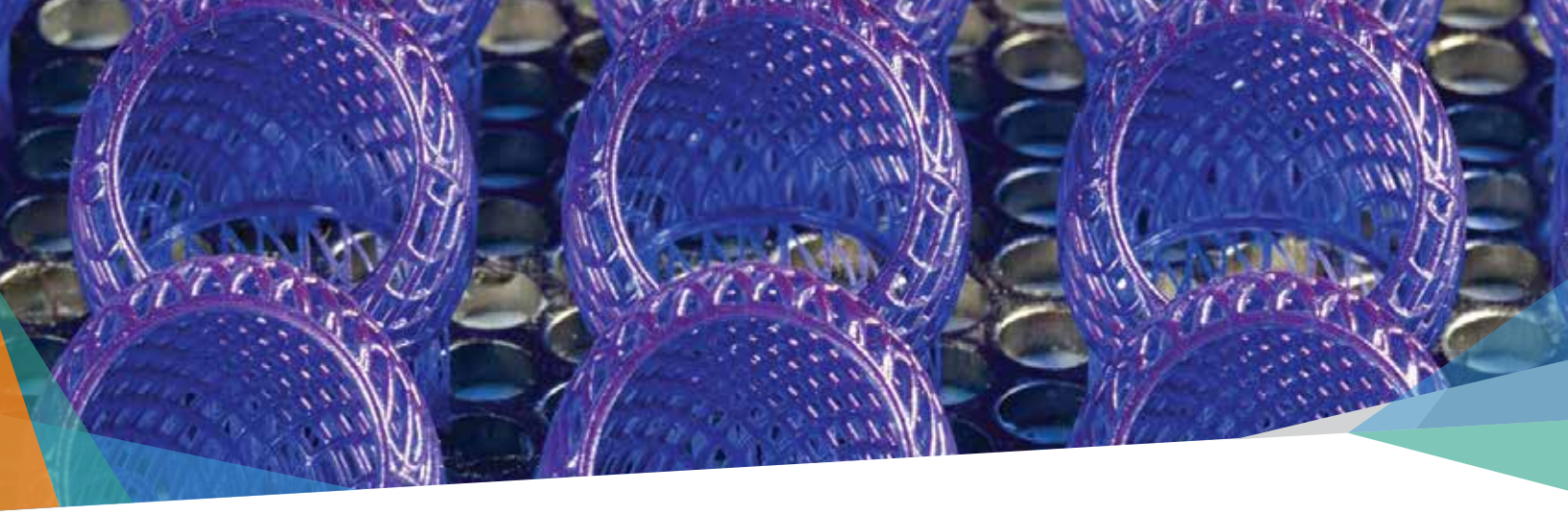


Accura® Sapphire

High-resolution material for accurate casting master patterns for jewelry manufacturing.

Specialty Class

Stereolithography (SLA)

MANUFACTURE MASTER PATTERNS FOR THE FINEST JEWELRY PIECES

Delivering excellent accuracy and resolution, 3D Systems Accura Sapphire SLA material is designed for high volume production of direct casting models and accurate patterns for silicon or rubber molding, for jewelry and other microcasting applications.

Its outstanding precision and surface finish make Accura Sapphire material also suitable for design testing and presentation with stunning high contrast, painted or plated models.

APPLICATIONS

- Jewelry manufacturing
  - Sacrificial patterns for direct casting
  - Master patterns for rubber/silicone molding
- Models requiring high detail

BENEFITS

- Fine features are faithfully reproduced
- Easy feature visualization
- Material can be burned out for direct casting
- Suitable for rubber molding

FEATURES

- Outstanding accuracy
- High resolution in X, Y and Z dimensions
- High contrast deep blue color
- Low ash formulation

