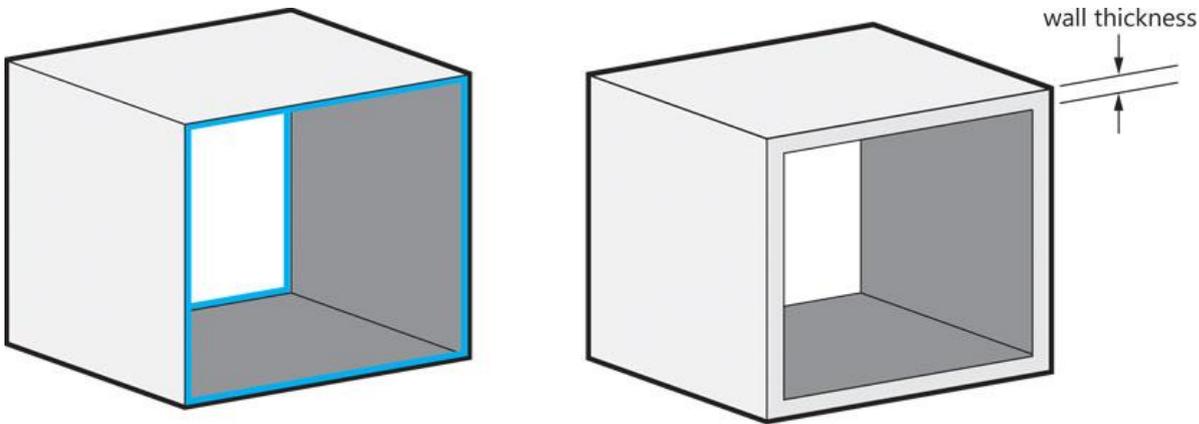


Properties	High-Detail Resin	ABS	PA
Minimum Wall Thickness (mm)	1	1	0.8-1
Minimum Details (mm)	0.2-0.3	0,3	0.3
Accuracy	± 0.1% (with a lower limit of ± 0.2 mm)	± 0.1% (with a lower limit of ± 0.2 mm)	± 0.3% (with a lower limit of ± 0.3 mm)
Maximum Size (mm)	100x100x100	400x355x400	650x330x560
Clearance (mm)	0.4	0,4	0,5
Interlocking or Enclosed Parts?	yes	yes	yes
	polyjet	FDM	SLM

Technical specification	High-Detail Resin	ABS	PA	Unit	Norm conditions
Tensile Strength	49.8	22		MPa	D638
Tensile Modulus		1627		MPa	D638
Tensile Modulus			1650 +/- 150	MPa	DIN EN ISO 527
Tensile Strength			48 +/- 3	MPa	DIN EN ISO 527
Elongation at Break			20 +/- 5	%	DIN EN ISO 527
Elongation at Break	43,8			%	D-638
Modulus of Elasticity	2495			MPa	D-638
Flexural Strength	74.6	41		MPa	D790
Flexural Modulus	2137	1834		MPa	D790
Flexural Modulus			1500 +/- 130	N/mm ²	DIN EN ISO 178
Notched Izod Impact	37.5	107		J/m ²	D256
Unnotched Izod Impact		214		J/m ²	D256
Charpy – Impact strength			53 +/- 3.8	MPa	DIN EN ISO 179
Charpy – Notched Impact Strength			4.8 +/- 0.3	MPa	DIN EN ISO 179
Izod – Impact Strength			32.8 +/- 3.4	J/m ²	DIN EN ISO 180
Izod - Notched Impact Strength			4.4 +/- 0.4	J/m ²	DIN EN ISO 180
Ball Indentation Hardness			77.6 +/- 2		DIN EN ISO 2039
Shore D-hardness			75 +/- 2		DIN 53505
Heat Deflection t°			86	°C	ASTM D648 (1.82 MPa)
Heat Deflection t°		at 0.45 MPa: 90		°C	D648
		at 1.81 MPa: 76		°C	D648
Heat Distortion Temperature	47.6			°C	D648 @ 0.45MPa
	43.6			°C	D648 @ 1.82MPa
Vicat Softening Temperature B/50			163	°C	DIN EN ISO 306
Vicat Softening Temperature A/50			181	°C	DIN EN ISO 306

Wall thickness

It's very important that every surface in your 3D file has been assigned a wall thickness. Virtually, a surface can be designed without a wall thickness, but in order to have your design physically printed, wall thicknesses are needed. Wall thickness refers to the distance between one surface of your model and its opposite sheer surface. Many printing problems can be traced to surface issues.



