

## Cross-linked Polybenzimidazole (X-PBI-50)

Catlog Number: FCEM-0092

### • Description

A 50µm cross-linked PBI film designed for long-term acid retention in HT-PEMFCs operating under fluctuating load conditions up to 220°C.

### • Basic Information

Polymer/Material Base: Cross-linked PBI

Ion Exchange Capacity (IEC): N/A

Ionic Conductivity (S/cm): 0.07 - 0.14 (at 180°C)

Thickness (µm): 50 - 55

Tensile Strength (MPa): 50 - 75

Elongation at Break (%): 70 - 120

Water Uptake (%): 12-18

Swelling Ratio (%): < 3

Max Operating Temp (°C): 220

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

Density (g/cm<sup>3</sup>): 1.38

Ash Content (%): < 0.05

Volatile Content (%): < 1.2

EW (Equivalent Weight): N/A

Glass Transition Temp (T<sub>g</sub>): 435

Storage Humidity (%): 0 - 30

Storage Temp (°C): 15 - 30

Solubility in Polar Solvents: Soluble in H<sub>2</sub>SO<sub>4</sub>

Ionic Resistance (Ω·cm<sup>2</sup>): 0.1

Dimensional Stability (%): < 4

Thermal Stability (TGA): > 520°C

Flammability Rating: V-0

Surface Roughness (Ra): < 0.4 µm

 For Research or Industrial Raw Materials, Not For Personal Medical Use!