

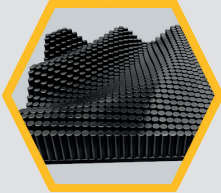
ADDITIVE MANUFACTURING PLASTIC

SELECTIVE LASER SINTERING SLS & HP MJF



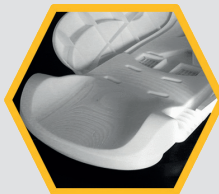
ACRONYM	SELECTIVE LASER SINTERING - SLS®									MULTIJET FUSION MJF®	
MATERIAL	PA 12	PA 12	PA 12 GLASS-FILLED	PA 11	PA12 ALUMINIUM-FILLED	PA 12 HALOGEN-FREE FLAME-RETARDANT	PA 12 FLAME-RETARDANT WITH HALOGEN	POLYURETHANE BLEND ELASTOMER-TYPE MATERIAL	POLYPROPYLENE	PA12	PA12 GLASS-FILLED
MATERIAL DENOMINATION	PA2200	PA2200 HD	PA3200	PA1101	ALUMIDE	PA2210 FR	PA2241 FR	TPU-70A	PP01	HP PA12	HP PA12 GB
PROPERTIES	Color: white - PA12 Flexible Temperature resistance: 160° C	Color: white Flexible High-precision	Color: white-grey Loaded with glass beads More abrasion-resistant. Imitation PA6.6 FV30	Color: white. Good impact resistance even under mechanical loads. Material with low elongation at break. Biosourced.	Color: aluminum gray. Metallic appearance, good stability (no deformation on large, flat parts).	Color: beige Polyamide self-extinguishing	Color: off-white	Flexible 80 +/- 5 shA	Color: White, off-white. Flexible. Close to injection-molded material.	Color: Dark gray. USP Class I and Class VI. Flexible Temperature resistance: 130°C.	Color: Light gray. Rigid. Good dimensional stability. T° resistance: 130°C.
AVAILABLE VOLUME	677 x 365 x 557 mm	190 x 240 x 294 mm	260 x 260 x 518 mm	310 x 310 x 578 mm	308 x 308 x 578 mm	290 x 290 x 578 mm	310 x 310 x 578 mm	260 x 260 x 300 mm	230 x 230 x 360 mm	380 x 284 x 380 mm	
APPLICATIONS	Functional parts				Rigid metal parts, injection molding tools	Electrical circuit parts, fireproof vehicle parts		Seals, shoe elements	Tank, machine parts	Functional parts	
PRECISION	Layer: 0.15 mm Wall thickness min: 0.8 mm	Wall thickness min: 0.4 mm Recommended wall thickness: 0.7 mm Layer thickness: 60µ / 100µ	Layer: 0.15 mm Minimum wall thickness: 0.8 mm			Layer : 0.15 mm Thickness certifications: 1.7-2 mm UL94 V0: 3 mm	Layer : 0.15 mm Certifications on thickness: 2 mm	Layer : 0.1 mm Recommended wall thickness > 1.5 mm	Layer : 0.1 mm Recommended wall thickness > 1 mm	Layer : 0.08 mm Recommended wall thickness> 1 mm	
ADVANTAGES	Good value for money	Very fine, detailed parts Need for high precision	Very resistant	Good elasticity and excellent chemical resistance	Easy to machine	Aeronautical parts certifications : UL 94 / V-0 / FAR 25	Aeronautical parts certifications : FAR 25 / CS 25 / JAR25 Fusion point 180°c	Elastomer close to the injected material	Very good impact resistance. Good elongation.	Good isotropic mechanical and dimensional properties.	
LIMITATIONS	Porous	Small parts	Porous	Porous	Porous	Porous	Porous	Slightly rough Surface finish	Surface finish Precision	Print lines visible on horizontally produced surfaces.	

