

TECHNOLOGY	SELECTIVE LASER SINTERING					
ACRONYM	SLS®					
MATERIAL	Polyamid powder – pure or filled					
MATERIAL REFERENCE	PA2200	PA3200	ALUMIDE	PA2210 FR	PA2241 FR	PA2200 HD
PROPERTIES	Colour: white PA12 Flexible, ideal for hinges/clips Resistant to temperature < 130°C	Colour: white-grey Glass-filled More rigid and resistant to abrasion. Imitation PA6.6 GF30	Colour: Aluminium grey Aluminium-filled Metallic appearance Easy to machine, very rigid (less distortion risk for big flat parts)	Beige colour Flame-retardant	Colour: white Flame-retardant	Colour: white Flexible, ideal for clips extreme precision
ADVANTAGES	Functional, mechanical, thermal properties can be tested			Parts appropriate for aircraft industry certificates UL 94 / V-0 / FAR 25	Parts appropriate for aircraft industry certificates: FAR 25 / CS 25 / JAR25	Very fine and detailed parts Need for precision
LIMITATIONS	Porous	Porous	Porous	Porous	Porous	Small parts
PRECISION	Layer: 0.15mm Minimum Wall thickness: 0.8mm			Layer: 0.15 mm. Certified for a min. Wall thickness of 2mm	Layer: 0.15 mm. Certified for a min. Wall thickness of 2mm	Minimum Wall thickness: 0.4 mm Recommended Wall thickness: 0.7mm Layer thickness: 60µ / 100µ
EQUIPMENT	4 EOS® P380 - 1 EOS® P390 - 1 EOS® P396 capacity: 350 x 350 x 600 mm 2 EOS® P730 - 1 EOS® P770 capacity: 700 x 380 x 580 mm	2 EOS® P380 capacity: 350 x 350 x 600 mm	2 EOS® P380 capacity: 350 x 350 x 600 mm	1 EOS® P390 capacity: 350 x 350 x 600 mm	1 EOS® P396 capacity: 350 x 350 x 600 mm	2 machines EOSINT® P110 Formiga capacity: 200 x 250 x 330 mm
NOTICE	Between 3 and 5 days	Between 3 and 5 days	Between 3 and 5 days	Between 6 and 8 days	Between 6 and 8 days	Between 3 and 5 days
PRICE	€	€	€€	€€€	€€€	€

TECHNOLOGY	SELECTIVE LASER SINTERING			MULTIJET FUSION	
ACRONYM	SLS®			MJF	
MATERIAL	Polyurethane blend Elastomeric type material	Polypropylene	Polyamid 11	Polyamid powder – pure or filled	
MATERIAL REFERENCE	TPU-70A	PP 1200	PA1101	HP PA12	HP PA12 GB
PROPERTIES	Flexible 80 - 85 shA	Color: White, slightly translucent. Flexible. Close to injected material.	Color: white. Good impact resistance even under mechanical loads. Material with good elongation.	Color : Dark grey. USP Class I and Class VI. FDA food contact. Flexible, ideal for clips. Temperature resistance : 130°C.	Color: Light grey. Glass-filled. Rigid. Good dimensional stability. Temperature resistance : 130°C.
ADVANTAGES	Elastomer close to the injected material	Very good resistance to shocks. Good elongation.	Good elasticity and excellent resistance to chemicals (hydrocarbons, aldehydes, ketones, mineral bases and salts...).	Good isotropic mechanical and dimensional properties. Functional tests. Good sealing properties according to geometry.	
LIMITATIONS	Surface condition slightly rough	Surface finish. Accuracy.	Porous.	Visible print lines on horizontally produced surfaces.	
PRECISION	Layer: 0,1 Minimum Wall thickness: 1,5 mm	Layer: 0,1 mm Minimum Wall thickness: 1 mm	Layer: 0,12 mm or 0,15 mm Minimum Wall thickness: 0,8 mm	Layer : 0,08 mm Minimum Wall thickness > 1 mm	
EQUIPMENT	3 Prodways machine ProMaker P1000 Capacity: 300 x 300 x 300 mm		1 EOS P396 Capacity: 310 x 310 x 580 mm	2 HP MULTIJET FUSION 4210 machines Capacity: 380 x 284 x 380 mm	
NOTICE	Between 4 and 6 days		Between 4 and 6 days	Between 4 and 6 days	
PRICE	€		€ €	€	

