Technical Data Sheet

EVANTIC®

Performance Polymers | Engineered Components | Custom Solutions®

VERTEC™ 7023

Bearing Grade PPS (PFAS-Free)

Product Description:

VERTEC™ 7023 is a proprietary bearing grade PPS (polyphenylene sulfide) based material. Internally lubricated and reinforced, it exhibits good tribological properties over a wide range of PV values and temperatures as a bearing material. Due to carbon fiber reinforcement, it has good load bearing capability.

Characteristics:

- High rigidity (PPS)
- Outstanding creep resistance
- Excellent flame resistance (PPS)
- Outstanding chemical resistance
- Outstanding hydrolytic stability (PES)

Typical Applications:

- Surface mount connectors
- Chip trays
- Bushings and thrust washers
- Backup rings
- Powertrain components
- Electrical insulators
- Microwave components
- Pump vanes and gears
- Blower components
- Flowmeter impellers
- Electric heater grills
- Radomes
- Power tool components
- Pulp and paper machinery components

Physical Properties	ASTM Method	Typical Values
Specific Gravity, g/cm^3 (lb/ft^3)	D792	1.5 g/cm^3 (93.6 lb/ft^3)
Water Absorption 24 hrs @73.4° F (23°C)	D570	0.03 %
Color	N/A	Black

Mechanical Properties	ASTM Method	Typical Values
Tensile Strength	D1708	7,500 psi (51.7 MPa)
Tensile Elongation	D1708	1.5 %
Flexural Strength	D790	13,100 psi (90.3 MPa)
Flexural Modulus	D790	850,000 psi (5,860.4 MPa)
Compressive Strength	D695	15,000 psi (103.4 MPa)
Compressive Modulus	D695	630,000 psi (4,343.7 MPa)
Impact Strength (Izod, notched)	D256	0.8 ft-lb/in
Hardness	Shore D	85

Tribological Properties	ASTM Method	Typical Values
Coefficient of Friction - Static	D3702	0.38
Coefficient of Friction - Dynamic	D3702	0.32
Wear Rate PV: 20,000 psi·fpm (137.9 MPa·m/s)	D3702	2.3 µin/min

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Thermal Properties	ASTM Method	Typical Values
Coefficient of Linear Thermal Expansion (78-200°F / 25.6-204.4°C)	D696	21 x 10 -6/° F
Heat Deflection Temperature (@264 psi / 1.82 MPa)	D648	490 ° F (254.4 °C)
Glass Transition Temperature (Tg)	D3418	200 ° F (93.3 °C)
Continuous Service Temperature (Max @ no load)		430 ° F (221.1 °C)
Melting Point		540 ° F (282.2 °C)

Electrical Properties	ASTM Method	Typical Values
Volume Resistivity	D257	10^5 ohm-cm
Dielectric Strength	D149	
Dielectric Constant	D150	

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