



THE DESIGN ENGINEER'S GUIDE TO SELECTING A DIELECTRIC GREASE

Lubricants engineered to improve the functionality, reliability, and longevity of electrical connectors, switches, printed circuit boards & wire nuts.





DIELECTRIC GREASES

THE MOST RELIABLE SYNTHETIC GREASES FOR ELECTRONIC COMPONENTS

GRAPH KEY:



NyoGel® 760G



Rheotemp™ 768G



Rheotemp™ 769G



Uniflor™ 8917



Unlubricated

Lubricants as Critical Design Components

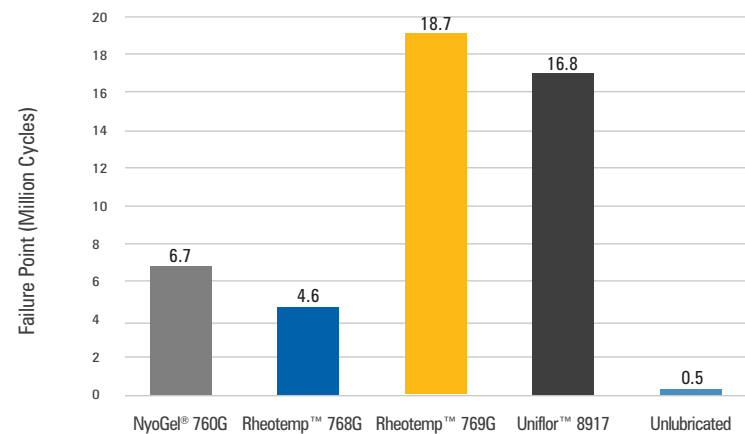
The number of electrical connectors and electronic circuits in devices such as cars, planes, appliances, industrial machinery, trucks or boats is continuously growing. Failure of these components, from short circuit to continuity loss, present a major concern as issues can vary from nuisance to increased warranty costs to critical safety problems. The constant exposure to moisture, corrosive environments, and vibration can also accelerate the failure or malfunction of components.

As the complexity of control systems increases, the number of pins on multi-pin connectors continues to grow. Mating multi-pin connectors often requires significant force – creating the potential for incomplete mating, as well as repetitive-motion injuries for assembly workers.

Nye Lubricants has a complete line of dielectric greases formulated specifically to address application requirements for arcing, high temperature, environmental protection, fretting wear, and insertion force. We work directly with design engineers to form a partnership and assist with proper grease selection to ensure performance, avoid warranty claims and costly, time-consuming repairs.

Connector Life

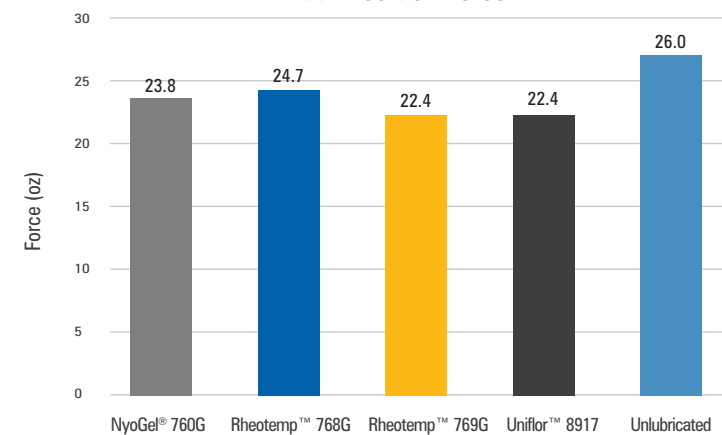
Fretting Cycles to Failure Point



Test Conditions: 2.8mm APEX Copper-Tin Terminals, CTM (10Hz, 100 microns), 50% Failure Values

Terminal Coupling Force

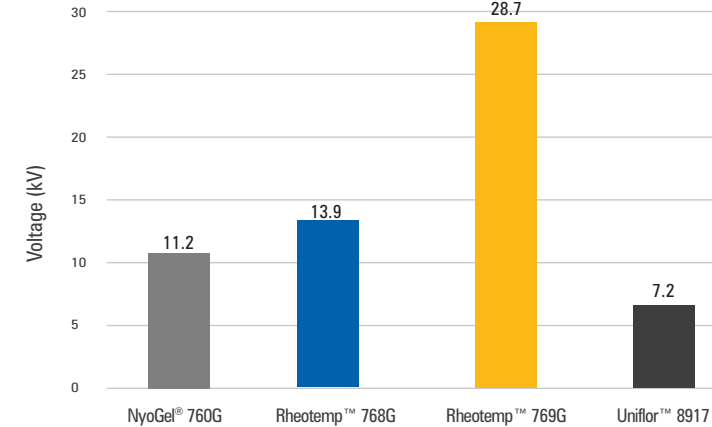
Initial Insertion Force



Test Conditions: 10 insertions on a single 2.8mm APEX Copper-Tin Terminal, CTM-70 (0.03±0.002 g), 20 terminals

