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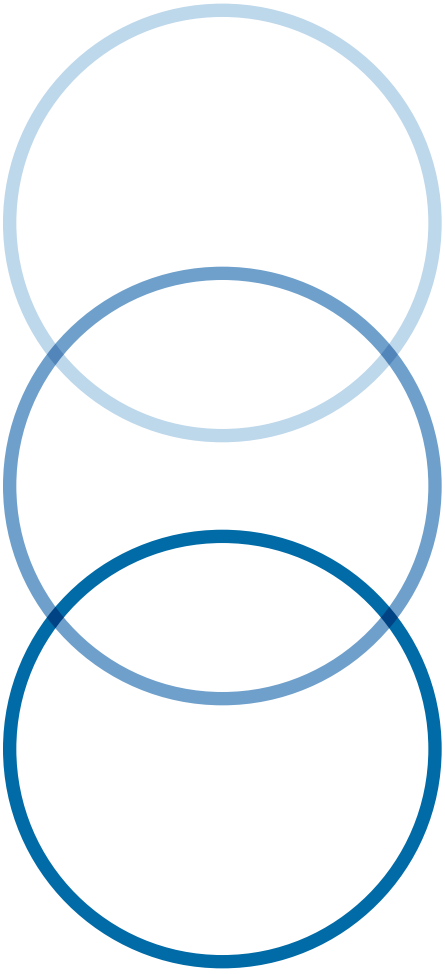

PFAS-Free Polyetheretherketone (KB170HT)

Material Data Sheet
M-79 (Rev. 00, 06-19-26)

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Overview

KB170HT is a high-performance, unreinforced Polyetheretherketone (PEEK) specifically engineered for cryogenic applications. Capable of operating at temperatures as low as -196°C (77K, -321°F), this material maintains outstanding mechanical strength in extreme cold environments and exhibits superior ductility and impact resistance when compared to traditional fluoropolymers. KB170HT is entirely PFAS-free.

KB170HT is primarily designed to replace fluoropolymers in static seals and valve components used in LNG, HPLC, aerospace, and other industries, providing exceptional wear and erosion resistance in highly demanding environments. Compared with traditional PEEK material, KB170HT also features efficient sealing and excellent recovery ability, as well as significantly lower coefficient of linear thermal expansion (CLTE) and good dimensional stability.

Chemical Compatibility

KB170HT exhibits excellent chemical compatibility. This material is suitable for contact with most fluids and gases. For more details, reference Bal Seal Technical Report TR-60A, Chemical Compatibility Guide, in the technical library section of our website at www.balseal.com.

FDA Compatible

KB170HT is an FDA compliant material, and can be used in food contact applications. Bal Seal Engineering defines its compositions as “FDA Compliant” if each of the ingredients in the composition has been found by the FDA to be “safe for use in food contact,” or “acceptable for use in food contact.” This material contains no ingredients listed in the California Code of Regulations Hazardous Substances List.

Mechanical Properties

Typical Mechanical Properties of KB170HT at Ambient Temperatures

Property	Standard	Measure
Tensile Strength	ASTM D638	15400 psi (106 MPa)
Elongation at Break	ASTM D638	70%
Density	ASTM D792	1.30 g/cm^3
Hardness	ASTM D2240	84 Shore D

Color

Natural

Typical Applications

- **Regulatory & PFAS compliance:** being 100% PFAS-free, this material is fully PFAS-compliant globally. It serves as an ideal, sustainable drop-in or upgraded replacement for PCTFE and other traditional fluoropolymers
- **Aerospace and defense:** high-reliability sealing solution for valve seats and cryogenic components exposed to liquid propellants and extreme thermal cycling, mitigating the risk of brittle failure
- **Scientific and industrial equipment:** high-performance jacket material for cryostats and transfer lines, providing mechanical stability over a large temperature range

Other Resources

For more information, contact a technical sales representative, visit our website at www.balseal.com, or e-mail us at sales@balseal.com.