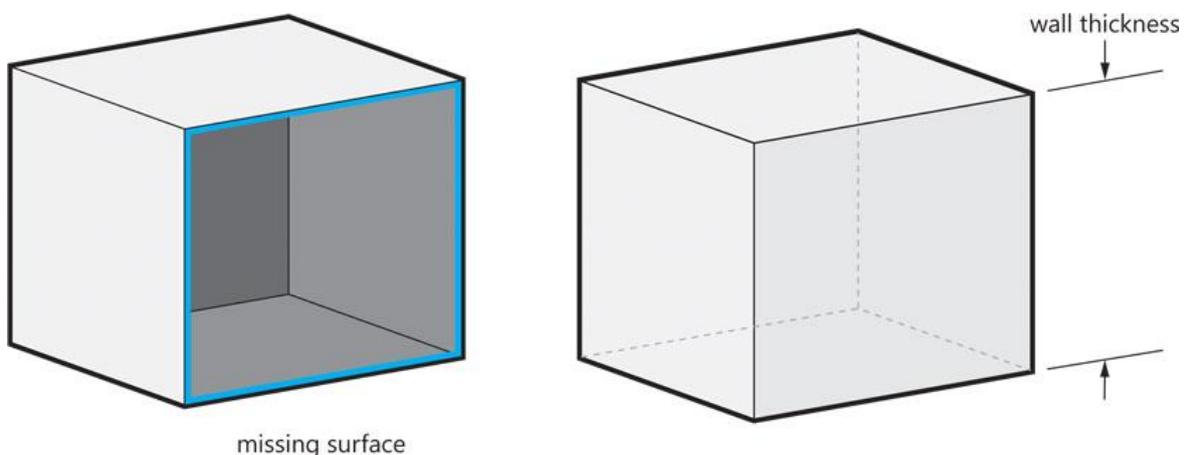
Below is an overview of the most important ones:

- Thin Parts

For every material that we feature on our website, we provide a minimal wall thickness. The wall thickness is related to the printing machine's resolution, its process, and the strength of the material itself. We suggest that you stick with our recommendation, as while some items can still be printed with smaller thicknesses, these parts will likely break when removed from the machine or during shipment.

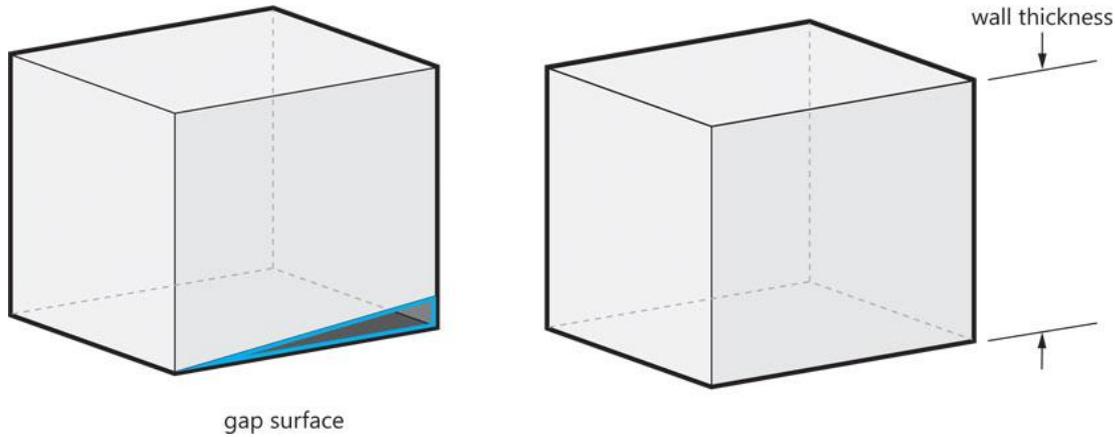
- Zero Thickness

As mentioned above, all walls need to have a thickness. It's impossible for open surfaces to be printed. Make them solid by adding wall thicknesses to your design or closing the gap between the open surfaces.



