

FPG (SYNTHETIC FIBER-REINFORCED POLYESTER + GRAPHITE)

MATERIAL DATA SHEET

- High wear resistance
- Near zero moisture absorption
- Impact and shock resistant
- Self-lubricating
- High load capacity

FPG is typically used in marine, petroleum and chemical plant, railway, agriculture, hydraulics, water/sewage treatment. FPG is available in tubes, cylindrical bushes, flange bushes, plates and machined parts.

| PROPERTIES | Direction | Units | VALUES |
|---|----------------------|----------------------|----------|
| Color | | - | Sky blue |
| Density | | g/cm ³ | 1.21 |
| Material swell in water at 20% C | | % | 0.1 |
| Ultimate compressive strength | Normal to laminate | MPa | 330 |
| | Parallel to laminate | MPa | 100 |
| Impact strength (Charpy notched) | | kJ/m ² | 50 |
| Hardness | | HRM | 98 |
| Shear Strength | | MPa | 80 |
| Max working compressive stress | Radial | MPa | 75 |
| | Axial | MPa | 25 |
| Max working temperature | Continuous | °C | 120 |
| | Intermittent | °C | 140 |
| Coefficient of linear thermal expansion | Normal to laminate | 10 ⁻⁵ /°C | 7 |
| | Parallel to laminate | 10 ⁻⁵ /°C | 6 |

| BEARING OPERATING LIMITS | Notes | Units | VALUES |
|--------------------------|-----------------|-----------|-----------|
| Maximum temperature | | °C | 120 |
| Minimum temperature | | °C | -40 |
| Maximum sliding speed | | m/s | 2.2 |
| Maximum load | Static | MPa | 330 |
| | Dynamic | MPa | 80 |
| Maximum PV factor | Dry | MPa * m/s | 0.23 |
| | Oil lubricated | MPa * m/s | 0.40 |
| | Regular greased | MPa * m/s | 0.60 |
| Frictional coefficient | | - | 0.08~0.13 |

Note: 1 g/cm³ = 1,000 kg/m³ ; 1 MPa = 1 N/mm² ; 1 kV/mm = 1 MV/m.

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