

HIGH-TEMPERATURE LUBRICANTS FOR BRAKE CALIPER PINS

INDUSTRY:
Automotive

APPLICATION:
Braking

COMPONENT:
Caliper Pins

LOCATION:
China



BACKGROUND

When caliper pins are not properly lubricated, rotors and brakes can become misaligned which generates frictional heat and accelerates wear. To extend the life of brake pads, it is critical to select a lubricant that can withstand high temperatures during braking. Lubricants must also be compatible with all braking materials including EPDMs. An Automotive OEM was looking to replace their caliper lubricant after it failed to resist water washout and could not withstand high temperatures. They came to Nye for a solution.

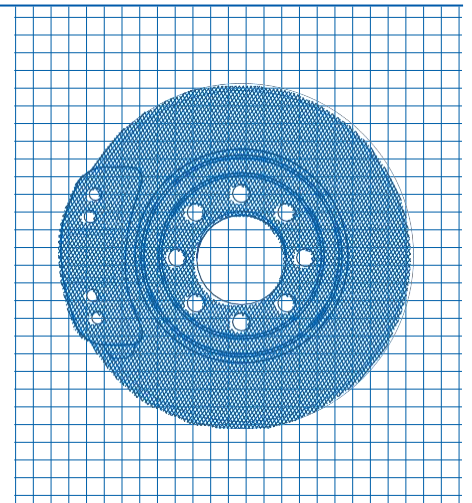
CHALLENGE

- Can the grease provide adequate protection while withstanding high temperatures and resisting water washout?

SOLUTION FLUOROCARBON GEL 880

A PTFE-thickened, heavy viscosity dimethyl silicone grease

- Resists water spray
- Prevents corrosion and oxidation
- Compatible with EPDMs
- Excellent stability at high and low temperatures



RESULTS

When selecting lubricants for caliper pins, a high viscosity grease with a temperature range of -40 to 200 °C is ideal. Lubricants with a high viscosity stay in place will not move away from the contact area and provide a strong lubricating film. Nye sent the customer a sample of Fluorocarbon Gel 880. The grease met their temperature and water resistance requirements and was approved for use in their braking application.

Typical Properties

Base Oil Properties	Conditions	Fluorocarbon Gel 880	Test Method
Chemistry	-	Dimethyl Silicone / PTFE	-
Temperature Range	-	-40 to 200 °C	-
Kinematic Viscosity	40 °C	1,8407 cSt	ASTM D445
	100 °C	7,349 cSt	ASTM D445
Viscosity Index	-	658	ASTM D445
Grease Properties			
Flash Point	-	350 °C	ASTM D92
Pour Point	-	62 °C	ASTM D97
Evaporation	24 h, 121 °C	.06%	CTM*
Density	25 °C	1.25 g/cm ³	CTM*

*CTM: Nye Company Test Method

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