

Carbon Fiber Reinforced Composite BPP

Catlog Number: FCSM-0019

• Description

A lightweight, thin-wall bipolar plate manufactured from carbon-fiber-reinforced resin, offering a balance of high mechanical toughness and low contact resistance.

• Basic Information

Material Composition: Carbon Fiber / Phenolic Resin

Thickness (μm): 800

Density (g/cm^3): 1.8

Surface Resistance ($\text{m}\Omega\cdot\text{cm}^2$): < 10

Tensile Strength (MPa): 60

Thermal Conductivity ($\text{W}/\text{m}\cdot\text{K}$): 30

Porosity (%): < 0.2

Operating Temp Max ($^{\circ}\text{C}$): 160

Flexural Strength (MPa): 85

Corrosion Resistance ($\mu\text{A}/\text{cm}^2$): < 1.5

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

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

Coefficient of Thermal Expansion ($10^{-6}/\text{K}$): 8

Shore Hardness: 85 (Shore D)

Water Uptake (%): < 0.5

Ash Content (%): < 0.1

Mean Pore Size (μm): N/A

Compressive Strength (MPa): 150

Electrical Conductivity (S/cm): 180

Specific Surface Area (m^2/g): N/A

Young's Modulus (GPa): 18

Chemical Stability: High Acid Res

Coating Material: Graphite Coating

Surface Roughness (Ra): 0.6

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