



## AvCarb® Gas Diffusion Systems for Fuel Cells



AvCarb Material Solution's series of AvCarb Gas Diffusion Systems combine BMP's proprietary carbon fiber paper, a PTFE treatment, and micro-porous layer coating, each designed for the rigorous demands of specific fuel cell applications such as PEMFC, DMFC, and PAFC.

AvCarb Gas Diffusion Systems are based upon carbon fiber paper. AvCarb carbon fabrics and AvCarb Molded Graphite Laminates treated with PTFE and micro-porous layers for fuel cell applications are also available.

Please consult our GDL product selection guide for help in identifying the optimal GDL design for your application.

### Product Benefits

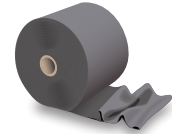
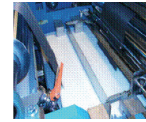
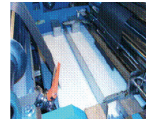
- ▶ Optimized fuel cell performance by application
- ▶ Gas permeability
- ▶ Conductivity
- ▶ Physical property uniformity
- ▶ Cost effective, high volume manufacturing methods





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## Coated Papers and Gas Diffusion Systems



Substrate Grade	Units	AvCarb EP40T	AvCarb P50T	AvCarb P75T	AvCarb 1071HCB
<b>Nominal Thickness</b>					
(@ 1 psi / 0.7 N/cm <sup>2</sup> )	microns	200	180	255	356
(@ 7.3 psi / 5.1 N/cm <sup>2</sup> )	microns	190	160	240	319
<b>Nominal Basis Weight</b>	g/m <sup>2</sup>	43	62	85	123
<b>Break Strength</b>					
Machine direction	MPa	6.5	15.2	20.0	<17.73lbf MD
Cross machine direction	MPa	4.0	7.6	12.6	
<b>Stiffness</b>					
Machine direction	Taber	22.0	8.5	12.0	<1
Cross machine direction	Taber	4.5	3.1	14.6	<1
<b>Bulk Density</b>					
(@ 0.69 N/cm <sup>2</sup> /1psi)	g/cm <sup>3</sup>	.22	.34	.33	.35
<b>Air Permeability (Gurley)</b>					
Through-pane permeability	sec/100cc	7.5	50	25	1.3
In-plane permeability	sec/100cc	75	596	26	8.7
<b>Compressibility</b>					
(22N - 113N)/22 x 100%	%	10.5	12.5	11.0	weave count 49/inch warp, 47/inch fill
<b>Through-Plane Resistivity</b>	mOhm*cm <sup>2</sup>	13.0	11.7	13.4	<8.0
Typical Roll Width	mm	400/800	400/800	400/800	500/1170