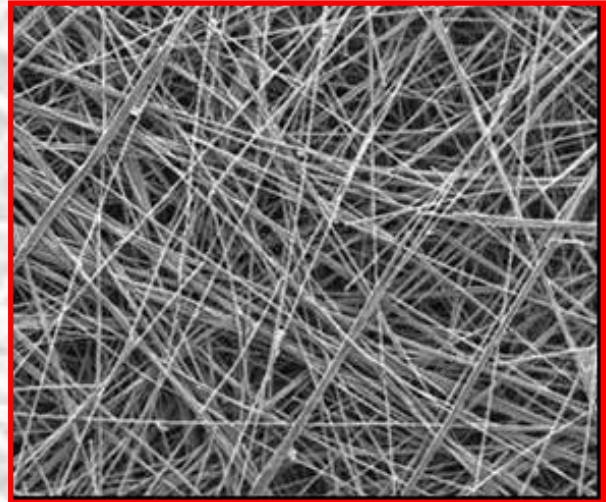


Spectracarb™ GDL

Spectracarb™ 2050 Gas Diffusion Layer (GDL) sheets are porous “graphitized” resin bonded carbon fiber papers and multi-ply panels specifically designed for use in PEM, DMFC and PAFC fuel cells, Electrolyzers, Humidifiers and Other Electrochemical Devices and optimized for:

- ☑ Electrical Conductivity
- ☑ Mechanical Strength and Durability
- ☑ Gas/Air Permeability
- ☑ Water Management



Spectracarb™ GDLs are produced in the USA and are available in a wide range of standard and custom grades, densities, sizes and materials for fuel cells, electrolyzers, humidifiers, specialty batteries and other electrochemical applications.

Type	0550	0850	1050	1240	1535	1550	1732	2050	6060	7590	13555	15085
Thickness: mils (µm)	5 (127)	8 (203)	10 (254)	12 (305)	15 (381)	15 (381)	17 (432)	20 (508)	60 (1524)	75 (1905)	135 (3429)	150 (3810)
Density: g/cm ³	0.50	0.50	0.50	0.40	0.35	0.50	0.32	0.50	0.60	0.90	0.55	0.85

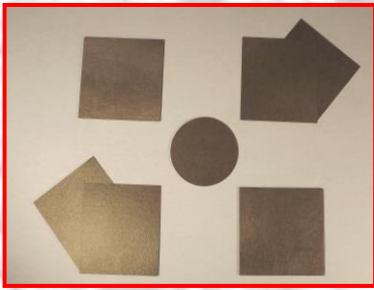


- ☑ Widest Range of Production Grades Available
- ☑ Lower Cost Products
- ☑ Small / Specialty Orders Accepted
- ☑ Experimental & Developmental Formulations (*Laboratory /Pilot Scale*)
- ☑ Contract Research /Joint Development Programs for Special Requirements
- ☑ Established 24 Year Manufacturing History (Spectracorp Founded 1991)



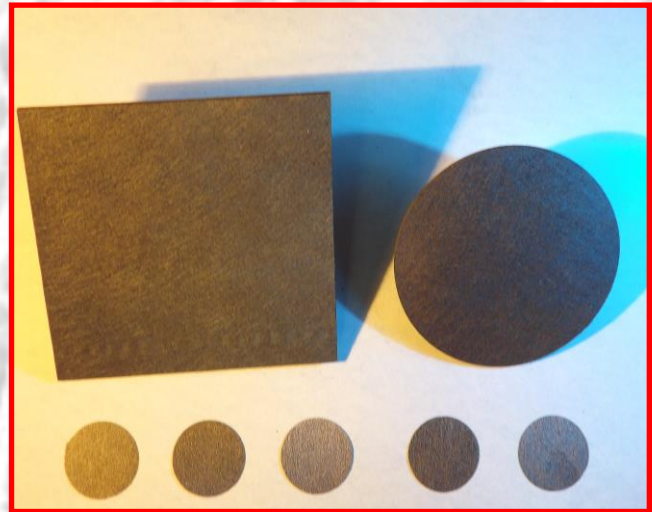
Engineered Fibers Technology, LLC
88 Long Hill Cross Rd.
Shelton, CT 06484

GDL Sizes



All of the 2050 Series Spectracarb GDL sheet sizes are 400 x 400 mm for thin (paper) grades, and 450 x 450 mm for laminated panels, with sizes up to

550 x 550 mm available as special order. Custom sizes, machined discs, and other customer defined sizes and shapes, as well as machining such as channels and surface grinding are also available.



GDL Series

2050 A- Standard grade 2050A is our base series graphitized paper and panels used mainly in PEM fuel cells and electrolyzers. Properties of thin papers comparable with other GDL's used in industry, but with wider selection of density and thickness.

2050 HF- Other special grades include "2050 HF" with higher mean pore size and increased permeability.

2050 HT- Spectracarb GDL can also be manufactured in the density and thickness ranges shown above, but using modified processing to achieve higher electrical conductivity and improved corrosion resistance with our "2050 HT" Series for use in PAFC and other special products.

2050 L- Spectracarb GDL thin papers and thicker panels can also be provided on special order in a "2050 L" grade which is carbonized at a lower maximum temperature to provide a lower cost product for humidifiers and other special products.

2050 P- Both papers and panels can also be provided on special order in our "2050 P Series" where additional purification can be conducted to provide trace elements <0.5 ppm.

2050 WP- Wet proofed grades incorporating a microporous hydrophobic layer of any of the Spectracarb series can be provided through a partner company.

Customer Specific Grades- It is also possible to make Hybrid constructions in the Multi-layer constructions. Contact us to discuss any special requirements, or for the design and production of grades for your specific requirement. See www.Spectracarb.com for details.



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