KEEP THE DC MOTOR DRIVING YOUR SKI LIFT IN TOP CONDITION

TECHNOLOGY DESIGNED TO REDUCE BRUSH WEAR, MAINTENANCE AND DOWNTIME.

DC MOTOR COMPONENTS
Mersen is the leading manufacturer of electrical components for DC motors. Due to a long-standing relationship with motor manufacturers, Mersen offers brushes and holders for any DC electrical machine. These products are available to end users and motor repair shops, along with Mersen’s world-renowned field expertise and on-demand engineering support.

Carbon brushes
Significant research and development has been dedicated towards satisfying the difficult operating conditions of ski lift equipment. Since selecting the most suitable brush grade is crucial to the optimal performance of DC machines, our R&D efforts have paid off in the form of EG 7593. This material is now one of our most popular grades for this application with the following specifications:

- Relative density: 1.73
- Resistivity: 4100 µΩ.cm
- Flexural strength: 39 MPa
- Treated for cold rarified atmospheres

Do not hesitate to contact Mersen’s technical experts to diagnose your equipment and to receive solutions suited to your operating conditions.

Brush-holders
To reduce uneven brush wear, brush-holders with constant pressure systems are the perfect solution to increase DC machine reliability and availability.

PARTS FOR ASYNCHRONOUS MOTORS WITH WOUND ROTORS
Along with carbon brushes and holders, Mersen is also a renowned slip manufacturer. Our company possesses extensive capabilities to manufacture, redesign and repair slip rings for AC machines.
CUSTOMIZED SOLUTIONS FOR HARSH OPERATING CONDITIONS

EXTREME COLD TEMPERATURES

Usually located on mountaintops, ski lift electric motors endure very cold temperatures and windy conditions. This situation has a negative impact on the machine performance and causes dusting and excessive brush wear.

• Solution: Mersen has developed brush grade impregnations that lubricate commutators and facilitate film (patina) formation.

HIGH ALTITUDE

In addition to the extreme cold, high altitude reduces humidity levels which can affect film (patina) formation, resulting in excessive brush wear.

• Solution: Mersen brings its experience with altitude treated aircraft starter generator brushes to the ski lift motor application. Special treatments compensate for the lack of humidity.

ELECTRIC MOTOR CONFIGURATION

Most motors that operate ski lifts are machines primarily designed for industrial applications. Since ski lift equipments are running in extreme conditions, the standard motor configuration might not always be well adapted. For example, when the motor starts, a fan will instantly blow air on the collector to cool the machine down. This action might be recommended in the very hot environment of a paper or steel plant, but in cold environment this will dissipate the little humidity left.

• Solution: Start the external cooling fan only when the temperature in the commutator compartment has reached a level suitable for film (patina) formation.

VARIABLE LOAD

Unlike industrial applications, electric motors on ski lifts have to handle variable loads and may be restarted with hundreds of skiers on board. These types of operations are very demanding for electric motors and often cause burn marks on the commutators or slip rings.

• Solution: Depending on the operating conditions (load, lift length, vertical drop…), your Mersen’s specialist will recommend the most suitable combination of brush-holders and carbon brushes.

MOTORMAINTENANCESERVICES

To increase the performance and the availability of your electrical equipment, essential maintenance procedures must be followed on-site. Mersen’s experts can provide diagnostic and maintenance services including commutator and slip ring profiling, as well as solutions to eliminate excessive wear marks on rings and commutators to restore the appropriate surface roughness.