

Material Properties			DLP - Stereolithography				
			PRO-BLK 10	HI TEMP 300-AMB	Tough 60C White	FLEX-BLK 20	RUBBER-65A BLK
Name							
Supplier			3D Systems	3D Systems	3D Systems	3D Systems	3D Systems
Material type			Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Base colour			black	red / orange	white	black	black
			translucent	translucent	opaque	opaque	translucent
Characterisation			"plastic"	hard / high temp	"plastic"	flexible	elastic
Physical properties	unit	ASTM					
Density	g/cm ³		1.16	1.3	1.23	1.18	1.12
Shore hardness	Shore	D2240	D 79	D 89	D 79	D 68	A 65
Tensile modulus	MPa	D638M	2320	4000	1500	1150	
Flexural modulus	MPa	D790M	2290	4260	1500	680	
Tensile strength	MPa	D638M	63	81	35	36	
Flexural strength	MPa	D790M	92	140	52	22	
Elongation to break	%	D638M	12	2.6	23	76	126
Impact resistance (notched)	kJ/m ²	D256A	2.4	10	3.4	9.1	
Glass transition (Tg)	°C	E1545-00	62		50	11	-10
Heat deflection temp @ 0.46 MPa	°C	D648-98c	70	>300	65	41	
Heat deflection temp @ 1.81 Mpa	°C	D648-98c	56	300	48	<25	
Coeff. of linear expansion (0-100 C)	10 ⁻⁴ K ⁻¹	E831-00	0.7 - 1	0.62	1 - 1.5		
Dielectric constant @ (kHz)		D150-98	3.17		3.79	3.7	5.39
Dielectric strength	kV/mm	D149-97a	19.3		13	14.6	13.9
Water absorption	%	D570-98	1.16	0.36	0.61	0.64	2.6
Processing			Figure 4	Figure 4	Figure 4	Figure 4	Figure 4
Minimum wall thickness	mm						
Typical layer thickness	mm		0.05	0.05	0.05	0.05	0.05
Build envelope	mm ³		125x70x196	125x70x196	125x70x196	125x70x196	125x70x196
Turnover (typical) #:	days		1 - 3	1 - 3	1 - 3	1 - 3	1 - 3
Remarks: # from receipt of correct 3D data			biocompatible			biocompatible	1