

Introducing
NyeTorr[®]
VACUUM LUBRICANTS



The New Standard for Vacuum and Clean Room Applications

NyeTorr[®] is a new family of oils and greases optimized for vacuum applications. More than just another line of broad-temperature, low vapor pressure lubricants, NyeTorr represents a new way to manufacture vacuum lubricants – a carefully designed process that ultimately improves the performance and extends the operating life of critical components in vacuum environments.



What makes NyeTorr unique?

- **NyeTorr is formulated only with materials that have a narrow range of molecular weights.** Without light fractions, it delivers longer life and significantly less trace outgassing.
- **NyeTorr tests and certifies the vapor pressure of each batch.** Other vacuum lubricants list only "typical properties," which do not warrant that vapor pressure on the label matches the actual vapor pressure of the lubricant. Most often, it doesn't.
- **All NyeTorr lubricants are subjected to a proprietary "ultrafiltration process"** which removes microscopic particulates and homogenizes agglomerated thickeners. Then, lubricants are packaged in ultra-clean containers in a Class 100 (ISO Class 5) minienvironment.
- **NyeTorr includes a variety of synthetic chemistries.** NyeTorr offers all known fluorinated lubricants as well as non-fluorinated oils and greases, which are better suited to more heavily loaded devices. Importantly, non-fluorinated products have vapor pressures as low as fluorinated products.
- **NyeTorr comes with custom formulation services.** If a standard NyeTorr lubricant does not optimize the performance of your device, Nye engineers will work with you to customize a vacuum lubricant that meets your needs.

Raise the bar on vacuum lubricants ... with NyeTorr. To discuss your application, request more information, or request a NyeTorr evaluation sample, contact Nye Lubricants, Inc., at 508.996.6721 or techhelp@nyelubricants.com.

NyeTorr® Vacuum Lubricants – An Overview

Use the applications guidelines on the following table to determine which NyeTorr lubricant is best suited for your device. Note that oils provide the lowest possible torque and sometimes slightly lower vapor pressure. Gels are recommended for applications where oil creep may be a problem. Before requesting an evaluation sample, take advantage of a free consultation with a Nye application engineer at 508-996-6721.

	NyeTorr 5100 Lubricating Gel	NyeTorr 5101 Lubricating Oil	NyeTorr 5200 Lubricating Gel	NyeTorr 5201 Lubricating Oil	NyeTorr 5300 Lubricating Gel	NyeTorr 5301 Lubricating Oil
APPLICATION GUIDELINES						
Temperature Range (C°)	-54 to +150	-54 to +150	-45 to +125	-45 to 125	-65 to +250	-65 to +250
Vapor Pressure @ 25°C ⁽¹⁾	9 x 10 ⁻¹⁰ torr	2 x 10 ⁻⁹ torr	5 x 10 ⁻⁹ torr	3 x 10 ⁻⁸ torr	5 x 10 ⁻⁹ torr	5 x 10 ⁻¹⁰ torr
Specific Gravity	1.0	1.0	1.05	0.84	1.9	1.8
Microscopic Particulates ⁽¹⁾	<300/cc, <35µm	None >25µm	<300/cc, <35µm	None >25µm	<300/cc, <35µm	None >25µm
Outgassing Mass Flow Rate	10 ⁻¹⁰ g/sec/cm2 @ 25°C	10 ⁻¹⁰ g/sec/cm2 @ 25°C	10 ⁻¹⁰ g/sec/cm2 @ 25°C	10 ⁻¹⁰ g/sec/cm2 @ 25°C	10 ⁻⁹ g/sec/cm2 @ 25°C	10 ⁻¹¹ g/sec/cm2 @ 25°C
Evaporation Rate	0.05%, 24 hrs./100°C	0.1%, 24 hrs./100°C	0.1%, 168 hrs./100°C	0.1%, 24 hrs./100°C	<0.1%, 24 hrs./100°C	0.1%, 22 hrs./150°C
Base Oil Viscosity @ 25°C	125 cSt	125 cSt	230 cSt	230 cSt	200 cSt	200 cSt
Base Oil Viscosity Index	143	143	137	137	345	345
Penetration, worked 60x	NLGI Grade 2	NA	NLGI Grade 1	NA	NLGI Grade 2	NA
PROPERTIES						
Mechanical Load Limit	Moderate	Moderate	Heavy	Heavy	Light to Moderate	Light to Moderate
Precision Positioning	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Very Low Starting Torque	Good	Good	Good	Good	Excellent	Excellent
Torque Variation over Temperature	Moderate	Moderate	Moderate	Moderate	Very Low	Very Low
Material Compatibility	Excellent for metal on metal. May weaken or swell ABS, buna N/S, styrenes, PVC, etc.		Excellent for metal on metal. May cause some EPDM seals to swell.		Excellent plastic and elastomer compatibility. Suitable for any combination of plastic and metal.	

(1) Certified by lot. Certificate of Analysis may be requested at the time of order.

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Nye Synthetic Lubricants

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ISO 9001:2000
ISO/TS-16949



ISO 14001