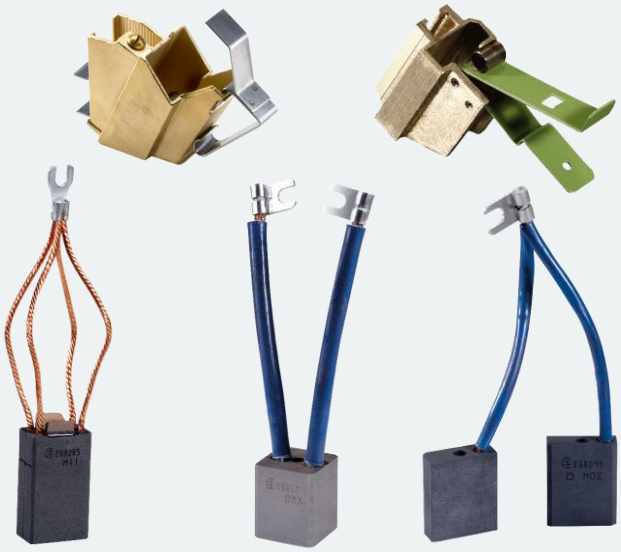
CUSTOMIZED CARBON BRUSHES, BRUSH-HOLDERS AND SERVICES

ZOOM

SKI LIFTS



CARBON BRUSHES

Extreme cold temperatures, very dry atmospheres, variable loads… Our grades can handle the difficult running requirements of ski lift electric motors. **EG7593** is one of our most popular grades for this application with the following specifications:

Relative density	1.73
Resistivity	4,100 µΩ.cm
Flexural strength	39 MPa
Treated for cold rarefied atmospheres	

TECHNOLOGY DESIGNED TO REDUCE:

- **BRUSH WEAR,**
- **MAINTENANCE,**
- **AND DOWNTIME**

MERSEN SERVICES

✓Local dedicated diagnostic and technical support
✓In-Situ maintenance services (machining, grinding)
✓Maintenance tools
✓Trainings

BRUSH-HOLDERS

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

EXTREME COLD TEMPERATURES

Usually located on mountain tops, 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

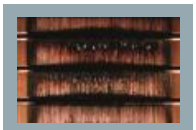
In addition to the extreme cold, high altitude reduces humidity levels, which can affect film (patina) formation, resulting in excessive brush wear.

• **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.

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.



An example of commutator burn marks

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 commutator 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. Use the adapted Mersen brush grades.

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