

## Accurate material with excellent application in prototyping and investment casting

# SL 5170

CIBATOOL® BUILD MATERIAL FOR THE  
SLA® 190/250 SYSTEM

Designed exclusively for the SLA 190 and SLA 250 series stereolithography systems, SL 5170 is an accurate and highly versatile material suitable for everything from concept models, to working prototypes, to patterns for molding and investment casting.

**BUILD EXTREMELY ACCURATE PARTS.** SL 5170 is an exceptionally accurate material – especially when used with the QuickCast™ and EXACT™ build styles.

**USE IT FOR A VARIETY OF APPLICATIONS.** SL 5170's optical clarity allows for visualization of flow and complex internal structures. Its material properties are comparable to – and sometimes exceed – medium impact polystyrene plastics, making it suited for assemblies and form/fit/function testing. Its low viscosity results in QuickCast patterns that drain faster, and yield lighter patterns for a higher investment casting success rate.



Turbine blade part courtesy of Snecma

**COUNT ON EASE OF USE.** SL 5170's high green strength maximizes productivity and maintains part accuracy during processing.

### Use SL 5170 material for:

- CONCEPT AND COMMUNICATION MODELS
- PROTOTYPES
- FORM/FIT/FUNCTION TESTING
- MOLDING AND INVESTMENT CASTING PATTERNS
- TOOLING MASTER PATTERNS
- PROTOTYPE TOOLING
- FLUID FLOW VISUALIZATION



# SL 5170 Typical Properties

for the SLA 190/250 systems



## Liquid Material

MEASUREMENT	CONDITION	VALUE
Appearance		Clear amber
Density	@ 25°C (77°F)	1.14g/cc
Viscosity	@ 30°C (86°F)	165 - 195 cps
Penetration depth (Dp)		4.8mils
Critical exposure (Ec)		13.5mJ/cm <sup>2</sup>
Part building layer thickness*		0.10 mm (0.004 in) 0.15 mm (0.006 in)

\*Dependent upon part geometry and build parameters.

## Post-Cured Material

MEASUREMENT	TEST METHOD	VALUE 90-minute UV post-cure
Tensile strength	ASTM D 638	59 - 60 MPa (8,600 - 8,800 PSI)
Tensile modulus	ASTM D 638	3,737 - 4,158 MPa (542 - 603 KSI)
Elongation at break	ASTM D 638	8%
Flexural strength	ASTM D 790	107 - 108 MPa (15,500 - 15,700 PSI)
Flexural modulus	ASTM D 790	2,920 - 3,006 MPa (423 - 436 KSI)**
Impact strength, notched Izod	ASTM D 256 DIN 53455/ISO R 527	27 - 37 J/m (0.5 - 0.7 ft - lbs/in)
Heat deflection temperature	@ 66 PSI @ 264 PSI	55°C (131°F) 49°C (120°F)
Glass transition, Tg	DMA	65 - 90°C (149 - 184°F)
Coefficient of thermal expansion	TMA (T<Tg)	90ppm/°C (184°F)
Thermal conductivity		0.200 W/m.°K (4.78 x 10 <sup>-4</sup> Cal/sec.cm.°C)
Hardness, Shore D	DIN 53505	85
Density		1.22 g/cm <sup>3</sup>

**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 5170 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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