	PA11	PA12 (Unfilled Nylon 12)		PA12 (Filled Nylon 12)	PA6	TPU	PEKK	Windform	PP
Manufacturer	ALM	Farsoon	ALM	ALM	BASF	Luvosint	Arkema	CRP	Lehmann & Voss
Name	PA-850 Black	FS3300	PA 650	PA 615-GS	Ultrasint PA6 X028	X92A-2	6003	Windform XT 2.0	Luvosint PP
Melting Temp. [°C]	200	183	181	186	222	160	300-305	179	149
Part density [g/cm³]	1,03	0,95	1,02	1,49	1,14	1,2	1,27	1,097	
Tensile Strength [Mpa]		46					88 (53 at High Temp)	83	
Tensile Strength (XY) [Mpa]	48		48		75	20			24
Tensile Strength (Z) [Mpa]	42				57	15			21
Elastic modulus [Mpa]		1602					2,9 Gpa	8928	
Elastic modulus (XY) [Mpa]	1475		1700	4100 - 5,910	3750				990
Elastic modulus (Z) [Mpa]	1427			2137	3750				1000
Elongation at Break [%]		36			13		> 80 (> 100 at High Temp)	3,8	
Elongation at Break XY [%]	51		24	1,6 - 2	6,5	520			22
Elongation at Break Z [%]	14				2	500			17
Shore Hardness	74		73			88 A			
Building Temperature [°C]	188	170,5	173		209	105 (100)	215	176	143
Properties	Outstanding mechanical properties without the need to double scan, very little out gassing (decreases the potential for “fogging” on the laser window)	Good anti-oxidative activities, Excellent Size stability, Excellent paint surface, Excellent mechanical properties, Low water absorption and easy-to-process	easy to process accros most laser sintering platforms, excellent detail and feature resolution, increased recyclability over other comparable unfilled nylon 12 materials	Parts exhibit excellent stiffness and mechanical properties, Tightly controlled glass particle size for a higher detailed surface finish, Increased recyclability over other commercial glass filled LS material	high accuracy and mechanical strength, high modulus and excellent thermal distortion stability	elastic components with high strength and abrasion resistance	High strength & Toughness; Chemical resistance; dimensional stability (isotropy)	High Elastic Module, High tensile strength --> Motorsports, High stiffness and excellent strength and reduced weight	3D-printing of light-weight parts with high toughness
Application	Cleated footwear device Highly functional end use parts Automotive housings, enclosures and connectors	Produce prototype pieces and end-use parts with high mechanical properties and toughness, Automobile gasoline pipe line, brake tube, Spare parts manufacturing or big parts joining with adhesives	Thin walled ducting components, Consumer products and sporting goods, Prototypes requiring durability, accuracy and end-use functionality, Ideal for low to mid-volume rapid prototyping and manufacturing	Automotive engine components, Mold and tooling applications, Complex geometries requiring accuracy and feature resolution, Ideal for rugged applications requiring stiffness at elevated temperatures	high performance functional parts, Mechanical moving parts, engine design, rearview mirror (internal complex structure), car door handle	Sports & Leisures > Sports shoes Pipes, Hoses & Fittings	Gearboxes, gears, clamps for oil hoses and coolant, raw thermally stressed components	Motorsport (aerodynamic components), functional parts, design studies, aerospace, and UAV sectors Motorsports (end plates and fences for F1 and IndyCar, alternator covers), Automotive (functioning cooling ducts, mirrors, headlight covers), Aerospace (UAV structures, small satellites, and spacecraft components), and Design fields.	automotive, robotics and many more applications