

ADVANCED INDUSTRIAL

HIGH PERFORMANCE PLASTIC SHAPES // PRECISION CNC MACHINED COMPONENTS



VERTEC 1023 is bronze filled PTFE (polytetrafluoroethylene). It provides better creep resistance than most of the PTFE alloys. It possesses high compressive strength and good wear and sliding properties. Most common applications include piston rings (compressors), bushes, bearings, and wear pads for high compression sliding applications. Certain chemicals may easily attack bronze.

Physical Properties	ASTM Method	Typical Values
Specific Gravity	D792	3.88 gr/cm ³
Water Absorption (24 hrs. @73.4° F)	D570	0.02 %
Color	N/A	Dark Brown

Mechanical Properties	ASTM Method	Typical Values
Tensile Strength	D1708	2000 psi
Tensile Elongation	D1708	100.0 %
Flexural Strength	D790	1750 psi
Flexural Modulus	D790	200000 psi
Compressive Strength	D695	1700 psi
Compressive Modulus	D695	118000 psi
Impact Strength (Izod, notched)	D256	ft-lb/in
Hardness	Shore D	65

Tribological Properties	ASTM Method	Typical Values
Coefficient of Friction - Static	D3702	0.74
Coefficient of Friction - Dynamic	D3702	0.7
Wear Rate (PV: 20,000 psi-fpm)	D3702	0.7 μin/min

Thermal Properties	ASTM Method	Typical Values
Coefficient of Linear Thermal Expansion (78-400° F)	D696	53 10 ⁻⁶ /° F
Heat Deflection Temperature (@264 psi)	D648	175 ° F
Glass Transition Temperature (Tg)	D3418	266 ° F
Continuous Service Temperature (Max @ no load)		500 ° F
Melting Point		621 ° F

Electrical Properties	ASTM Method	Typical Values
Volume Resistivity	D257	10 ¹⁵ ohm-cm
Dielectric Strength	D149	KV/mm
Dielectric Constant	D150	Hz, 200° C