Dielectric Performance

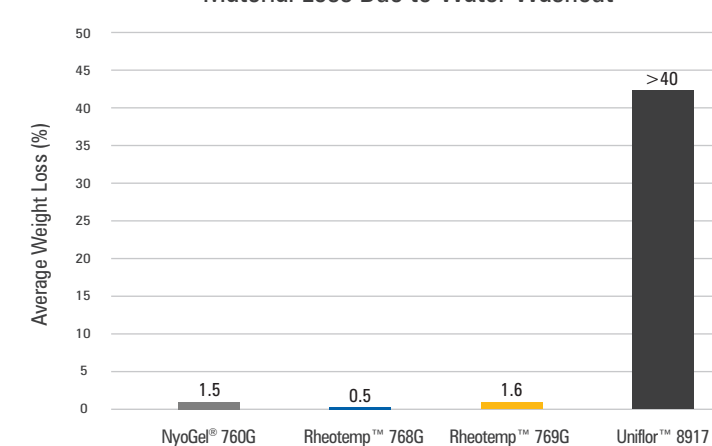
Voltage Breakdown Point



Test Conditions: CTM-9 (25°C, Electrode Gap = 0.070 in)

Water Resistance

Material Loss Due to Water Washout



Test Conditions: ASTM D-1264 (79°C, 1 hour)

Proven Performance

Nye's ability to innovate, adapt, and develop solutions is as much in evidence today as it has been at any time during our history. Starting in the eighties, Nye connector greases were used in automobiles as field fixes for ignition module failures by sealing against any intrusion of water into the electronic modules. Nye dielectric greases continue to be used to resolve major automotive recalls to prevent short circuits that cause control module failures. As well, Nye dielectric greases ensure reliable performance in aviation, medical and semiconductor electronic applications.

Our family of dielectric greases are compatible with the widest range of connector materials and designed for long-life and performance in high temperature and severe environments. Nye greases are available in a variety of packaging sizes for both high-volume production dispensing and small volume dispensing, such as field repair activities.

We have a storied history of success and deep technical knowledge with customer focus to solve your toughest challenges in electrical, electronic design and functionality.

The advantages of lubricating electrical components.



Extend functional life of components



Improve reliability of connections



Seal & protect from environmental elements



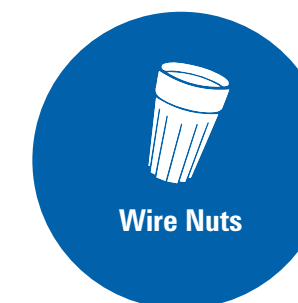
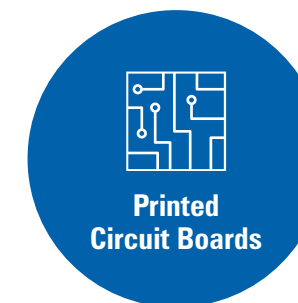
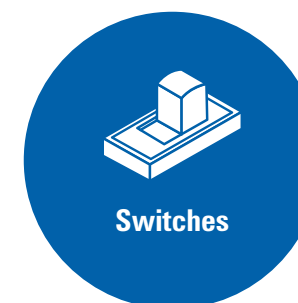
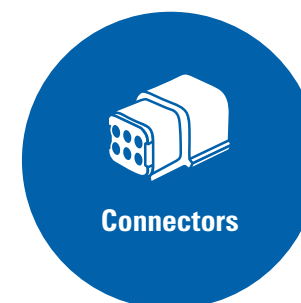
Prevent fretting wear & corrosion



Reduce insertion force



Insulate against electrical short circuits



How to Select Your Dielectric Grease.

Nye Lubricants has a complete line of dielectric greases designed specifically to address application requirements for contact protection, insertion force, sealing, temperature limits and material compatibility.

NyoGel® 760G	Universal standard for dielectric grease across several industries with specification at a wide-range of leading OEM's. Good fretting corrosion protection and dielectric isolation capabilities. Compatible with common connector materials.*
Rheotemp™ 768G	Similar performance as NyoGel® 760G, with a higher maximum temperature capability of 175°C.*
Rheotemp™ 769G	Formulated to offer outstanding dielectric performance, reduction of insertion force, and fretting wear protection.*
Uniflor™ 8917	Recommended for applications with high operating temperatures up to 225°C. Compatible with a wide range of plastics and elastomers. Excellent insertion force reduction.

*Contains UV Dye for application validation

Properties of NyoGel® 760G, Rheotemp™ 768G, Rheotemp™ 769G & Uniflor™ 8917

LUBRICANT PROPERTIES		NyoGel® 760G	Rheotemp™ 768G	Rheotemp™ 769G	Uniflor™ 8917	Test Method
Base Oil		PAO	PAO/AN	PAO/AN	PFPE	
Temperature Range		-40 to 135°C	-40 to 175°C	-40 to 175°C	-70 to 225°C	
Kinematic Viscosity	40°C	400 cSt	193 cSt	66 cSt	88 cSt	ASTM D-445
	100°C	39 cSt	22 cSt	10 cSt	27 cSt	
NLGI Grade		2	2	2	2	
Oil Separation	(24h, 100°C)	1.5%	2.6%	.97%	4.8%	ASTM D-6184
Penetration (1/10 mm)	Unworked	266	257	287	271	ASTM D-217
	Worked 60x	286	277	296	279	
Evaporation	(24h, 100°C)	0.30%	0.30%	0.13%	0.05%	NYE CTM
Salt Spray Resistance	750 hrs	No Corrosion	No Corrosion	No Corrosion	Slight Corrosion	ASTM B117-18

Nye Today: 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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