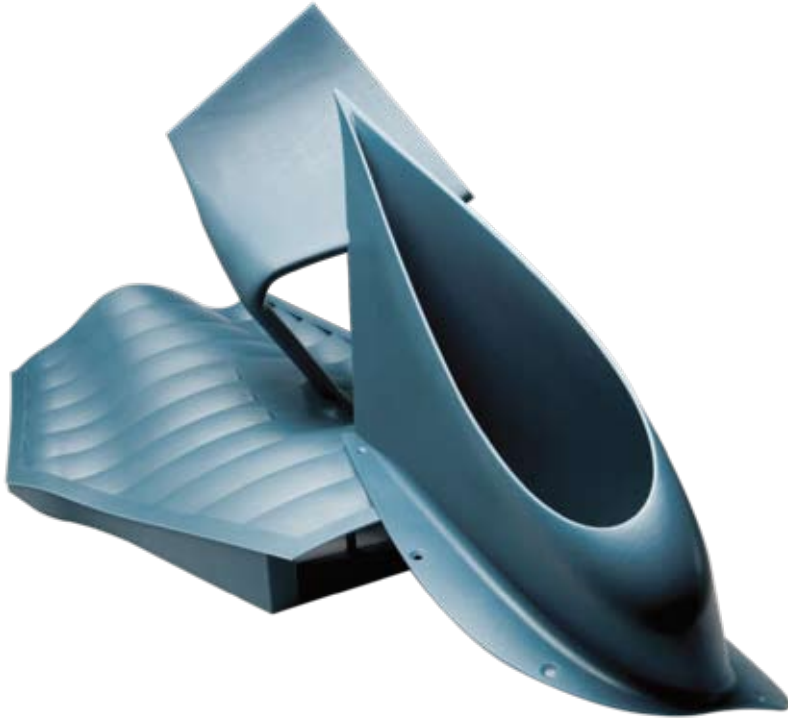


# Accura® Bluestone™ Plastic



BDSYSTEMS™



*Accura® Bluestone™ Plastic is optimally designed for production of high rigidity thermally resistant models such as the Formula 1 windtunnel models show.*

A high stiffness engineered nanocomposite that opens new applications for stereolithography users.

## Applications

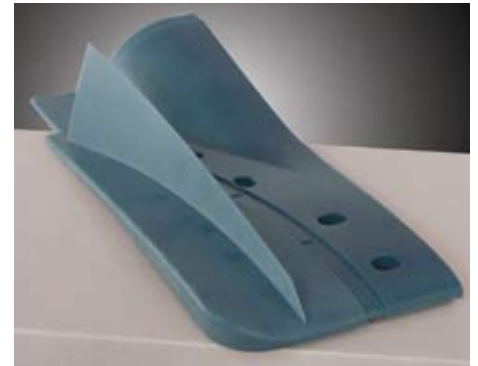
- Wind-tunnel testing for the motor sports and aerospace industries
- Production of CMM/inspection and assembly jigs and fixtures
- Lighting design and other applications where heat-generation from electrical components may be a factor
- Covers and enclosures of electrical and mechanical components
- Water-handling products, such as pump and impeller design or other components
- Automotive “under-the-hood” applications
- Housings and enclosures that require high stiffness and rigidity, such as those for business machines
- Electronic applications, such as insulating components, connectors, adaptor fittings, bases, sockets, and areas where ceramics might be used

## Features

- Exceptional stiffness
- High temperature resistance
- Excellent accuracy
- High humidity resistance
- Non-settling formulation
- Fully developed and tested build styles

## Benefits

- Accura Bluestone™ parts resist deformation even under heavy loads
- Resists temperatures up to 250 °C, making it suitable for tooling or other demanding applications
- Part retain their properties over time
- No expensive mixing equipment required
- Consistent mechanical properties, even on long builds
- Improves/enhance demanding applications: wind tunnel, soft tooling, injection mold tooling
- Maximize reliability with no user R&D



Aerodynamic part  
Image courtesy of Renault F1 Team.



Suited for electronic enclosures, and automotive lighting components where heat may be encountered.

# Accura<sup>®</sup> Bluestone<sup>™</sup> Plastic

For use with solid-state stereolithography (SLA<sup>®</sup>) Systems

*"Accura<sup>®</sup> Bluestone<sup>™</sup> nanocomposite has been an excellent addition to our expanding Accura<sup>®</sup> SL product line. Bluestone<sup>™</sup> has outstanding material properties including exceptional stiffness and an extremely high heat deflection. A naval customer came to APP for a propeller that needed to withstand real time testing in an ocean environment. The propeller was produced from Bluestone<sup>™</sup> and the customer was able to successfully perform testing without product failure. American Precision Prototyping customers demand accurate parts made with the best materials and Bluestone<sup>™</sup> has delivered every time. It is truly the best SL nanocomposite available today."*

**Jason Dickman-President**  
**American Precision**  
**Prototypes LLC**



Bluestone<sup>™</sup> nanocomposite material is ideal for wind-tunnel testing - where stiff components are required.  
 Image courtesy of Renault F1 Team.

## Technical Data

### Liquid Material

Measurement	Condition	Value
Appearance		Opaque blue
Liquid Density	@25 °C (77 °F)	1.70 g/cm <sup>3</sup>
Solid Density	@25 °C (77 °F)	1.78 g/cm <sup>3</sup>
Viscosity	@30 °C (86 °F)	1200 - 1800 cps
Penetration Depth (Dp)*		4.1 mils
Critical Exposure(Ec)*		6.9 mJ/cm <sup>2</sup>
Tested Build Styles		EXACT <sup>™</sup>

### Post-Cured Material

Measurement	Condition	Metric	U.S.
Tensile Strength	ASTM D 638	66 - 68 MPa	6.9 - 9.8 KSI
Tensile Modulus	ASTM D 638	7,600 - 11,700 MPa	1,100 - 1,700 KSI
Elongation at Break (%)	ASTM D 638	1.4 - 2.4 %	1.4 - 2.4 %
Flexural Strength	ASTM D 790	124 - 154 MPa	18 - 22.3 KSI
Flexural Modulus	ASTM D 790	8,300 - 9,800 MPa	1,200 - 1,417 KSI
Impact Strength (Notched Izod)	ASTM D 256	13 - 17 J/m	0.24 - 0.32 ft-lb/in
Heat Deflection Temperature	ASTM D 648		
UV Postcure only	@ 66 PSI	65 - 66 °C	149 - 151 °F
UV Postcure only	@ 264 PSI	65 °C	149 °F
UV + Thermal Postcure (120°C)	@ 66 PSI	267 - 284 °C	513 - 543 °F
Hardness, Shore D			92
Co-Efficient of Thermal Expansion	ASTM E 831-93 TMA (T<Tg, 0-20 °C) TMA (T<Tg, 90-150 °C)	33 - 44 (x10-6 m/m °C) 81 - 98 (x10-6 m/m °C)	
Glass Transition (Tg)	DMA, E"	71 - 83 °C	160 - 181 °F

\* Dp/Ec values are the same on all systems.



3D Systems Corporation  
 333 Three D Systems Circle  
 Rock Hill, SC 29730 U.S.A.

Tel: +1 803.326.4080  
 Toll-free: 800.889.2964  
 Fax: +1 803.324.8810

moreinfo@3dsystems.com  
 www.3dsystems.com  
 NASDAQ: TDSC

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