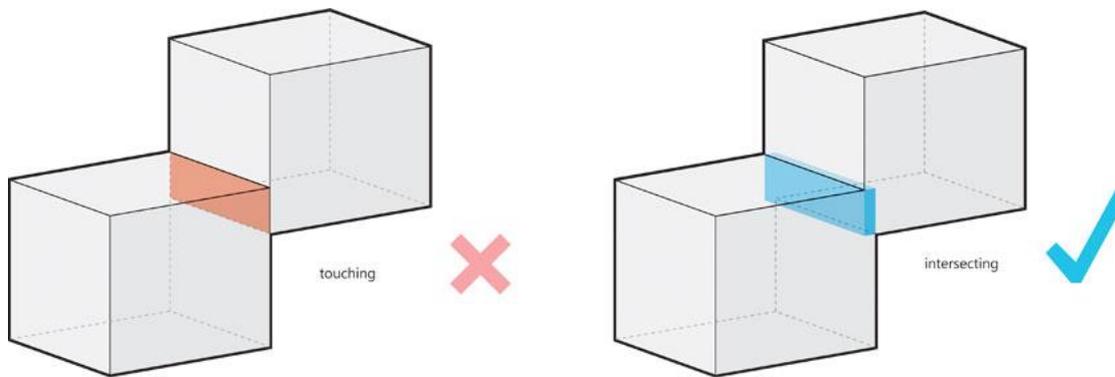
- Gaps between Surfaces

Sometimes your model isn't entirely closed because the different surfaces are well attached to each other. These so called gaps between the surfaces prevent your model from being watertight. The term water tightness is referred to because your model would "leak" because of these gaps. Close the gap by welding or stitching the surfaces together in your 3D software program or create a surface in between.



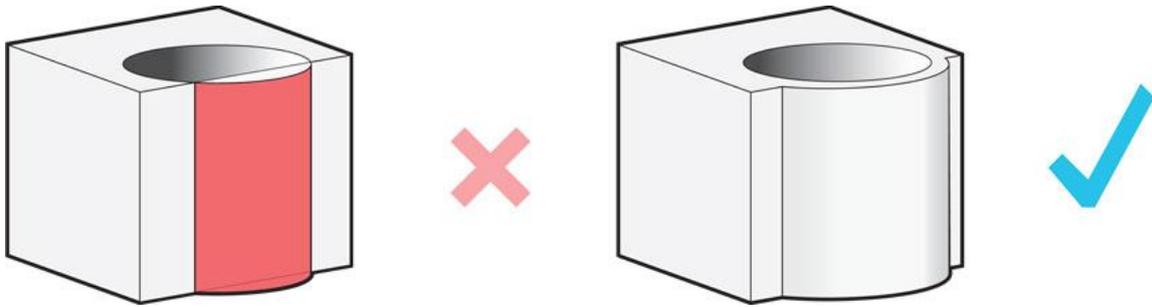
- Touching Surfaces

If you have a design that's built up from different solids or volumes, you need to make sure that these different elements don't just touch but actually intersect (with 0.01 mm or more). With touching, rather than intersecting surfaces, different solids and volumes won't be printed together correctly. Below is an example of how to solve the problem of touching surfaces, (on the left is the original design, and on the right, the improved one).



- Self-intersecting Surfaces

Sometimes surfaces self-intersect due to bad sweep construction and other rail operations in your CAD software. The result is that one surface is sticking through another, and it is not possible to tell which is on the outside and which on the inside, causing the wall thickness to become negative. This negative volume can't be printed.



- Double Surfaces

Sometimes, construction surfaces can end up in your final design. These double, overlapping surfaces can cause problems when your design is being produced.

