

Polyamide PA12 [Biocompatible]

SLS MATERIAL

Mechanical properties	Value	Unit	Test Standard
Izod notched impact strength (+23°C)	4.4	kJ/m ²	ISO 180/1A
Shore D hardness	75	-	ISO 7619-1

3D Data	Value	Unit	Test Standard
The properties of parts manufactured using additive manufacturing technology (e.g. lasers sintering, stereolithography, Fused Deposition Modelling, 3D printing) are due to their layer-by-layer production, to some extent direction dependent. This has to be considered when designing the part and defining the build orientation.			
Tensile Modulus x Direction y Direction z Direction	1650 1650 1650	MPa MPa Mpa	ISO 527
Tensile Strength x Direction y Direction z Direction	48 48 42	MPa MPa Mpa	ISO 527
Strain at break x Direction y Direction z Direction	18 18 4	% % %	ISO 527
Charpy impact strength (+23°C, x Direction)	53	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C, x Direction)	4.8	kJ/m ²	ISO 179/1eA
Flexural Modulus (+23°C, x Direction)	1500	Mpa	ISO 178

Thermal properties	Value	Unit	Test Standard
Melting temperature (20°C/min)	176	°C	ISO 11357-1/-3
Vicat softening temperature (50°C/H 50N)	163	°C	ISO 306

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Thermal properties	Value	Unit	Test Standard
Burning behaviour			UL 94
Test passed, HB	0.5	mm	
Test passed, HB	1.6	mm	
Test passed, HB	3.2	mm	

Other properties	Value	Unit	Test Standard
Density (lasersintered)	930	Kg/m ³	Eos Method
Powder color (acc. to safety data sheet)	White	-	-

Characteristics	
Processing	Delivery form
Laser sintering, Rapid prototyping	Powder
Chemical Resistance	Certifications
General Chemical Resistance	FDA approval acc. to USP Biological test (classification VI/121°C

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