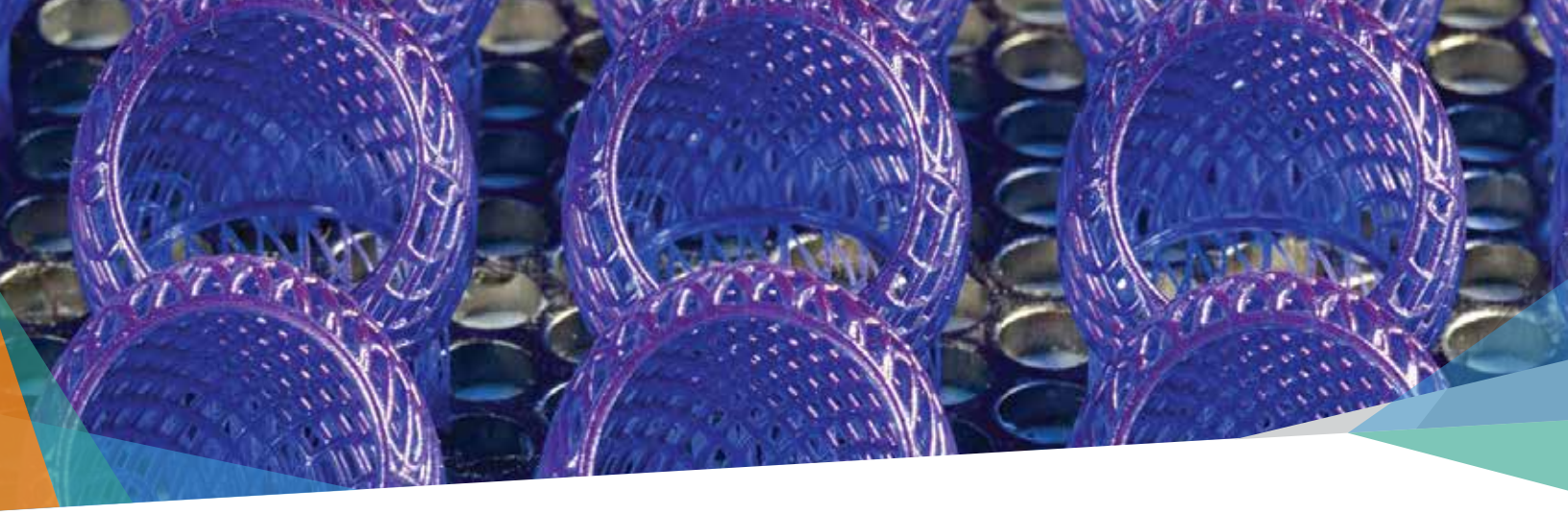
Liquid Material

MEASUREMENT	CONDITION	VALUE
Viscosity	@ 30 °C (86 °F)	160-200 cps
Penetration Depth (Dp)		2.9 mils
Critical Exposure (Ec)		8.23 mJ/cm^2
Color		Sapphire Blue
Liquid Density	@ 25 °C (77 °F)	1.1 g/cm^3 | 0.04 lbs/in^3

Printer Compatibility/Packaging:

ProJet® 6000/7000 SLA printers:	2L cartridge
Viper si2™ SLA printer:	5 kg container

3D SYSTEMS®



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Post-Cured Material

MECHANICAL PROPERTIES		VIPER SI2 SLA PRINTER		PROJET SLA PRINTERS[1]	
MEASUREMENT	CONDITION	METRIC	U.S.	METRIC	U.S.
Tensile Strength (MPa | PSI)	ASTM D 638	20-24	9280-9720	40	5800
Tensile Modulus (MPa | KSI)	ASTM D 638	910-1110	406-577	1910	277
Elongation at Break	ASTM D 638	9-16 %		12 %	
Flexural Strength (MPa | PSI)	ASTM D 790	28-38	15200-17100	61	8850
Flexural Modulus (MPa | KSI)	ASTM D 790	1080-1420	400-493	1820	264
Impact Strength (J/m | Ft-lbs/in)	ASTM D 256	29-40	0.4-0.5	45	0.9
Heat Deflection Temperature @ 0.45 MPa (66 PSI) @ 1.82 MPa (264 PSI)	ASTM D 648	 38 °C 33 °C	 100 °F 91 °F	 38 °C 32 °C	 100 °F 90 °F
Coefficient of Thermal Expansion (CTE) (µm/m-°C / µm/in-°F)	ASTM E 831-93 TMA (T<Tg, 25-50 °C) TMA (T<Tg, 75-140 °C)	 135 165	 75 92	 NA NA	 NA NA
Glass Transition (Tg)	DMA, E"	51 °C	124 °F	60 °C	140 °F
Hardness, Shore D		72		80	
Solid Density (g/cm^3 | lbs/in^3)	@ 25 °C (77 °F)	1.18	0.043	1.19	0.043

[1] Accura Sapphire was also previously marketed under the VisiJet® SL Jewel name for the ProJet 6000 and 7000 printers

3D SYSTEMS®

www.3dsystems.com