



# CUSTOM TESTING FOR WINDOW SHADES

**INDUSTRY:**  
Appliance

**APPLICATION:**  
Window Shade

**COMPONENT:**  
Brake

**LOCATION:**  
Pennsylvania



## BACKGROUND

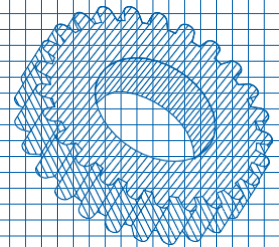
A global manufacturer of light control technologies such as dimmers, switches, shades, and sensors, came to Nye with a new brake design within their window shade systems. The company already used Rheolube® 368AXF in another product and wanted to verify that it was the best lubricant for their new design. For many of our customers, in-house testing is not feasible given the time, cost, and equipment required. This customer needed Nye to test Rheolube® 368AXF against other PTFE greases to see which performed best in their new shade.

## CHALLENGE

- Determine which grease has the lowest oil separation under specified conditions
- Determine which grease can operate for 400,000 brake cycles with less than a 25% change in torque.

## SOLUTION NEW APPLICATION & VALIDATION TEST TRIG

- Nye built a custom fabricated test stand which held the brake unit in place, while a servo motor with torque feedback capabilities cycled the internal greased components and monitored operating torque in real-time.
- Nye then compared the torque results of Rheolube® 368AXF against the torque results of other PTFE greases.



## RESULTS

After the testing data was analyzed, plotted, and supplied to Lutron, they concluded that Rheolube® 368AXF was the best solution for their application and implemented it into their design. Rheolube® 368AXF is a rust inhibited, PTFE fortified grease that exhibits excellent friction reduction and load carrying capabilities while meeting the customer's low oil separation requirements.

Base Oil Properties	Conditions	Rheolube® 368AXF	Test Method
Chemistry		PAO / Lithium Soap	
Temperature Range		-20 to 125°C	
Kinematic Viscosity	40°C	259 cSt	ASTM D-445
Viscosity Index		155	ASTM D-2270
<b>Grease Properties</b>			
NLGI Grade		2	ASTM D-217
Oil Separation	24 hrs, 100°C	4.6%	ASTM D-6184
Evaporation	24 hrs, 100°C	0.3%	NYE CTM

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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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