Technical Data Sheet

EVANTIC®

Performance Polymers | Engineered Components | Custom Solutions®

VERTEC™ 7010

40% Glass Filled PPS

Product Description:

VERTEC™ 7010 is glass reinforced PPS (polyphenylene sulfide) material. Its high modulus, low creep, broad chemical resistance and good dimensional stability at elevated temperatures make it suitable for use as structural components under static loads. Due to the low ductility of PPS, use of this material for applications where high impact loads are present must be carefully examined.

Physical Properties	ASTM Method	Typical Values
Specific Gravity, g/cm³ (lb/ft³)	D792	1.67 g/cm³ (104.2 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	6,700 psi (46.2 MPa)
Tensile Elongation	D1708	1.0 %
Flexural Strength	D790	23,000 psi (158.6 MPa)
Flexural Modulus	D790	1,000,000 psi (6,894.7 MPa)
Compressive Strength	D695	23,800 psi (164 MPa)
Compressive Modulus	D695	1,250,000 (8,618.4 MPa)
Impact Strength (Izod, notched)	D256	1 ft-lb/in
Hardness	Shore D	86

Tribological Properties	ASTM Method	Typical Values
Coefficient of Friction - Static	D3702	0.52
Coefficient of Friction - Dynamic	D3702	0.48
Wear Rate PV: 20,000 psi·fpm (137.9 MPa·m/s)	D3702	2.0 µin/min

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

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Thermal Properties	ASTM Method	Typical Values
Coefficient of Linear Thermal Expansion (78-200°F / 25.6-204.4°C)	D696	26 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°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 x 16 Ω-cm (3.94×1015 Ω-in)
Dielectric Strength	D149	kV/in
Dielectric Constant	D150	

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