



Protect USB Connectors From Fretting

Application: Electronic Data Logger

Location: USA

Challenge

Commercial truck fleets are becoming more electrified and digitally connected as the demand for added safety, tracking, and comfort features increases. When working properly, electronic logging systems can help companies manage fleet logistics and minimize downtime. But when connectors fail, these systems stop functioning and cause costly downtime for repairs. A supplier of electronic data logging systems approached us after they noticed a high failure rate of their USB connectors due to fretting corrosion caused by micro movements from vibrations. They needed a grease that could protect their connectors against fretting corrosion to prevent future electrical failures and restore connectivity to connectors affected in the field.

- Can the lubricant prevent fretting corrosion?
- Can this solution be rolled out in the field?
- Can the lubricant ensure connectivity after 10 insertions over a five-year lifecycle?

Solution

NYOGEL® 760G Connector Grease

A silica thickened, medium viscosity, synthetic hydrocarbon grease.

- Protects against fretting corrosion and ensures connectivity
- Reduces insertion force
- Provides lifetime lubrication for lasting connections
- Compatible with most plastics and elastomers

Results

After completing third-party validation testing to verify fretting and insertion force properties, the supplier determined that NYOGEL® 760G successfully prevented fretting corrosion and extended the life of their USB connectors. We helped the supplier determine the appropriate amount of grease for each USB connector to ensure that the connector received the proper coverage without overfilling the socket. We also helped the supplier select different packaging options suitable for field servicing and mass production.

Advantages

Prevents fretting corrosion

Reduces insertion force

Compatible with plastics and elastomers