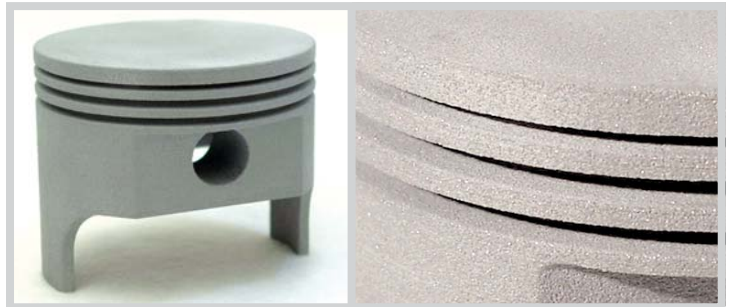


DuraForm® AF plastic

for use with all selective laser sintering (SLS®) systems



An engineered composite with the durability of an injection molded part and the appearance of cast aluminum.



*Left: Light grey metallic appearance simulates aluminum castings.
Above: Engineered composite parts are durable and functional.*

APPLICATIONS

- Functional prototypes or end-use parts that require high stiffness and/or heat resistance:
 - Aerodynamic wind-tunnel models
 - Household appliances
 - Consumer products
 - Automotive manifolds, ducts, etc.
 - Electrical clips, cases, etc.
- Accurate, durable master patterns
- Parts that require the look and feel of cast aluminum

FEATURES

- Aluminum-filled engineered composite
- Cast aluminum appearance
- High stiffness
- High heat deflection temperature
- Excellent surface finish and feature detail
- Low shrinkage
- Better recycle than competitive products

BENEFITS

- Rapidly produce parts with the look and feel of cast aluminum
- Address broad applications requiring high stiffness and heat-resistance
- Minimal finishing required
- Excellent dimensional accuracy
- Consistent, repeatable part quality
- Reduced cost per part

DuraForm AF plastic

For use with all selective laser sintering (SLS) systems

"Parts built in DuraForm AF have the combination of excellent feature detail and surface finish, along with good accuracy and stiffness. Our customers can use these parts for form, fit and functional applications that require the durability of injection molded parts, or the appearance of die or investment cast aluminum. For Scicon Technologies, DuraForm AF is an easy-to-process stable material even through multiple recycles, and delivers high part yield with minimal waste."

– Scott Turner, President, Scicon Technologies

Engineered composite parts are durable and functional.



DuraForm AF prototypes have excellent surface finish and feature detail.



Light grey metallic appearance simulates aluminum castings.



TECHNICAL DATA

General Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Appearance	Visual	Light grey metallic
Density (tap)	@ 25°C (77°F)	0.89 g/cm ³
Density (bulk)	@ 25°C (77°F)	0.69 g/cm ³

Mechanical Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Tensile Strength	ASTM D 638	35 MPa (5060 PSI)
Tensile Modulus	ASTM D 638	3960 MPa (574 KSI)
Elongation at Break (%)	ASTM D 638	1.5%
Flexural Strength	ASTM D 790	44 MPa (6290 PSI)
Flexural Modulus	ASTM D 790	3517 MPa (510 KSI)
Impact Strength (Unnotched Izod)	ASTM D 256	130 J/m
Hardness	Shore D	75

Thermal Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Heat Deflection Temperature (HDT)	ASTM D 648 @ 0.45 MPa/66 PSI	180°C (356°F)
	@ 1.82 MPa/264 PSI	137°C (279°F)
Co-efficient of Thermal Expansion	ASTM E 831 TMA (35 - 172°C)	109 x 10 ⁻⁶ m/m °C
Glass Transition (Tg)	DSC	40°C (104°F)

Electrical Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Volume Resistivity	ASTM D257	1.6 x 10 ¹³ ohm-cm
Surface Resistivity	ASTM D257	6.0 x 10 ¹² ohm
Dielectric Constant	ASTM D150	14.5
Dielectric Strength	ASTM D149	1.8 x 10 ² v/mm

Chemical Resistance

Alkalines, hydrocarbons, fuels and solvents.

Detailed test conditions are available upon request. Test samples were produced on a HiQ™ SLS® system, using new material.



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