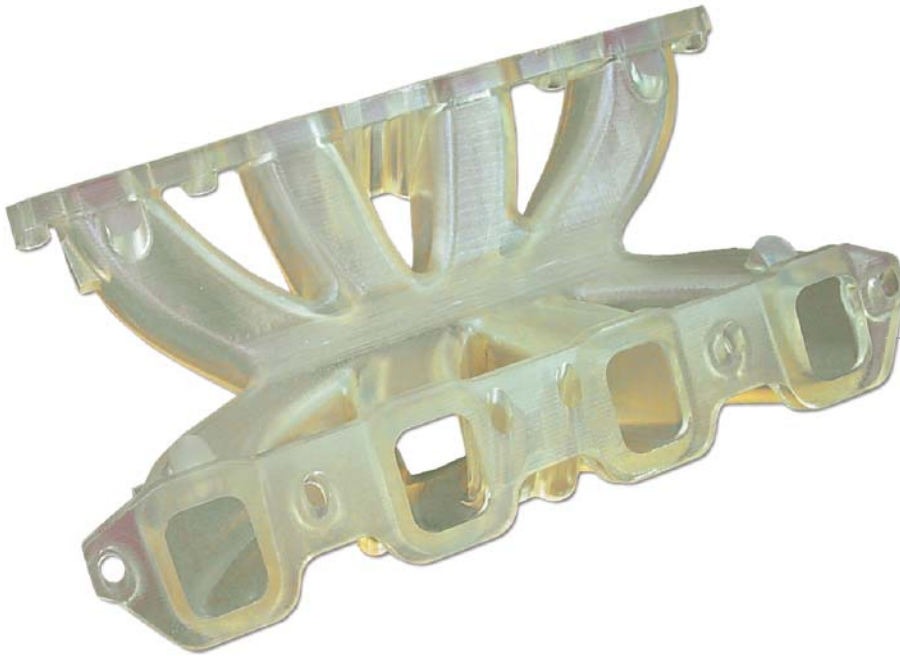


Accura[®] 48HTR Plastic



PROTOFACTURING



Automotive intake manifold used for fit checking and performance testing

A Strong, Rigid & Thermally Resistant SLA[®] Plastic for your most demanding application needs

Applications

- Automotive Testing
 - Under the hood
 - Fluid flow and visualization
 - Intake manifold design analysis and verification
 - Coolant flow analysis
 - Heating Air duct models
 - Transmission fluid flow analysis
- Electronic controls prototypes
- Aerospace wind tunnel models
- High rigidity models
- Long lived prototypes

Features

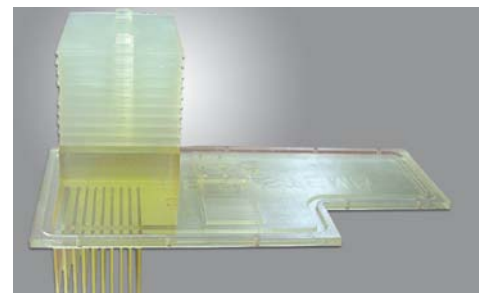
- Temperature resistant to 130 °C (266 °F)
- High humidity and moisture resistance
- High rigidity
- Low viscosity formulation

Benefits

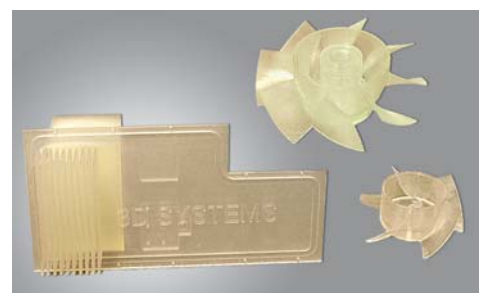
- Suitable for high temperature testing
- Stable mechanical properties over time
 - Parts maintain modulus in humid environments
 - Extended part life
- Parts are strong and maintain shape
- Fast recoating and cleaning



Impeller design study.



Electronic heat sink prototype.



CPU Cooling fans, and heat sink prototypes.

Technical Data

Liquid Material

Measurement	Condition	Value
Appearance		Clear Amber
Liquid Density	@ 25 °C (77 °F)	1.17 g/cm ³
Solid Density	@ 25 °C (77 °F)	1.23 g/cm ³
Viscosity	@ 30 °C (86 °F)	200 - 250 cps
Penetration Depth (Dp)*		5.5 mils
Critical Exposure (Ec)*		7.4 mJ/cm ²
Tested Build Styles		Viper™ - EXACT™, EXACT™-HR Viper™ Pro - EXACT™

Post-Cured Material

Measurement	Condition	Metric	US
Tensile Strength	ASTM D 638	64 - 67 MPa	9280 - 9720 PSI
Tensile Modulus	ASTM D 638	2800 - 3980 MPa	406 - 577 KSI
Elongation at Break (%)	ASTM D 638	4 - 7%	4 - 7%
Flexural Strength	ASTM D 790	105 - 118 MPa	15200 - 17100 PSI
Flexural Modulus	ASTM D 790	2760 - 3400 MPa	400 - 493 KSI
Impact Strength (Notched Izod)	ASTM D 256	22 - 29 J/m	0.4 - 0.5 ft-lb/in
Heat Deflection Temperature	ASTM D 648		
- UV Postcure Only	@ 66 PSI	65 °C	149 °F
- UV Postcure Only	@ 264 PSI	57 °C	135 °F
- UV + thermal postcure (2 hr @ 160 °C)	@ 66 PSI	130 °C	266 °F
- UV + thermal postcure (2 hr @ 160 °C)	@ 264PSI	110 °C	230 °F
Co-efficient of Thermal Expansion	ASTM E 831-93		
	TMA (T<T _g , < 50 °C)	115 µm/m-°C	64 µin/in-°F
	TMA (T>T _g , > 120 °C)	165 µm/m-°C	92 µin/in-°F
Glass Transition(T _g)	ASTM D 4065-01		
- UV Postcure Only	DMA, E"	62 °C	144 °F
- UV + thermal postcure (2 hr @ 160 °C)	DMA, E"	132 °C	270 °F
Hardness, Shore D	ASTM D 2240	86	86



PROTOFACTURING

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