

High-Stability PBI-Copolymer (PBI-X-40)

Catlog Number: FCEM-0082

• Description

A cross-linked PBI copolymer film with enhanced mechanical toughness for high-temperature PEMFCs, optimized for long-term acid retention.

• Basic Information

Polymer/Material Base: Cross-linked PBI

Ion Exchange Capacity (IEC): N/A (Acid Doped)

Ionic Conductivity (S/cm): 0.06 - 0.12 (at 180°C)

Thickness (µm): 40 - 45

Tensile Strength (MPa): 45 - 70

Elongation at Break (%): 80 - 130

Water Uptake (%): 10-15

Swelling Ratio (%): < 4

Max Operating Temp (°C): 220

Chemical Stability (Fenton's Test): High Acid Resist

Density (g/cm³): 1.35

Ash Content (%): < 0.05

Volatile Content (%): < 1.0

EW (Equivalent Weight): N/A

Glass Transition Temp (T_g): 430

Storage Humidity (%): 0 - 25

Storage Temp (°C): 15 - 30

Solubility in Polar Solvents: Soluble in H₂SO₄

Ionic Resistance (Ω·cm²): 0.12

Dimensional Stability (%): < 3

Thermal Stability (TGA): > 520°C

Flammability Rating: V-0

Surface Roughness (Ra): < 0.4 µm

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