



Overview

PE90BK10 is Canyon's 30% carbon fiber filled, 90 shore D durometer, black PEEK. PE90BK10 is NACE complaint and offers good chemical resistance, high & low temperature performance, and fantastic dynamic resilience.

Features & Benefits

- Excellent heat resistance & high temp stability
- Extreme abrasion resistance and dynamic resilience
- Excellent chemical resistance
- Higher strength and stiffness
- Lower thermal expansion

Recommended Applications

- Backup rings
- Bearings & bushings
- Mechanical components
- High Temp Chemical Processing

Service Temperature

- -75°C to 315°C (-100°F to 600F)

Specification

- 30% Carbon Fiber Filled PEEK



Test Data

Table 1. Physical Properties

| | |
|-------------------------------------------------------------|------------------------------------------------------|
| Color | Black |
| Hardness, Shore D [D2240] | 90 |
| Tensile Strength, psi (MPa) [D1708] | 32,480 (223) |
| Elongation [D1708] | 2% |
| Specific Gravity, g/cm ³ [D792] | 1.41 |
| Water Absorption - 24hrs, % [D570] | 0.06 |
| Linear Coefficient of Thermal Expansion, 1/°C (1/°F) [D696] | 0.44 x 10 ⁻⁵ (0.8 x 10 ⁻⁵) |
| Heat Distortion Temp, °C (°F) [D648] | 315 (600) |

Table 2. Coefficient of Friction

| | |
|---------------------------|------|
| 33.3 psi, Static | 0.22 |
| 33.3 psi, Dynamic 150 fpm | 0.22 |

Table 3. Flexural & Compressive Properties

| | |
|--------------------------------------|-----------|
| Flexural Strength, 23°C, psi [D790] | 51,475 |
| Flexural Strength, 250°C, psi [D790] | 15,225 |
| Flexural Modulus, 23°C, psi [D790] | 2,929,000 |
| Flexural Modulus, 250°C, psi [D790] | 739,500 |
| Compressive Strength, psi [D695] | 34,800 |

Table 4. Radiation Resistance

| | |
|-------------------------|-----------------|
| Gamma Dose, Rads (max.) | 10 ⁹ |
|-------------------------|-----------------|