CASE STUDY

MOVING YOUR WORLD

Resolving Rack Equipment Power Failures

Application: Data Center Busbar
Location: USA

Challenge

A leader in integrated cloud technology noticed that the backup servers in their data centers were being used much too frequently because their primary servers were experiencing power failures. Upon inspection, they soon discovered that the busbar and crown clip connection for the primary server had corrosion build up. They attributed this problem to fretting corrosion, or micro-motions that wear contacts and expose fresh layers of metal to oxidation, eventually creating an open connection. The provider determined that the micromotion occurred during shipping and regular operation. After their manufacturing partner recommended our connector greases, an engineer contacted us to see if we could provide a solution that would protect future power connections from fretting corrosion and restore reliable connectivity to damaged connectors in the field.

Advantages

Prevents fretting wear

Insulates from short circuits

Protects from environmental exposure

Solution

NYOGEL® 760G
A silica thickened, medium viscosity, synthetic hydrocarbon grease for lubricating contacts.

- Extends the reliability of connectors
- Prevents fretting wear
- Insulates from short circuits
- Protects from environmental exposure

FUCHS Lubricants Co.
17050 Lathrop Ave.
Harvey, IL 60426

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Results

To validate our solution, our Application and Test Design Engineers used our fretting corrosion test rig and modified the design using custom fixtures to replicate the customer's application conditions. Our team ran two tests, one on unlubricated contacts and one with contacts lubricated with NYOGEL® 760G. NYOGEL® 760G was run for 5.8M cycles without any failures compared to 75K cycles unlubricated. After further internal testing, the customer decided to use NYOGEL® 760G for their tin-plated connectors. NYOGEL® 760G is now being used in their data center equipment across the world and has successfully restored equipment power reliability to servers that experienced power failures.

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