

Carbon Fiber Brushes



“Generating electricity from renewable sources is becoming as easy as putting a Mill-Rose brush and a tube in a tub of wastewater.”

Mill-Rose is a leading manufacturer of scientific-grade carbon fiber brushes used in a variety of applications. Mill-Rose carbon fiber brushes can be used as non-corrosive anodes / electrodes in standard microbial fuel cells and benthic microbial fuel cells.

Microbial fuel cells work through a bacterial process that passes electrons to an anode of a fuel cell. The electrons flow from the anode through a wire to a cathode, producing an electric current. An approach taken by Penn State uses the bacteria that naturally occur in wastewater, requiring no special bacterial strains or unusual environmental demands. The process is good for the environment as the bacteria consumes organic matter in wastewater that actually cleans the water, something that usually requires the consumption of energy.

Mill-Rose carbon fiber brushes are non-corrosive and offer a high surface area for bacterial growth and high power densities in microbial fuel cells (MFCs) for large-scale electricity production. In fact, our carbon fiber brushes have 300 to 1,500 times more surface area than previously used carbon paper anodes. Mill-Rose carbon fiber brushes are highly conductive and have an open structure that avoids biofouling.

Mill-Rose offers a complete selection of anode / electrode brushes manufactured in sizes ranging from 1" to 61" in length. Mill-Rose carbon fiber brushes may also be used as highly efficient static eliminators. Special dimensions are available upon request.

Panex 35[®] Carbon Fibers

PANEX[®]35 carbon fibers are the lowest-cost carbon fiber on the market. Zoltek has tailored its operation to support large-volume commercial applications by manufacturing from a low-cost precursor. Carbon fibers are made from an abundant textile-based precursor material that matches and outperforms "aerospace-grade" carbon fibers in tensile strength and modulus.