



Ultra-low Outgassing Grease for Lockheed Martin

Application: HD Satellite Camera Bearings

Location: USA

Challenge

Lockheed Martin designs and manufactures advanced technology systems and products for the aerospace industry. Their new Expedite program involved the development of a satellite fitted with next-generation high-definition cameras. They were working with The Aerospace Corporation, a non-profit FFRDC organization, on a project to reduce volatile contaminants close to the camera's lens. Both companies were concerned that the cameras would be compromised if volatiles settled near the lens and fogged it up. They tasked us with reducing the outgassing rate of two of our popular space greases, RHEOLUBE® 2000 and RHEOLUBE® 2004, in time for their satellite launch.

Solution

A stripping procedure was developed by Lockheed Martin and FUCHS. Daily samples were rushed to The Aerospace Corporation to evaluate. FUCHS purchased a vacuum oven that was large enough and could pull the required vacuum level to treat the lubricant. FUCHS modified the vacuum oven to control and monitor heat precisely. Tests to confirm the extreme requirements of the lubricants were performed by FUCHS, Lockheed Martin and The Aerospace Corporation.

Results

The result of all these efforts was the birth of RHEOLUBE® 2000LO and RHEOLUBE® 2004LO. Both are sodium complex soap thickened, cyclopentane greases intended for aerospace and vacuum instruments. The project was a huge success. According to an unclassified report by a Lockheed Martin employee the "Stripped Grease is Awesome." FUCHS demonstrated to Lockheed Martin our "can do attitude."

Advantages

Ultra-low outgassing to prevent contamination

Wide temperature performance

Expert technical support

**Case Study originally from Nye Lubricants, a Member of the FUCHS Group*