



PB2100 SERIES

Polyphenylene Sulfide (PPS)

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

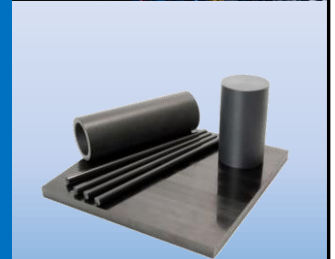
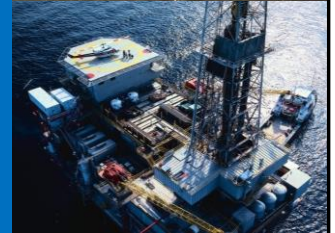
APPLICATIONS:

- 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

PBY PLASTICS, INC.
 2571 E. LINDSAY PRIVADO ONTARIO, CA 91761
 PH. 909-930-6700 FX. 909-930-6702
www.pbyplastics.com

Vertical line on the left side of the page.