

High-Temp Polybenzimidazole Film (HT-PBI-40)

Catlog Number: FCEM-0030

• Description

A non-doped PBI film ready for phosphoric acid impregnation, tailored for high-temperature PEMFCs operating up to 200°C in anhydrous conditions.

• Basic Information

Polymer/Material Base: Pure Polybenzimidazole

Ion Exchange Capacity (IEC): N/A (Pre-doped)

Ionic Conductivity (S/cm): 0.06 - 0.10 (Doped)

Thickness (µm): 40 - 42

Tensile Strength (MPa): 80 - 110

Elongation at Break (%): 15 - 30

Water Uptake (%): 5 - 10 (Dry)

Swelling Ratio (%): < 2

Max Operating Temp (°C): 200

Chemical Stability (Fenton's Test): Acid Resistant

Density (g/cm³): 1.3

Ash Content (%): < 0.05

Volatile Content (%): < 0.5

EW (Equivalent Weight): N/A

Glass Transition Temp (T_g): 420

Storage Humidity (%): 0 - 30

Storage Temp (°C): 15 - 30

Solubility in Polar Solvents: Soluble in DMAc

Ionic Resistance (Ω·cm²): 0.18

Dimensional Stability (%): < 1

Thermal Stability (TGA): > 500°C

Flammability Rating: V-0

Surface Roughness (Ra): < 0.4 µm

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