Technical Data Sheet

EVANTIC®

Performance Polymers | Engineered Components | Custom Solutions®

VERTEC™ 7100
Bearing Grade PPS

Product Description:

VERTEC™ 7100 is a proprietary bearing grade PPS (polyphenylene sulfide) material. Lubricated with PTFE and graphite, it exhibits good tribological properties over a wide range of PV values and temperatures; thus it serves well as a bearing material. Due to the low ductility of PPS, use of this material for applications where high impact loads are present must be carefully examined.

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/cm³ (lb/ft³)	D792	1.51 g/cm³ (93.6 lb/ft³)
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	8,600 psi (59.3 MPa)
Tensile Elongation	D1708	3.0 %
Flexural Strength	D790	12,000 psi (82.7 MPa)
Flexural Modulus	D790	820,000 psi (5653.7 MPa)
Compressive Strength	D695	10,000 psi (68.9 MPa)
Compressive Modulus	D695	600,000 psi (4136.8 MPa)
Impact Strength (Izod, notched)	D256	0.7 ft-lb/in
Hardness	Shore D	84

Tribological Properties	ASTM Method	Typical Values
Coefficient of Friction - Static	D3702	0.3
Coefficient of Friction - Dynamic	D3702	0.26
Wear Rate PV: 20,000 psi·fpm (137.9 MPa·m/s)	D3702	2.2 µin/min

© 2024 Evantic DS-7100 12/24

VERTEC™ 7100
Bearing Grade PPS

Thermal Properties	ASTM Method	Typical Values
Coefficient of Linear Thermal Expansion (78-200°F / 25.6-204.4°C)	D696	25 x 10 -6/° F
Heat Deflection Temperature (@264 psi / 1.82 MPa)	D648	450 ° F (232.2 °C)
Glass Transition Temperature (Tg)	D3418	200 ° F (93.3 °C)
Continuous Service Temperature (Max @ no load)		400 ° F (204.4°C)
Melting Point		540 ° F (282.2 °C)

Electrical Properties	ASTM Method	Typical Values
Volume Resistivity	D257	10^8 ohm-cm
Dielectric Strength	D149	
Dielectric Constant	D150	

Achieve stronger, better performing, longer lasting products the Evantic way!

Thank you for exploring Evantic's advanced engineered polymer materials and discovering how we can take your products to new heights. Our material science, design and engineering, and manufacturing teams are eager to learn about your project needs, share knowledge, and deliver solutions that surpass expectations.

Contact us today at 1-855-686-8600 or email us at sales@evantic.com.

The Evantic Family of Companies:

Vertec™ An EVANTIC Company
Altamira® An EVANTIC Company
PFi® An EVANTIC Company
PDF® An EVANTIC Company

Warning: Properties shown on this document are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations, consult Evantic. While the utmost care has been used in compiling this document, we assume no responsibility for errors. This edition cancels all previous issues.

© 2024 Evantic DS-7100 12/24

EVANTIC®

Evolving and Advancing Together™

Corporate Headquarters
10633 West Little York Road
Building 3, Suite 3
Houston, Texas 77041
Phone: 1-855-686-8600
Sales: sales@evantic.com
www.evantic.com