



In-Vacuum Grease for LED Display Manufacturing

Application: Bearings in transfer robotics

Challenge

A world-leading manufacturer of OLED and QLED displays wanted to improve the bearing performance in their linear motion guides and transfer robots. The bearings are heavily loaded and operate at high temperatures of up to 200°C under high vacuum. They were previously running into evaporation and oil separation issues with a PFPE grease from a different lubricant manufacturer.

Solution

NYETORR® 6300 was chosen from our unique line of lubricants designed for the rigorous demands of the semiconductor production environment. NYETORR® 6300 is a heavy viscosity, PFPE grease for applications requiring low outgassing and wear protection. Additionally, this grease possesses excellent high temperature stability and resistance to aggressive chemicals.

Each manufactured batch of NYETORR® 6300 is tested and certified to stringent specifications that are provided to the customer for each order. NYETORR® 6300 is also subjected to an ultrafiltration process which removes microscopic particles that can be generated due to the high shear of the lubricant in operation.

Results

The customer evaluated the performance of NYETORR® 6300 under vacuum at 200°C for 24 hours. NYETORR® 6300 successfully met the customer's evaporation and oil separation requirements and was integrated into multiple production lines, where it has reduced downtime and yield losses that were originally due to particle contamination. Ultimately, this had a direct impact on the customer's profitability by improving efficiencies and reducing waste streams.

Advantages

Low outgassing & evaporation

Withstands vacuum conditions

High-temperature performance