



Slip Rings - Carbon Dust Removal

Safety Concerns

When performing maintenance in or around collector rings, one must constantly be aware of the hazards of live electrical circuits and rotating machinery. Safety glasses or a face shield, dust mask and in some cases insulating rubber gloves should be utilized. If the maintenance undertaken does not require operating the machine, it is always recommended that it be shut off, locked out and tagged out.

This safety notice does not attempt to cover all possible safety concerns but rather to suggest that your personal and company's safety rules are obeyed.

Material Safety Data Sheets for the brushes are available upon request.

Brush Wear

Carbon dust as a result of brush wear should be cleaned from all insulated slip ring gear and brush parts at regular intervals. This must be monitored closely as carbon dust is highly conductive and if left to build up can cause several problems, including hindering the performance of the spring, causing the brushes to stick in the holder and increase the possibility of a flashover due to carbon tracking.

Cleaning intervals may vary as brush wear fluctuates due to operating conditions. Conditions such as slip ring runout (or eccentricity), contaminants, brush pressure, vibration, current density and environmental conditions can change. All can have an effect on brush wear.

Removal of Carbon Dust

First remove the existing brushes. Ideally, a vacuum cleaner is recommended for the initial dust removal. If a vacuum is not available, wipe out the unit with a brush or cloth. Then use dry compressed air to blow out the brush holders, especially inside the carbonway. Scotchbrite can be used to clean the film from the slip rings if they cannot be cleaned with a brush seater.

Proceed to clean the brush rigging, slip rings, shaft, cables, interior walls and finally, remove all dust that has been deposited at the bottom of the enclosure.

Solvents should not be used to clean carbon dust, as they tend to carry the conductive dust into cracks and crevices that cannot be readily wiped off. This can result in the formation of a conductive dust bridge and tracking between energized parts. To clean stubborn areas, never use a spray directly on any of the surfaces. Instead, dampen a cloth with an electrical cleaner or denatured alcohol, and then wipe the parts clean.