

**PB4000** (PPS) material series is a semi-crystalline engineering thermoplastic that offer the broadest resistance to chemicals of any high performance melt fluoropolymer resin. There are no current solvents that effect PPS under 392° F, and it is inert to steam, strong bases, fuels, and acids. It is ideal for precise tolerance machined components because it has minimal water absorption, has a very low coefficient of linear thermal expansion, and is stress relieving manufactured. **PB4000** materials are also a great option for structural applications, harsh corrosive environments, and a lower temperature replacement for PEEK. At moderate temperatures PPS offers great dimensional stability and strength as compared to most other comperable resin choices.

### KEY MATERIAL ADVANTAGES:

- Broadest resistance to chemicals of all advanced engineering plastics
- Self-lubricated
- Electrically conductive
- Inert to steam, strong bases, fuels, and acids
- Minimal water absorption
- Very low coefficient of linear thermal expansion

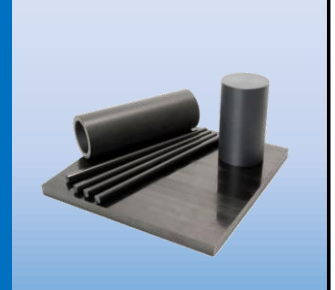
### APPLICATIONS:

- Lantern rings
- Aerospace applications
- Pump housings
- High-pressure liquid chromatography components
- Water retaining rings
- Hydrocarbon pump, valve, and compressor components
- Oil field parts
- Medical and diagnostic device parts
- Electronic test sockets and fixtures
- Flow meter rotors
- Engine sensors
- Halogen lamp sockets

**PB4001** is an internally lubricated, carbon-fiber reinforced, compression-molded PPS that offers a low coefficient of thermal expansion and uncompromised chemical resistance. It is well suited for thrust or wear applications or when an electrically conductive material is required.

**PB4002** is PPS reinforced with 40% glass fiber and compression molded. It offers impressive dimensional stability and an exceptional degree of thermal stability. All while maintaining its strength above 425° F. Its superior chemical and flame resistance and excellent mechanical and electrical properties, **PB4002** provides superior performance over a wide range of critical design requirements. Excellent processing characteristics allow **PB4002** to meet the needs of demanding, high-precision applications without hesitation!

**PB4003** reinforced, internally lubricated PPS grade that demonstrates an excellent combination of properties including wear resistance, load-bearing capabilities and dimensional stability when exposed to harsh chemicals and extreme temperature environments.



### PPS TYPICAL PROPERTY RESULTS:

	UNITS	ASTM TEST	VIRGIN PPS (PB4000)	30% CARBON FIBER PPS (PB4001)	40% GLASS FIBER PPS (PB4002)	BEARING GRADE PPS (PB4003)
Tensile Strength	MPa (psi)	D-638	150 (21,755)	193(28,000)	110(16,000)	69 (10,000)
Flexural Modulus	MPa (psi)	D-790	14000 (2,030,000)	24132 (3,500,000)	9653(1,400,000)	6894(1,000,000)
Izod Impact (notched)	lb-ft/in	D 256	1.6	1	1.3	0.9
Heat Deflection Temp @ 264 psi	1.8 Mpa, (°F)	D-648	500°F	515°F	510°F	490°F
Max. continuous service temp in air	F°		425°F	450 F°	450 F°	450 F°
Water Absorption (immersion for 24 hours)	%	D-570	0.02	0.02	0.02%	0.02%
Coefficient of Linear Thermal Expansion	in/in/°Fx10	D-696	N/A	1.70	1.45	1.7
Specific Graivty		D-792	N/A	1.45	N/A	1.55

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