Accurate, humidity resistant material for precision applications

SL 5510

CibaTool® build material for the Viper si2™ SLA® system

A versatile stereolithography material, SL 5510 material lets you bring part accuracy to your most demanding applications. SL 5510 material is well suited for many of the high accuracy and high precision applications capable with the Viper si2 system.

MAXIMIZE YOUR PART BUILDING PRODUCTIVITY A great complement to the dual mode feature on the Viper si2 system, SL 5510 is easy to use and offers high green strength to maintain part accuracy during processing.

ENJOY EASIER FINISHING; MAINTAIN PART INTEGRITY. SL 5510's sidewall quality yields parts with smooth surfaces, right out of the vat, that require minimal finishing. And its humidity resistance preserves your parts' integrity during shipping and storage.

USE FOR A WIDE VARIETY OF APPLICATIONS. Build accurate prototype parts, master patterns, and mold inserts. The material's excellent optical clarity also makes it ideal for flow testing and inspection of complex internal passages. And for QuickCast™ build style applications, SL 5510's low viscosity means fast drainage and easy cleanup.

Use SL 5510 material for:

- Multi-purpose models
- Prototypes
- Form/fit/function testing
- QuickCast patterns for investment casting
- Master patterns for secondary processes
- Prototype tooling inserts
- High humidity applications
- Fluid flow visualization

si2™ SLA® SYSTEM

SL 5510 Typical Properties

for the Viper si2 SLA system

Liquid Material

Measurement	Condition	Value
Appearance		Clear amber
Density	@ 25°C (77°F)	1.13 g/cc
Viscosity	@ 30°C (86°F)	180 cps
Penetration depth (Dp)		4.8 mils
Critical exposure (Ec)		8.9 mJ/cm^2
Part building layer thickness*		0.05 mm (0.002 in)
		0.10 mm (0.004 in)
*Dependent upon part geometry and build parameters.		0.15 mm (0.006 in)

Post-Cured Material

Measurement	Test Method	Value 90-minute UV post-cure	Value 90-minute UV + 80°C Thermal
Tensile strength	ASTM D 638	66 MPa (9,500 PSI)	73 MPa (10,600 PSI)
Tensile modulus	ASTM D 638	2,854 MPa (414 KSI)	2,820 MPa (409 KSI)
Elongation at break	ASTM D 638	5.4%	7.9%
Flexural strength	ASTM D 790	103 MPa (14,900 PSI)	101 MPa (14,600 PSI)
Flexural modulus	ASTM D 790	2,896 MPa (420 KSI)	2,792 MPa (405 KSI)
Impact strength, notched Izod	ASTM D 256	26 J/m (0.48 ft - lbs/in)	30 J/m (0.57 ft - lbs/in)
Heat deflection temperature	ASTM D 648 @ 66 PSI @ 264 PSI	 54°C (129°F) 47°C (117°F)	 78°C (172°F) 70°C (158°F)
Glass transition, Tg	DMA, E" peak	63°C (145°F)	64°C (147°F)
Coefficient of thermal expansion	TMA (T<Tg) TMA (T>Tg)	108ppm/°C 221ppm/°C	97ppm/°C 186ppm/°C
Thermal conductivity		NA	
Hardness, Shore D	DIN 53505	88	88
Density		NA	

MATERIAL UPGRADE PROGRAM Upgrade your existing material and take advantage of a substantial discount off the regular purchase price with 3D Systems Material Upgrade Program. To place an order, contact your local sales office or in the US call toll free 800.889.2964.

Like all our stereolithography materials, SL 5510 is developed and manufactured by Vantico (formerly Ciba Specialty Chemicals, Performance Polymers Division), for exclusive distribution by 3D Systems. Vantico and 3D Systems collaborate continually to develop faster, more durable, and more accurate materials for all our SLA solid imaging systems, and for your solid imaging applications.

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