



# VTEC™ GF63 Polyimide Parts & Shapes

*Strength, stability and flame resistance at elevated temperatures*

- High temperature resistance
- Superior mechanical properties
- Excellent chemical resistance
- Outstanding electrical properties
- Non-abrasive to mating parts
- Radiation resistant
- Very low outgassing
- Extremely dimensionally stable
- Strength at elevated temperature
- High compressive strength and creep resistance
- Superior resistance to plasma etching
- Wear resistance, low friction, self-lubricating
- Extremely low moisture absorption
- Compliant without deforming under load and temperature
- Zero metal and mineral extractables
- Equal CTE in X, Y and Z directions

## VTEC GF63 PHYSICAL PROPERTIES AT VARIOUS TEMPERATURES

VTEC — THE CERAMIC PLASTIC™	Test Method	VTEC™ GF63 75°F / 24°C	VTEC™ GF63 400°F / 205°C	VTEC™ GF63 475°F / 246°C
Specific Gravity	D792	<b>1.87</b>		
Barcol Hardness	—	<b>75</b>		
Coefficient Of Linear Thermal Expansion (in./in. °F 10 <sup>-6</sup> )	D696	<b>7.5</b>		
Dimensional Stability (% change, 24 hrs@ 475°F / 246°C)	—			<b>0.00</b>
Tensile Strength (psi)	D638	<b>11,000</b>	<b>11,000</b>	<b>12,000</b>
Flexural Strength (psi)	D790	<b>30,000</b>	<b>31,000</b>	<b>32,000</b>
Flexural Modulus (psi x 10 <sup>6</sup> )	D790	<b>2.3</b>	<b>2.1</b>	<b>2.2</b>
Impact Strength, Izod (ft. lbs./in.)	D256	<b>15</b>		
Water Absorption (%)	D570	<b>&lt;0.1</b>		
Thermal Oxidative Stability (100 hr. 360°F / 182°C, 60 psi loss)	—	<b>0.2%</b>		
Open-Hole Compressive Strength (Hot, Wet @ 475°F / 246°C)	D6484			<b>PASSED</b>
Flammability (1000 BTU cu. ft.)	<b>NON-BURNING, NO DRIP, NO GLOWING COMBUSTION</b>			
Flammability (1550°F / 816°C)	<b>NON-BURNING, NO DRIP, NO GLOWING COMBUSTION</b>			
Thermal Gravimetric Analysis (TGA) (932°F / 500°C)	<b>NO RECORDABLE WEIGHT LOSS</b>			
Glass Transition Temperature (T <sub>g</sub> )	<b>518°F / 270°C</b>			

## VTEC 'CERAMIC PLASTIC' AVAILABILITIES & CAPABILITIES

• <b>STOCK SHAPES</b>	Rod, sheet, tube and custom shapes for machined parts
• <b>DIRECT FORMING</b>	Net and near-net blanks (higher volume applications)
• <b>MACHINING</b>	RBI offers complete CNC machining of finished VTEC parts and components
• <b>CUSTOM COMPOUNDS</b>	VTEC grades can be engineered based on individual service and application needs. Fillers include glass, carbon, graphite, Teflon, MoS <sub>2</sub> , minerals, etc.

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