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ACRONYM	STEREOLITHOGRAPHY - SLA®						MULTI-MATERIALS POLYJET®
MATERIAL	EPOXY RESIN					CERAMIC-FILLED COMPOSITE RESIN	POLYMER
MATERIAL DENOMINATION	Accura® 25	18420 ProtoGen™	Accura® ClearVue™	Accura® Xtreme™	Watershed Black	ULTRACUR 3280	VerowhitePlus®, VeroblackPlus®, Tango Black Plus®, Gray,
PROPERTIES	Color: Creamy white	White opaque Very good resolution and finesse Biocompatible specific cleaning procedure. USP Class VI.	Translucent Water-resistant Biocompatible > specific cleaning procedure. USP Class VI.	Color: gray. Hard material.	Color: Black Good mechanical and thermal properties.	Color: off-white, milky. Rigid, opaque	Rigid or flexible (between 27 and 95 ShA) multi-component White / Black / Grey shade
AVAILABLE VOLUME	650 x 751 x 540 mm	400 x 400 x 300 mm	650 x 751 x 540 mm	500 x 500 x 589 mm		400 x 320 x 392 mm	350 x 350 x 200 mm
APPLICATIONS	Aesthetic parts, master model  		Transparent assembly, headlights, lenses 	Electronic connectors 	Optical control parts and housings 	Thermophysical testing, electrical insulation 	Ornamental objects, flexible coverings  
PRECISION	Layer : 0.10 mm Recommended wall thickness : 1mm	Layer : 0.15 mm Recommended wall thickness : 1 mm	Layer : 0.10 mm Recommended wall thickness : 1 mm	Layer : 0.10 mm Recommended wall thickness : 1 mm	Layer : 0.10mm	Layer : 0.075mm - 0.10 mm Recommended wall thickness : 2 mm	Layer : 16µ ou 32µ Recommended wall thickness : 1 mm
ADVANTAGES	Very precise. Flexible resin. Very good surface finish.	Very fine, detailed parts Need for high precision Temperature resistance (90°C)	Can be polished and varnished to obtain transparent parts. Large gauge.	High impact resistance.	Black part in the mass. Good resistance to humidity	Temperature resistance (250°C) after TTH easy to polish	Simulation of overmolded parts Validation with tests of various hardnesses.
LIMITATIONS	Thin parts. Max. temperature : 58°C.	Small, detailed pieces.	Max. temperature : 46°C.	Lower precision. Max. temperature : 62°C	Max. temperature : 50°C.	Rigid, low impact resistance.	Limited mechanical resistance.

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Other materials available on request.

ACRONYM	FUSED DEPOSITION MODELING FDM®						
MATERIAL	ULTEM		POLYCARBONATE	ABS		ASA	NYLON 12CF
MATERIAL DENOMINATION	ULTEM® 9085	ULTEM® 1010 ULTEM® 1010 CG	PC BLANC PC BLANC PLUS	ABS ESD 7	ABS M30		
PROPERTIES	Gold or black. Heat-resistant. Temperature resistance: 170C°.	Color: Natural amber. High heat resistance. Low coefficient of thermal expansion. Chemical resistance. Temperature resistance: 214-217C°.	White. Heat-resistant, renowned for its superior impact resistance.	Color: black. Dissipation properties electrostatic. Temperature resistance: 101-104C°.	Colors: Black, white, ivory, red, gray and blue. Temperature resistance: 100C°.	Ivory or green. Other colors on request. Temperature resistance: 90C°.	Color: Black. Blend of Nylon 12 resin and carbon fiber filaments (35% by weight).
AVAILABLE VOLUME	406 x 355 x 406 mm / 914 x 610 x 914 mm						
APPLICATIONS	Metal element substitutes 		Functional parts 	Functional parts 	Form and fit checks, Functional prototyping 	Components exposed to outdoor conditions, All plastic parts 	Tools, Metal substitutes 
PRECISION	Layer : 0,178 à 0,33 mm Recommended wall thickness : 1,2 mm						Layer : 254 μ Recommended wall thickness : 1,5 mm
ADVANTAGES	Certifications: V0 BLUE CARD #E345258 UL 94 / V-0 / Railway standard EN-45545-2.	Certifications : ISO 10993 USP Class VI NSF 51 (food requirements)	Certifications : UL 94 / -HB. Sturdiness	Certifications : UL 94 / -HB. Good dimensional stability		UV resistance. Improved aesthetics.	Flexural strength and strength-to-weight ratio superior to any other FDM material.
LIMITATIONS	Surface finish						

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