

# SLA Resin Specifications

Last Updated: 18 July 2008

Resin	Somos 10120	Accura 60	Somos 10120	RenShape SL-5260	Somos XC 11112
Color	Clear	Clear	Clear	Opaque White	Clear
Description	ProtoClear (Ultra)	Polycarbonate-Like	ProtoClear (Ultra)	ABS-Like	WaterShed®
Machine	SLA500 & SLA5000	SLA350	Viper si2	SLA250	SLA250
Build Envelope (in.)	20 x 20 x 14	13.8 x 13.8 x 11.5	10 x 10 x 10	10 x 10 x 10	10 x 10 x 10
Build Layer Thickness	0.006"	.004"	.002" or .004"	.006"	.006"
Typical Properties : Cured Resin					
Density g/cc	1.12	1.21	1.12	1.22	1.12
Tensile Strength ASTM D638 psi (Mpa)	3,736 (35)	8,410-9,860 (58-68)	3,736 (35)	8,300 (58)	7,005 (48.3)
with additional thermal post cure				8,600 (60)	
Tensile Modulus ASTM D638 psi (Mpa)	250,000 - 280,000 (1,722 - 1,929)	390,000 - 450,000 (2,690 - 3,100)	250,000 - 280,000 (1,722 - 1,929)	360,000 (2,500)	
with additional thermal post cure				350,000 (2,400)	
Elongation at Break ASTM D538	23%	5 - 13 %	23%	12%	25%
with additional thermal post cure				14%	
Flexural Strength ASTM D790 psi (Mpa)	5,276 (39.5)	12,620 - 14,650 (87 - 101)	5,276 (39.5)	11,000 (81)	9,239 (63.7)
with additional thermal post cure				11,000 (81)	
Flexural Modulus ASTM D790 psi (Mpa)	326,334 (2,250)	392,000 - 435,000 (2,700 - 3,000)	326,334 (2,250)	350,000 (2,400)	310,381 (2,140)
with additional thermal post cure				330,000 (2,300)	
Notched Izod Impact Strength ASTM D256 ft-lb/in (J/m)	0.9 (48)	0.3 - 0.5 (15 - 25)	0.9 (48)	0.7 (40)	0.362 (19.3)
with additional thermal post cure				0.7 (40)	
Hardness Shore D Scale	81	86	81	85	n/a
with additional thermal post cure				86	
Glass Transition Temperature	82.4° F (28° C)	136° F (58° C)	82.4° F (28° C)	163° F (73° C)	106° F (41° C)
with additional thermal post cure				203° (95° C)	
Heat Deflection Temperature ASTM D648 @ 66psi	127° F (52.9° C)	129° F (54° C)	127° F (52.9° C)	136° F (58° C)	121° F (49.6° C)
with additional thermal post cure				207° F (97° C)	
Heat Deflection Temperature ASTM D648 @ 264psi	114° F (45.7° C)	120° F (49° C)	114° F (45.7° C)	124° F (51° C)	115° F (46.2° C)
with additional thermal post cure				172° F (78° C)	

DSM Somos XC 11112 WaterShed® has outstanding humidity resistance, and is recommended for high humidity and other immersible applications.

ProtoClear 10120 is a clearer version of the 10120 material. It has the same mechanical properties, but with the same improved clarity of the WaterClear® Ultra 10122 from DSM Somos

SL-5260 is durable, ABS-like resin, also good for functional models and casting patterns. Post curing of 5260 is available upon request, at an slight additional cost.

Somos 10120, and Somos XC 11112, and 3D Accura 60 are all water-clear SLA resins. As a result of the build process, in order to obtain optimal clarity extra sanding and polishing is required, available on request at an additional cost. They receive a functional finish by default, but the clear coat finish is also available for these resins upon request, at the same pricing level as functional. See the explanation of finish levels for more information about finish levels.

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.