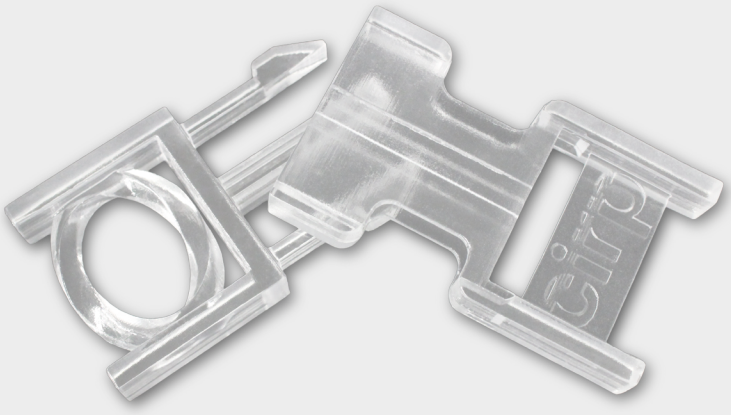

Stereolithography

For the rapid implementation of what you have developed, including components that can withstand thermal and mechanical stresses

Stereolithography (SLA) rapidly delivers mechanically robust prototypes and master patterns for downstream process such as vacuum moulding, directly from the CAD data.

PRINCIPLE

The process uses a liquid resin that is hardened in layers using a laser.

APPLICATION

Stereolithography allows high-precision components to be produced for any industry. SLA pieces are particularly suitable for functioning initial samples, wind tunnel models, master patterns for moulding procedures, function prototypes, design models and for testing designs.

THE BENEFITS FOR YOU

- Very rapid implementation
- Parts that are capable of withstanding thermal and mechanical stresses
- The most intricate structures and precise edges
- Excellent dimensional accuracy
- Smooth and dense surface structures
- Transparent components possible
- Simple mechanical post-processing

OUR FACILITIES

3D Systems - IPro™8000 SLA Center
Building space (X x Y x Z) 650 x 750 x 550 mm
3D Systems - SLA Viper
Building space (X x Y x Z) 240 x 240 x 70 mm
3D Systems - SLA 7000
Building space (X x Y x Z) 500 x 500 x 550 mm
3D Systems - SLA 5000
Building space (X x Y x Z) 500 x 500 x 550 mm

TYPICAL BATCH SIZES

1-5 pieces and more

Material data

Photopolymers are used in the 3D systems machines. We use materials that combine a high degree of rigidity with very good mechanical properties.

Description	Accura® ClearVue	WaterShed® XC 11122	Accura® 25	Somos® EvoLVe 128	Accura® Xtreme
Colour	transparent	transparent	white	white	grey
Hardness [Shore D]	84		80	82	
Flexural modulus [MPa]	1560 - 2040	2205	1380 - 1660	2654	1520 - 2070
Bending strength [MPa]	53 - 67	68,7	55 - 58		57 - 71
Tensile modulus of elasticity [MPa]	2030 - 2220	2770	1590 - 1660	2964	1790 - 1980
Tensile strength [MPa]	41 - 46	50,4	55 - 58	56,8	38 - 44
Elongation at break [%]	4 - 7	15,5	13 - 20	11	14 - 22
Notched bar impact strength [kJ/m²]	43 - 67	25	19 - 24	38,9	35 - 52
Water Absorption [%]		0,35		0,40	
Density [g/cm³]	1,17	1,12	1,19	1,12	1,19
HDT @ 0.45 MPa [°C]	46	50	58 - 63	52,3	62

Under no circumstances can the published information about the material data be considered as express warranty or otherwise. The application of these information and references as well as the decision on the suitability of any product for special applications is in all cases subject to the sole responsibility of the user.

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