



## TECHNICAL BULLETIN:

### Colloidal Silver Shaft Coating PN: CS015

**Application:** Used to enhance shaft surface conductivity for use with AEGIS™ Bearing Protection Ring Technology

**Background:** Maintaining a conductive shaft surface is required to allow efficient discharge of VFD induced shaft voltage to the AEGIS™ Bearing Protection Ring micro fibers (also known as the AEGIS™ Shaft Grounding Ring). Our AEGIS™ SGR micro fiber shaft grounding technology was designed to discharge voltages by applying a circumferential ring of conductive micro fibers directly to the steel shaft surface in VFD driven electric motors.



**Shaft surface conductivity:** Improving the conductivity of the steel shaft surface enhances the shaft voltage discharge capability in AEGIS™ SGR shaft grounding applications. Maintaining a highly conductive shaft surface is especially important in critical applications or in applications where the conductive shaft surface of steel could become compromised. Environmental elements could create a potential for decreased conductivity on the shaft of the motor.

**Test results:** Applying Colloidal Silver Shaft Coating to the shaft surface before the AEGIS™ SGR is installed significantly increased the surface conductivity of the shaft and decreased the residual voltage level measured on the shaft. The Colloidal Silver Shaft Coating increases the conductivity between the motor shaft and the AEGIS™ SGR conductive microfibers.

**Recommendation:** Apply AEGIS™ CS015 Colloidal Silver Shaft Coating to any VFD driven motor shaft prior to installing the AEGIS™ Bearing Protection Ring. Treating the shaft of the motor prior to installing AEGIS™ SGR shaft grounding ring technology is a low cost performance enhancement option.



**AEGIS SGR™ Prevents Electrical Bearing Damage**

### **Application Notes for Part Number CS015:**

- Thoroughly stir the silver coating.
- Shaft must be clean & free of any coatings, paint, or other nonconductive material. The shaft must be clean to bare metal. Depending on the condition of the shaft, it may require using emery cloth or Scotch-Brite. If the shaft is visibly clean, a non petroleum based solvent may be used to remove any residue. If possible, check the conductivity of the shaft using an ohms meter.
  - Ohms test: Place the positive and negative meter leads on the shaft at a place where the microfibers will contact the shaft. Each motor will have a different reading but in general you should have a maximum reading of 2 ohms. If the reading is higher, clean the shaft again and retest.
- Apply a light coat of the AEGIS™ Colloidal Silver Shaft Coating to the area where the AEGIS™ microfibers are in contact with the motor shaft. Apply evenly all around the shaft.
- Allow to dry before installing the AEGIS™ Shaft Grounding Ring. Coating will cure at room temperature in 16-20 hours or in 30 minutes at 120-200°C. A heat gun will cure the materials in seconds.

Shelf Life: 6 months. The CS015 contents will separate when left unattended. Roll or stir thoroughly before use. Avoid exposure to extreme temperatures.

Storage: Store in a dry location at 5-30°C. Allow paint to come to room temperature prior to opening.

Refer to the Material Safety Data Sheet for additional information.

Best regards,

Adam Willwerth  
AEGIS™ Sales/Marketing Manager