TECHNOLOGY	STEREOLITHOGRAPHY					
ACRONYM	SLA® / STL					
MATERIAL	Epoxy resins (light sensitive)					
MATERIAL REFERENCE	Accura® 25	Accura® ClearVue™	Accura® Xtreme™	ULTRACUR 3280	18420 ProtoGen™	Watershed Black
PROPERTIES	White cream	Transparent, waterproof Biocompatibility > specific cleaning procedure. USP Class VI.	Color: grey. Rigid material.	Ceramic-filled composite resin Rigid, opaque white, ceramic-like color	Opaque white Very high resolution Biocompatibility > specific cleaning procedure. USP Class VI.	Color: Black Good mechanical characteristics and thermal.
ADVANTAGES	High flexibility with excellent shape retention. High precision	Polish+ clear coat for better transparency. Ideal for big parts	Functional assemblies, good impact resistance.	Highly resistant on temperature (250°C after post-cure) ideal for wind tunnels testing Easily polished => model for metal plating	high precision, smooth surface ideal for presentation models Can also be used as a model for vacuum casting. Ideal for small parts. Highly resistant on temperature : 90°C post-cure.	Black mass-colored part Good resistance to humidity.
LIMITATIONS	Thin pieces. Max. temperature : 58°C.	Temperature resistance: 46°C	Reduced precision. Max. temperature : 62°C	Low shock resistance	Small pieces with details.	Max. temperature : 50°C.
PRECISION	Layer= 0,10 mm Minimum Wall thickness recommended= 1mm	Layer= 0.10 mm Minimum Wall thickness recommended= 1 mm	Layer= 0.10 mm Minimum Wall thickness recommended= 1 mm	Layer= 0,075mm - 0,10mm Minimum Wall thickness recommended= 2 mm	Layer: 0.15 mm Minimum Wall thickness: 1 mm	Layer: 0.10mm
EQUIPMENT	2 3D Systems® Machines ProX™ 800 Capacity: 650 x 750 x 550 mm	1 3D Systems® Machine ProX™ 800 Capacity: 650 x 750 x 550 mm	1 3D Systems® Machine SLA5000 capacité : 500 x 500 x 600 mm	1 Prodways Machines ProMaker L5000 capacity: 400 x 330 x 400 mm	1 EOS 400SX Machine capacity: 400 x 400 x 300 mm	1 3D Systems® Machine SLA5000 capacité : 500 x 500 x 600 mm
NOTICE	Between 3 and 5 days	Between 3 and 5 days	Between 3 and 5 days	Between 3 and 5 days	Between 3 and 5 days	Between 5 and 7 days
PRICE	€€	€€	€€	€€	€€	€€€

TECHNOLOGY	POLYJET®	FUSED DEPOSITION MODELING		VACUUM CASTING
ACRONYM	MULTI-MATERIALS	FDM®		
MATERIAL	Acrylate based	ULTEM® 9085 Polycarbonate PC W ABS M30 - ABS ESD 7	NYLON 12CF	Polyurethane - Resin: Transparent, rigid, Similar to thermoplastic, rubber-like, silicone Epoxy Resin: Medical
MATERIAL REFERENCE	Verowhite®, Tango Black Plus®, Gray			Contact us for advise
PROPERTIES	Rigid or flexible (27 to 95 Sh A) multi-component	ULTEM®: Golden or Black Polycarbonate PC W: White ABS: Ivory, Black or Red.	Color: Black The material is a blend of Nylon 12 resin and carbon fiber filaments, which make up 35% of its weight.	PP-like, ABS-like, Filled.. Hardness 40 to 100 Sh. A.
ADVANTAGES	Simulation moulded parts Validation tests with several hardnesses	ULTEM®: certificates UL 94 / V-0 Fire protection of railway vehicles EN-45545-2 Highly resistant on temperature Polycarbonate PC W: certificates UL 94 / -HB Solidity ABS: certificates UL 94 / -HB Good dimensional stability	Flexural strength and strength-to-weight ratio superior to any other FDM material. Thermoplastic suitable for tooling production combining strength and lightness. Functional prototypes.	Small series (with 1 Mould= approx. 20 replicas) Similar to injected material (rigid, flexible, mixed) Possibility of thread and overmoulded parts (e.g.: inserts), coloured, transparent, temperature or shock resistant parts.
LIMITATIONS	Limited mechanical resistance	Smooth surface	Smooth surface	Tolerances on large pieces
PRECISION	Layer: 16µ or 32µ Minimum Wall thickness: 1 mm	Layer: 0,178 to 0,33 mm Minimum Wall thickness: 1,2 mm	Layer: 250 µ Minimum Wall thickness: 1,5 mm	Minimum Wall thicknes: 0.5mm
EQUIPMENT	1 Connex® 350 Machine Capacity: 350 x 350 x 200 mm	1 Stratasys® Fortus 900MC Machine Capacity: 914 x 610 x 914 mm	1 machine Stratasys® Fortus 450MC Capacity: 406 x 355 x 406 mm	1 UGM 700 Machine – cap. 800 x 700 x 700 3 UGM 400 Machines – cap. 400 x 400 x 400 Parts of 1mm to 630mm (inside vacuum chamber). Please contact us for parts beyond these dimensions.
NOTICE	Between 2 and 4 days	Between 2 and 8 days	Between 2 and 8 days	Between 3 and 5 weeks
PRICE	€ for a few parts €€€ for many similar parts	€ ABS - €€ PC W €€€ ULTEM®	€€€	€€€ for a few parts € order small serie (approx. 20 replicas / mould)