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	**1.87**		
Barcol Hardness	—	**75**		
Coefficient Of Linear Thermal Expansion (in./in. °F 10^{-6})	D696	**7.5**		
Dimensional Stability (% change, 24 hrs@ 475°F / 246°C)	—			**0.00**
Tensile Strength (psi)	D638	**11,000**	**11,000**	**12,000**
Flexural Strength (psi)	D790	**30,000**	**31,000**	**32,000**
Flexural Modulus (psi x 10^6)	D790	**2.3**	**2.1**	**2.2**
Impact Strength, Izod (ft. lbs./in.)	D256	**15**		
Water Absorption (%)	D570	**<0.1**		
Thermal Oxidative Stability (100 hr. 360°F / 182°C, 60 psi loss)	—	**0.2%**		
Open-Hole Compressive Strength (Hot, Wet @ 475°F / 246°C)	D6484			**PASSED**
Flammability (1000 BTU cu. ft.)	**NON-BURNING, NO DRIP, NO GLOWING COMBUSTION**			
Flammability (1550°F / 816°C)	**NON-BURNING, NO DRIP, NO GLOWING COMBUSTION**			
Thermal Gravimetric Analysis (TGA) (932°F / 500°C)	**NO RECORDABLE WEIGHT LOSS**			
Glass Transition Temperature (T_g)	**518°F / 270°C**			

VTEC 'CERAMIC PLASTIC' AVAILABILITIES & CAPABILITIES

• **STOCK SHAPES**	Rod, sheet, tube and custom shapes for machined parts
• **DIRECT FORMING**	Net and near-net blanks (higher volume applications)
• **MACHINING**	RBI offers complete CNC machining of finished VTEC parts and components
• **CUSTOM COMPOUNDS**	VTEC grades can be engineered based on individual service and application needs. Fillers include glass, carbon, graphite, Teflon, MoS_2, minerals, etc.

RBI, Inc. • 1517 Hill Road • Suite 5A • Reading • PA • 19602 • USA
610-236-1445 • Fax: 610-236-1446 • www.vtecpi.com • E-mail: mcd@rblaine.com