

Stereolithography custom-made

moldfreeps® Free form parts for the development and small series – save time and money



Material data for stereolithography

		Stereolithography Resins											
Material		SL(EP)1700	SL(EP)1900			SL(EP)2200		SL(EP)2700	SL(EP)2800	SL(EP)9000	SL(AC-E)65	SL(AC)2000	
Machines		SLA Viper si²	SLA Viper si² ProJet6000HD			SLA Viper si²		SLA Viper Si²	SLA Viper Si²	SLA Viper si²	Figure4 standalone	Figure4 standalone	
Maximum build size	mm inch	250x250x115 10x10x4.5	250x250x240 10x10x9			250x250x240 10x10x9		250x250x240 10x10x9	250x250x240 10x10x9	250x250x115 10x10x4.5	124x70x195 4.9x2.75x7.65	124x70x195 4.9x2.75x7.65	
Layer thickness	mm / mil	Normal 0.1 / 4	Normal 0.1 / 4	HR 0.05 / 2	eHR 0.025 / 1	Normal 0.1 / 4	HR 0.05 / 2	Normal 0.1 / 4	Normal 0.1 / 4	Normal 0.1 / 4	HR 0.05 / 2	Standard 0.05 / 2	Standard 0.05 / 2
Tensile Modulus-Raster	MPa / ksi	1700 / 245	1900 / 275			2200 / 320		2700 / 390	2800 / 405	9000 / 1300		3.5 / 0.5	2000 / 290
Tensile Modulus	MPa ksi	1600 – 1800 230 – 260	1800 – 2000 260 – 290			2100 – 2300 305 – 335		2600 – 2800 375 – 405	2750 – 2900 400 – 420	8500 – 10000 1230 – 1450		3 – 4 0.45 – 0.55	1900 – 2100 275 – 305
Tensile strength at yield Tensile stress at break	MPa / ksi	43 – 47 / 6.2 – 6.8 43 – 47 / 6.2 – 6.8	50 – 55 / 7.2 – 8.0 45 – 50 / 6.5 – 7.2			47 – 50 / 6.8 – 7.2		50 – 60 / 7.2 – 8.7 45 – 55 / 6.5 – 8.0	50 – 60 / 7.2 – 8.7 50 – 60 / 7.2 – 8.7	–	70–85 / 10.1–12.3	3 – 4 / 0.5 – 0.55	– 45 – 50 / 6.5 – 7.0
Tensile strain at yield Tensile strain at break	%	4 – 5 10 – 15	3 – 4 5 – 10			4 – 7 17 – 24		3 – 4 10 – 20	3 – 4 10 – 15	– 1 – 2	– 60 – 85	3 – 4 25 – 35	
Hardness	Shore D	75 – 80	80 – 85			80 – 85		80 – 85	80 – 85	92 – 94		60 – 65A	80 – 85D
Heat distortion temperature (HDT/A)	°C °F	40 – 45 100 – 115	40 – 45 105 – 115			50 – 73 122 – 163		40 – 45 105 – 115	40 – 45 105 – 115	80 – 120 175 – 250		–	45 – 50 115 – 125
Marginal temperatures	°C °F	-25 – +200 -10 – +400	-25 – +250 -10 – +480			-25 – +250 -10 – +480		-25 – +250 -10 – +480	-25 – +250 -10 – +480	-25 – +300 -10 – +570		-25 – +150 -10 – +300	-25 – +200 -10 – + 400
Density	g/cm³	1.13 – 1.20	1.15 – 1.20			1,12 – 1,15		1.12 – 1.15	1.12 – 1.15	1.55 – 1.61		1.13	1.12
Color of the parts		translucent	gray			black / anthracite		clear	white	white / yellowish		black	gray
Characteristics		Tough , flexible good replication accuracy parts with thin walls	good strength and toughness very high dimensional accuracy and surface reproduction parts with thin walls			good strength and toughness high dimensional accuracy and surface reproduction parts with thin walls heat deflection stable		good stiffness, strength and toughness parts with thin walls	good strength and toughness high dimensional accuracy and surface reproduction parts with thin walls	very high stiffness very high dimensional accuracy harsh heat deflection stable		elastic	good strength and toughness very high surface reproduction parts with thin walls
mechanically similar with		PP PA12	PA6/PA66 PC			PA6/PA66 ABS+PC PC		PC ABS PET	PBT POM	filled polymers		TPE	PA6/PA66 PC PC+ABS

Test method: according to DIN EN ISO 75 / 178 / 527-1 Sources: DSM, 3D-Systems, Huntsman, research and testing of VG-Kunststofftechnik and The SL PRO / Stand 03/2019

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