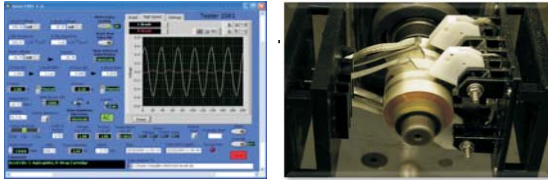


Metal Fiber Brushes Have Superior Electrical Properties

- Current densities of up to 250 Amps/sq-inch are easily obtained with current densities 1000 Amps/sq-inch achievable under certain conditions
- Data transfer rates >100Mbps
- Very low voltage drop

Silver graphite vs. MFB Voltage drop



Metal Fiber Brushes Have Superior Mechanical Properties

- Non-Dimensional wear rate between 4-8E-11 to 5E-10
- 20% of the wear debris of solid brushes
- Sliding speeds of 100m/s
- Do not degrade from oil or other carbon brush contaminants

Metal Fiber Brushes Can Be Made In Any Shape Or Size



Metal Fiber Brushes Can Be Made to Retro Fit Carbon Brushes



Who is HiPerCon, LLC.®?

HiPerCon, LLC® is a dynamic small research and manufacturing business dedicated to introducing and deploying new dual-use electrical technologies.

The HiPerCon® staff enjoys a reputation earned over many years for high quality and technical and managerial excellence. We support our customers in a wide range of industry sectors and operating environments with reliable, efficient, and low-maintenance solutions to the complex problems of transmitting electric power and data across moving interfaces.

Customer questions or concerns can be addressed to:

Marcel Piet

VP, High Performance Brush Group
 (207) 651-3476
 E-mail: mjp@hipercon-llc.com

or

Hank Richert

Vice President,
 Marketing and Sales
 (815) 354-4452
 E-mail: hjr@hipercon-llc.com

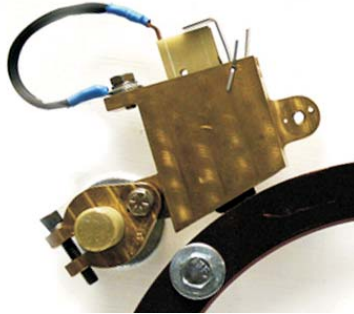
Visit us on the web at www.hipercon-llc.com

Corporate Headquarters

4117 Rolling Hills Drive
 Delaplane, VA 20144

MFB's for Shaft Grounding

HiPerCon's® metal fiber brushes offer **superior shaft grounding**. They are not susceptible to the problems of carbon brushes such as degradation to oil contaminates, poor contact resistance or minimum current density restrictions. They are **superior to other fiber brushes** because they can operate at sliding speeds of 100m/s with **very long service life**

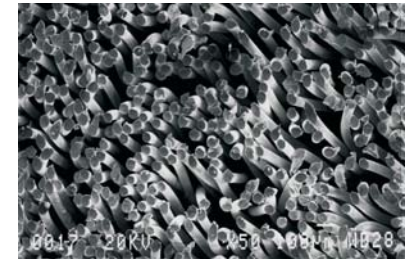


Features

- Flexible design can be mounted in many configurations
- Dual brush configuration can be mounted on a wide range of shaft diameters
- System is 1" wide to fit in tight spaces
- Single brush configuration can be installed with a single post or mounted directly to frame
- Constant force spring never needs adjustment
- Brush rides directly on unmodified shaft. Soft fibers do not damage shaft
- Very little wear debris. No carbon debris
- **MFB's do not degrade in the presence of oil!**

Performance

- Very Low resistance: 1-2mΩ for a single brush operating on a steel shaft.
- Service life of 550M revolutions when operating on a 24" diameter shaft
- Single brush rated for 80 amps continuous duty
- Unaffected by environmental conditions



MFB's for Shaft Grounding on Variable Frequency Drive (VFD) Motors

Bearing failures in **Variable Frequency Drive (VFD) motors** due to **induced voltages in the shaft** are well documented. Induced voltages in a VFD motor shaft discharge to ground through the bearings. This **current damages bearings in a matter of a few months**. HiPerCon has developed a **low cost shaft grounding device to prevent bearing damage using our MFB's**



Features

- Universal design can be mounted in almost any application
- One size fits all shaft diameters >1"
- Two models to choose based on operating environment
 - . Normal industrial environment with normal vibration and shaft runout
 - . Extreme industrial environment including oil soaked, high vibration, high runout (up to 60 mils)
- Rides on shaft with no modifications required to shaft. Soft fibers do not damage shaft
- Very little wear debris: **NO CARBON**
- System comes complete with holder, brush, spring and mounting options. Holder, spring and brush are easily replaced as a unit

Performance

- Very Low resistance: 4 mΩ dynamic resistance
- Service life >22 years @1700 RPM (1.3M Miles of siding distance)
- Rated for 40 amps continuous duty
- Unaffected by environmental conditions
- Can be installed and maintained without system shutdown

