

## High-Performance PPS-Graphite BPP

Catlog Number: FCSM-0044

### • Description

A thermoplastic composite bipolar plate with 70% graphite loading, designed for injection molding with high-precision flow channel geometry.

### • Basic Information

Material Composition: PPS / 70% Graphite

Thickness ( $\mu\text{m}$ ): 1500

Density ( $\text{g}/\text{cm}^3$ ): 1.92

Surface Resistance ( $\text{m}\Omega\cdot\text{cm}^2$ ):  $< 12$

Tensile Strength (MPa): 48

Thermal Conductivity ( $\text{W}/\text{m}\cdot\text{K}$ ): 20

Porosity (%):  $< 0.3$

Operating Temp Max ( $^{\circ}\text{C}$ ): 180

Flexural Strength (MPa): 75

Corrosion Resistance ( $\mu\text{A}/\text{cm}^2$ ):  $< 1$

Contact Angle ( $^{\circ}$ ): 92

Gas Permeability ( $\text{cm}^3/\text{cm}^2\cdot\text{s}$ ):  $< 10^{-8}$

Coefficient of Thermal Expansion ( $10^{-6}/\text{K}$ ): 12

Shore Hardness: 82 (Shore D)

Water Uptake (%):  $< 0.6$

Ash Content (%):  $< 0.2$

Mean Pore Size ( $\mu\text{m}$ ): N/A

Compressive Strength (MPa): 130

Electrical Conductivity (S/cm): 150

Specific Surface Area ( $\text{m}^2/\text{g}$ ): N/A

Young's Modulus (GPa): 12

Chemical Stability: Acid & Coolant Res

Coating Material: None

Surface Roughness (Ra): 1.2

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