

Stereolithography Materials

SL
DIRECT

for use on

RenShape® SL 7580

Solid State Laser
SLA® systems

Durable Stereolithography Material that Simulates ABS

- Good durability, stable with time
- Outstanding appearance
- Improved side walls and fine features
- High rigidity
- Excellent for RTV patterns
- Good temperature performance

Liquid Material

MEASUREMENT	CONDITION	VALUE
Appearance		White
Density	@ 25°C (77°F)	1.18 g/cm ³
Viscosity	@ 28°C (82°F)	580 cps
Viscosity	@ 30°C (86°F)	500 cps
Penetration depth (Dp)		4.7 mils
Critical exposure (Ec)		9.4 mJ/cm ²
Part building layer thickness*		0.10mm (0.004in)

*Dependent upon part geometry and build parameters.

Post-Cured Material

MEASUREMENT	TEST METHOD	**VALUE	VALUE
		90-minute UV post-cure	90-minute UV + 2 hours @ 80°C thermal post-cure
Hardness, Shore D	ASTM D 2240	84	85
Flexural modulus	ASTM D 790	2,400 MPa (340 KSI)	2,300 MPa (330 KSI)
Flexural strength	ASTM D 790	83 MPa (12,000 PSI)	83 MPa (12,000 PSI)
Tensile modulus	ASTM D 638	2,300 MPa (330 KSI)	2,300 MPa (330 KSI)
Tensile strength	ASTM D 638	53 MPa (7,700 PSI)	59 MPa (8,500 PSI)
Elongation at break	ASTM D 638	11%	10%
Impact strength, notched Izod	ASTM D 258	34 J/m (0.6 ft - lbs/in)	34 J/m (0.6 ft - lbs/in)
Heat deflection temperature	ASTM D 648 @ 66 PSI @ 264 PSI	63°C (145°F) 52°C (126°F)	97°C (207°F) 76°C (169°F)
Glass transition, Tg	DMA, E" peak	70°C (158°F)	72°C (162°F)
Coefficient of thermal expansion	TMA (T<Tg)	123x10 ⁻⁶ /°C	133x10 ⁻⁶ /°C
Density		1.22 g/cm ³	

Caution Vantico products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper – not cloth towels – should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in Vantico publication No. 24264/3/e Hygienic precautions for handling plastics products of Vantico and in the Vantico Material Safety Data sheets for the individual products. These publications are available on request and should be referred to for fuller information.

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