

Samples available by request

Last Updated: 17 June, 2010

Resin	WaterClear 10120	9120	RenShape SL-5260	WaterShed XC 11122	DMX SL-100	O-XT 18420	Accura 60	Accura 55
Color	Clear	Amber	Opaque White	Clear	White	White	Clear	White
Manufacturer	DSM Somos	DSM Somos	Huntsman	DSM Somos	DSM Somos	DSM Somos	3D Systems	3D Systems
Description	ABS-Like	Polypropylene-Like	ABS-Like	ABS-Like	ABS-Like	ABS-Like	Polycarbonate-Like	ABS-Like
Machine	500, 5000, 350	Viper si2	250	Viper si2	Viper si2	5000, Viper si2	3500	Viper Pro
Build Envelope (in.)	20 x 20 x 24 13.8 x 13.8 x 11.5	10 x 10 x 10	10 x 10 x 10	10 x 10 x 10	10 x 10 x 10	20 x 20 x 24 10 x 10 x 10	13.8 x 13.8 x 11.5	29.5 x 25.6 x 21.6
Build Layer Thickness	.006" or .004"	.002" or .004"	.006"	.002" or .004"	.004"	.002" .004" or .006"	.004"	.002" or .004"
Typical Properties : Cured Resin								
Density g/cc	1.12	1.13	1.22	1.12	1.166	1.13	1.21	1.2
Tensile Strength ASTM D638 psi (Mpa)	3,736 (35 Mpa)	4400 - 4700 (30 - 32 Mpa)	8,300 (58 Mpa)	6831 - 7774 (47.1 - 53.6 Mpa)	5800 - 6200 (40 - 43 Mpa)	6100 - 6400 (42.2 - 43.8 Mpa)	8410 - 9860 (58 - 68 Mpa)	8410 - 9860 (58 - 68 Mpa)
with additional thermal post cure			8600 (60 Mpa)			9600 - 9900 (66.1 - 68.1 Mpa)		
Tensile Modulus ASTM D638 psi (Mpa)	250,000 - 280,000 (1,722 - 1,929 Mpa)	178000 - 212000 (1227 - 1462 Mpa)	360,000 (2,500 Mpa)	(2650 - 2880 Mpa)	290000 - 350000 (2000 - 2400 Mpa)	313000 - 336000 (2180 - 2310 Mpa)	390000 - 450000 (2690 - 3100 Mpa)	460000 - 490000 (3200 - 3380 Mpa)
with additional thermal post cure			350,000 (2400 Mpa)			417000 - 430000 (2880 - 2960 Mpa)		
Elongation at Break ASTM D538	23%	15 - 25%	12%	11 - 20%	12 - 20%	8 - 16%	5 - 13%	5 - 8%
with additional thermal post cure			14%			6-9%		
Flexural Strength ASTM D790 psi (Mpa)	5,276 (39.5 Mpa)	6000 - 6700 (41 - 46 Mpa)	11,000 (81 Mpa)	9152 - 10756 (63.1 - 74.2 Mpa)	n/a	9700 - 10200 (66.7 - 70.5 Mpa)	12620 - 14650 (87 - 101 Mpa)	12830 - 15920 (88 - 110 Mpa)
with additional thermal post cure			11,000 (81)			123000 - 127000 (84.9 - 87.7)		
Flexural Modulus ASTM D790 psi (Mpa)	326,334 (2,250 Mpa)	190000 - 211000 (1310 - 1455 Mpa)	350,000 (2,400 Mpa)	310,381 (2,140 Mpa)	305000 - 355000 (2100 - 2300 Mpa)	289000 - 309000 (1990 - 2130 Mpa)	392000 - 435000 (2700 - 3000 Mpa)	390000 - 470000 (2690 - 3240 Mpa)
with additional thermal post cure			330,000 (2300 Mpa)			331000 - 339000 (2280 - 2340 Mpa)		
Notched Izod Impact Strength ASTM D256 ft-lb/in (J/m)	0.9 (48 J/m)	.9 - 1.0 (48 - 53 J/m)	0.7 (40 J/m)	0.362 (19.3 J/m)	1.2 - 1.5 (60 - 85 J/m)	.37 - .41 (20 - 22 J/m)	.3 - .5 (15 - 25 J/m)	.2 - .4 (12 - 22 J/m)
with additional thermal post cure			0.7 (40 J/m)			.17 - .39 (9 - 21 J/m)		
Hardness Shore D Scale	81	80 - 82	85	n/a	n/a	87 - 88	86	85
with additional thermal post cure			86			86 - 87		
Glass Transition Temperature	82.4° F (28° C)	n/a	163° F (73° C)	106° F (41° C)	n/a	135 - 138° F (57 - 59° C)	136° F (58° C)	132° F (56° C)
with additional thermal post cure			203° (95° C)			136-147° F (98 - 111° C)		
Heat Deflection Temperature ASTM D648 @ 66psi	127° F (52.9° C)	126 - 142° F (52 - 61° C)	136° F (58° C)	121° F (49.6° C)	113° F (45° C)	131 - 136° F (53 - 58° C)	129° F (54° C)	131 - 136° F (55 - 58° C)
with additional thermal post cure			207° F (97° C)			199 - 208° F (93 - 98° C)		
Heat Deflection Temperature ASTM D648 @ 264psi	114° F (45.7° C)	n/a	124° F (51° C)	115° F (46.2° C)	n/a	114 - 116° F (46 - 47° C)	118 - 122° F (48 - 50° C)	123 - 127° F (51 - 53° C)
with additional thermal post cure			172° F (78° C)			166 - 172° F (74 - 78° C)		
Dielectric Constant 60 Hz	4.2	n/a	n/a	3.9 - 4.1	n/a	3.5 - 3.6	n/a	n/a
Dielectric Constant 1 KHz	4.0	n/a	n/a	3.7 - 3.9	n/a	3.4 - 3.5	n/a	n/a
Dielectric Constant 1MHz	3.5	n/a	n/a	3.4 - 3.5	n/a	3.1 - 3.3	n/a	n/a

- *Resins that run in the Viper machine also available in High Resolution (.002" layers), upon request. The high resolution mode in the Viper uses a 5" x 5" x 5" build area.
- *All resins are available in all 5 finish levels with other services available such as vapor honing and painting.
- *DSM Somos WaterShed® XC 11122 has outstanding humidity resistance, and is recommended for high humidity and other submersible applications.
- *DSM Somos WaterShed® XC 11122 can also be processed to be ISO 10993 and USP Class VI compliant. Ask your estimator if you need this service.
- *DSM Somos 9120 is polypropylene-like and great for accurate and robust parts. Ideal for functional models and master patterns.
- *Accura 60 has a resemblance to polycarbonate and is not only humidity resistant but very stiff with a high clarity.
- *Accura 55 has the look and feel of molded ABS with a high production speed for quick and accurate parts.
- *SL-5260 and DSM Somos 18420 are durable, ABS-like resins, also good for functional models and casting patterns. Post curing of 5260 is available upon request, at a slight additional cost.

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