



# Comparison of RP Materials

	ASTM Test	Test Units	SLA 9120	SLA 11120 (Watershed)	SLA 12120 (Prototherm)	SLA 18420	SLA 18420 Thermo Post Cure	SLA DMX-SL 100	SLS GF Nylon	FDM ABS	FDM PC
Strength at Yield	D638M	psi	4,600	7,303	11,200	6,250	9,750	6,500	6,527	3,132	7,635
Elongation at Yield	D638M	%	20	3.4							
Elongation at Break	D638M	%	n/a	16	4.5	12	7	20	6	3	3.6
Flexural Strength	D790M	psi	6,350	9,954	15,000	9,950	12,500	9850		4,975	11,068
Flexural Modulus	D790M	psi	205,000	320,000	444,000	299,000	335,000	332,000	319,000	176,000	212,000
Izod Impact- Notched	D256A	ft-lb/in	0.95	0.5	0.32	0.39	0.38	1.23	2.8	2	1
Deflection Temperature	D648	°F@ 66 psi	134	123	259	130	204	112	347	210	260
Water Absorption	D570-98	%	Not Tested	0.25-0.35	0.24	0.68	0.61	0.83	Not Tested		
Density		g/cm3 at 220 F	Not Tested	1.12	1.15	1.16	1.16		Not Tested		
Characteristics			Polypropylene-like High Flexibility	Waterclear/ Flexible Non-Hydroscopic	High Heat Non-Hydroscopic	ABS-Like Properties Non-Hydroscopic	ABS-Like Properties High Heat Non-Hydroscopic	ABS-Like Properties High Impact	High Impact Strength High Heat High Strength	High Impact Strength High Heat	High Impact Strength High Heat High Strength
Best Surface Finish & Best Accuracy									Best High Heat + Strength		
Specific Applications			Polypropylene-like Snap Fits Flex Requirements	Optical Requirements QuickCast Patterns Water Flow Analysis	Air Flow Testing Underhood Applications	Functional Assemblies Appearance Models	Functional Assemblies Appearance Models	Functional Assemblies High Strength	High Heat High Strength Living Hinges	Functional Assemblies High Strength RF Testing	Functional Assemblies High Strength RF Testing
General Applications			Form/Fit, Tooling Patterns, & Some Functional Testing					Form/Fit Functional Testing	Form/Fit Functional Testing Living Hinges	Form/Fit Functional Testing	Form/Fit Functional Testing