hyperion Clear	15 mm	12 mm
Hyperion Flex 50A	5 mm	4 mm
Hyperion Flex 80A	10 mm	9 mm
Hyperion Dura 710	22 mm	22 mm
Hyperion Stiff 4100	18 mm	18 mm
Hyperion Resistent	22 mm	22 mm
Hyperion HT240	15 mm	12 mm

Minimum embossed features

Embossed details are extruded from the faces of the model. Too small embosses can become almost or completely unnoticeable. When this feature is associated with a font (text or numerical elements), use a bold font as it enhances the results.

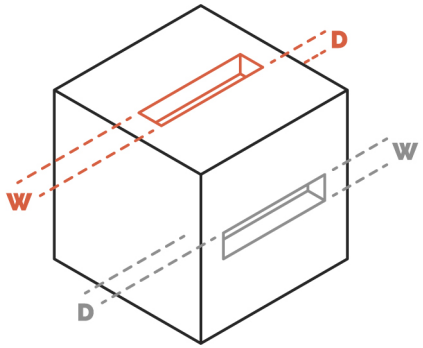


	Depth	Width
Hyperion Grey	0,2 mm	0,5 mm
Hyperion Clear	0,2 mm	0,5 mm
Hyperion Flex 50A	0,1 mm	0,1 mm
Hyperion Flex 80A		
Hyperion Dura 710	0,1 mm	0,6 mm
Hyperion Stiff 4100	0,2 mm	0,5 mm
Hyperion Resistent		
Hyperion HT240		

Note: The values shown in this table provide depth and witdh measures for both horizontal and vertical faces.

Minimum engraved features

Engraved details are cuts made from the surface of the model. Details that are too small can become almost or completely unnoticeable. When this cut is associated with a font (text or numerical elements), use a bold font as it enhances the results.

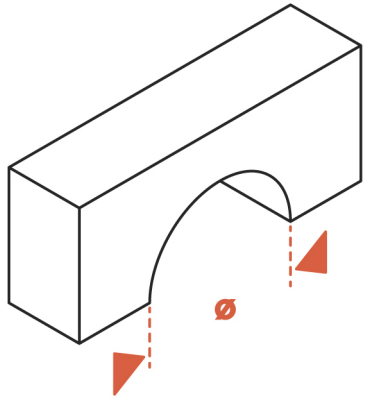


	Maximum	Recommended
Hyperion Grey	0,4 mm	0,4 mm
Hyperion Clear	0,5 mm	0,5 mm
Hyperion Flex 50A	0,4 mm	0,4 mm
Hyperion Flex 80A		
Hyperion Dura 710		
Hyperion Stiff 4100	0,4 mm	0,5 mm
Hyperion Resistent	0,5 mm	0,5 mm
Hyperion HT240	0,4 mm	0,5 mm

Note: The values shown in this table provide depth and witdh measures for both horizontal and vertical faces.

Minimum arc diameter

The geometry of an arc can potentialize a zone of possible overhangs depending on the diameter of the arc. Therefore, up to a certain diameter it is possible to execute an arc without running risks. However, beyond a certain diameter, unsupported structures start to enter the arc area, which can affect the print quality.



	Diameter [Ø]
Hyperion Grey	1,7 mm
Hyperion Clear	1,5 mm
Hyperion Flex 50A	1,4 mm
Hyperion Flex 80A	
Hyperion Dura 710	1,8 mm
Hyperion Stiff 4100	1,3 mm
Hyperion Resistent	1,2 mm
Hyperion HT240	1,3 mm