GrafTech GRAFCELLÂ® FFP-200 SERIES Flow Field Plate Graphite

Category : Carbon , Graphite

Material Notes:

Manufactured from expanded natural graphite, GRAFCELLÂ® Flow Field Plate (FFP) components retain a continuous graphitic phase. This phase continuity, combined with a low contact resistance, provides electrical and thermal properties in comparison to both synthetic graphite composite and metallic fuel cell components. The thermal diffusivity of GRAFCELLÂ® FFP SERIES products is 8-12 times higher than composite materials and 33 times higher than stainless steel. GRAFCELLÂ® FFP SERIES products have played a critical role in improving fuel cell power density and performance for over 10 years. With over two million kilometers of road experience in car and bus applications annually, GRAFCELLÂ® FFP SERIES continuous phase flow field plates have replaced synthetic graphite as the premier material for PEM fuel cells.

Order this product through the following link:
http://www.lookpolymers.com/polymer_GrafTech-GRAFCELL-FFP-200-SERIES-Flow-Field-Plate-Graphite.php

Physical Properties	Metric	English	Comments
Density	1.50 g/cc	0.0542 lb/inÂ³	
Permeability	<= 1.0	<= 1.0	cc/min (1 atm, 15 psi limit)
Thickness	>= 200 microns	>= 7.87 mil	Minimum Web
	600 - 3000 microns	23.6 - 118 mil	plus or minus 100 microns

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	30.0 - 50.0 MPa	4350 - 7250 psi	
Flexural Strength	50.0 - 70.0 MPa	7250 - 10200 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	1.00 - 5.00 Âµm/m-Â°C	0.556 - 2.78 Âµin/in-Â°F	(x-y)
	10.0 Âµm/m-Â°C	5.56 Âµin/in-Â°F	(z)
Thermal Conductivity	5.00 W/m-K	34.7 BTU-in/hr-ftÂ²-Â°F	(z)
	275 W/m-K	1910 BTU-in/hr-ftÂ²-Â°F	(x-y)
Glass Transition Temp, Tg	125 Â°C	257 Â°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000700 ohm-cm	0.000700 ohm-cm	(x-y); ASTM-C611 (4-Point Resistivity Test)

Electrical Properties	Metric	English	Comments
	8.9500 ohm-cm	8.9547 ohm-cm	ASTM C611 (4-Point Resistivity Test)

Descriptive Properties	Value	Comments
Contact Resistance (ÂµOcmÂ²)	8	
Thermal Diffusivity (cmÂ²/sec)	1.2	

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