

SLS - PA12

Material data sheet for Polyamide (PA12) parts produced by Selective Laser Melting. Accuracy varies according to geometry, part orientation and print size $\pm 0.2\%$ (with lower limit of $\pm 0.1\text{mm}$). Distortion may cause greater deviation.

With SLS and PA12 you can make fully functional assemblies with connecting parts, moving parts, or hinges in one piece. The material has also High mechanical strength and temperature resistance. There is no mechanical ageing of the components and the material is suitable for contact with foodstuff.

Material Properties	Value	Standard
Tensile Strength (x/y/z)	48/48/42 MPa	ISO 527-1/-2
Tensile Modulus (x/y/z)	1600/1600/1550 MPa	ISO 527-1/-2
Flexural Modulus (23°C)	1500 MPa	ISO 178
Charpy-impact strength (23°C)	53 kJ/m ²	ISO 179/1eU
Charpy-notched impact strength (23°C)	4.8 kJ/m ²	ISO 179/1eU
Elongation at break (x/y/z)	18/18/4 %	ISO 527-1/-2
Shore Hardness D (15s)	75	ISO 868

Thermal Properties	Value	Standard
Vicat-softening temperature (50°C/h 50N)	163 °C	ISO 306
Heat deflection temperature (1.80 MPa)	86 °C	ISO 75-1/-2
Heat deflection temperature (0.45 MPa)	130 °C	ISO 75-1/-2

Process-related Properties	Value	Standard
Density	930kg/m ³	-
Achievable part accuracy	$\pm 0.2\%$, or $+0.25\%$ dimension	-