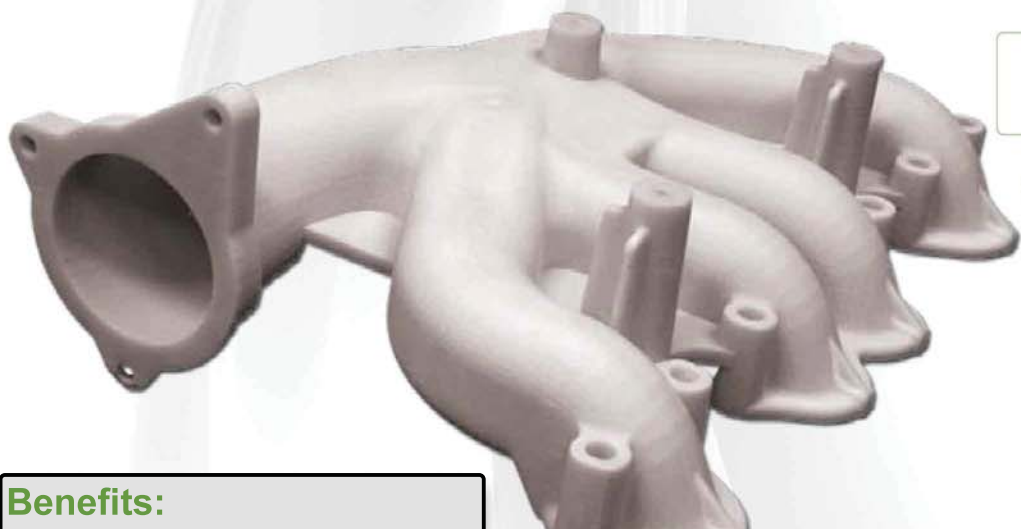


# SLS DuraForm® HST Composite



ISO 9001  
Registered



## Benefits:

- Functional prototypes can be tested in "real life" environments
- Complex end-use parts can be economically manufactured in low-to-medium volumes
- Excels in load-bearing applications at higher temperatures
- Attractive surface finish

## Features:

- High specific stiffness
- Elevated temperature resistance
- Anisotropic mechanical properties just like fiber-filled, injection molded materials
- Non-conductive and RF transparent
- Easy-to-finish surface

## Applications:

- Functional prototypes and end-use parts that require high stiffness and/or elevated thermal resistance
- Typical Applications include:
  - UAV structural components
  - Housings and enclosures
  - Impellers
  - Connectors
  - Consumer sporting goods

## General Properties

Measurement	Condition	Metric		U.S.	
		X-direction	Z-direction	X-direction	Z-direction
Specific Gravity	ASTM D792	1.20 g/cm <sup>3</sup>		1.20 g/cm <sup>3</sup>	

## Mechanical Properties

Measurement	Condition	Metric		U.S.	
		X-direction	Z-direction	X-direction	Z-direction
Tensile Strength, Yield	ASTM D638	N/A*		N/A*	
Tensile Strength, Ultimate	ASTM D638	48-51 MPa	31-34 MPa	7050-7350 psi	4500-4900 psi
Tensile Modulus	ASTM D638	5475-5725 MPa	2900-3000 MPa	795-831 ksi	421-434 ksi
Elongation at Yield	ASTM D638	N/A		N/A	
Elongation at Break	ASTM D638	4.5 %	2.7 %	4.5 %	2.7 %
Flexural Strength, Yield	ASTM D790	N/A		N/A	
Flexural Strength, Ultimate	ASTM D790	83-89 MPa	64-68 MPa	12000-12900 psi	9275-9850 psi
Flexural Modulus	ASTM D790	4400-4550 MPa	2625-2825 MPa	638-660 ksi	381-410 ksi
Hardness, Shore D	ASTM D2240	75		75	
Impact Strength (notched Izod, 23 °C)	ASTM D256	37.4 J/m		0.7 ft-lb/in	
Impact Strength (unnotched Izod, 23 °C)	ASTM D256	310 J/m		5.8 ft-lb/in	
Gardner Impact	ASTM D5420	5 J		3.7 ft-lb	

## Thermal Properties

Measurement	Condition	Metric		U.S.	
		X-direction	Z-direction	X-direction	Z-direction
Heat Deflection Temperature (HDT)	ASTM D648 @ 0.45 MPa @ 1.82 MPa	184 °C 179 °C	178.8 °C 135 °C	363 °F 355 °F	354 °F 276 °F
Coefficient of Thermal Expansion	ASTM E831 @ 0 - 50 °C @ 85 - 145 °C	138.3 µm/m-°C 267.2 µm/m-°C	102.7 µm/m-°C 184.2 µm/m-°C	76.8 µin/in-°F 148.4 µin/in-°F	57 µin/in-°F 102.3 µin/in-°F
Specific Heat Capacity	ASTM E1269	1.503 J/g-°C		0.359 BTU/lb-°F	
Flammability (3 mm)	UL 94	HB		HB	