

# ARCING CONDITIONS IN INTERIOR SWITCHES

**INDUSTRY:**  
Automotive

**APPLICATION:**  
Window

**COMPONENT:**  
Lift Switch

**LOCATION:**  
Malaysia



## BACKGROUND

A prominent Automotive OEM came to Nye in search of a lubricant that would be compatible with their new window lift switch. They also used a Nye Rheolube® product to lubricate a fan switch and wanted to see if it would work in this application. Interior switches, such as window switches, often operate under arcing conditions in which a small burst of heat is produced that causes hydrocarbon greases to polymerize. This creates a tacky substance that leads to contact resistance and short circuits. Nye engineers began to investigate a solution to ensure the lubricant would not burn and carbonize under the arcing conditions of the switch.

## CHALLENGE

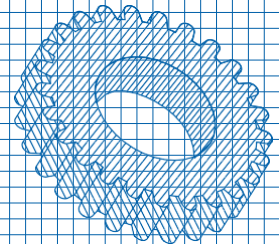
- Can the lubricant extend the life of the switch by achieving at least 10 years of life under arcing temperatures?

## SOLUTION

### UNIFLOR™ 8512

A PTFE thickened, medium viscosity, completely fluorinated grease.

- Excellent thermo-oxidative stability
- Great material compatibility
- Improves life performance



## RESULTS

As expected, the Rheolube® product did not meet the customer's life cycle and temperature performance test requirements. However, Uniflor™ 8512 passed all of the customer's testing requirements and was successfully implemented into the applications design.

Base Oil Properties	Conditions	Uniflor™ 8512	Test Method
Chemistry		PTPF / PFPE	
Temperature Range		-50 to 225°C	
Kinematic Viscosity	40°C	65 cSt	ASTM D-445
Viscosity Index		258	ASTM D-445
<b>Grease Properties</b>			
Penetration	Worked, 60x	281	ASTM D-217
Oil Separation	24 hrs, 150°C	6.8%	ASTM D-6184
Evaporation	24 hrs, 150°C	1%	NYE CTM

Since 1844: Our performance is reflected in the value we bring to our customers.

Nye Lubricants is a leader in the innovation, formulation and provision of synthetic lubricants, enabling and improving breakthrough products and critical new technologies. We bring proven experience, deep technical knowledge and customer focus to solve our customers' toughest challenges, adding tangible value to products in a wide range of industries and applications.

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