



REFLO™ XL SYNTHETIC BLEND REFRIGERATION COMPRESSOR FLUID

Introduction

Petro-Canada's REFLO XL is a Synthetic Blend based ammonia refrigeration compressor fluid used in industrial refrigeration systems. REFLO XL is formulated to outperform straight Group II, solvent refined paraffinic and naphthenic refrigerant oils by extending service life while significantly reducing operating costs.

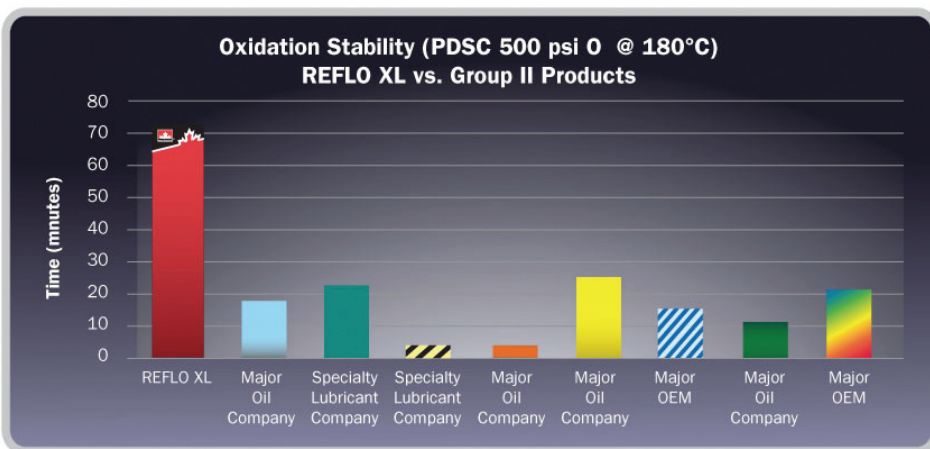
REFLO XL is specifically formulated using a combination of synthetic base oil and our patent HT Purity base oil. Petro-Canada produces 99.9% pure base oils – one of the purest in the world and free of impurities that can hinder fluid performance. These crystal clear base oils are fortified with specialty selected additives that works synergistically with the HT purity to produce a refrigeration compressor fluid that offers reliable, long-term performance with significant operational cost savings.

What is the HT difference?

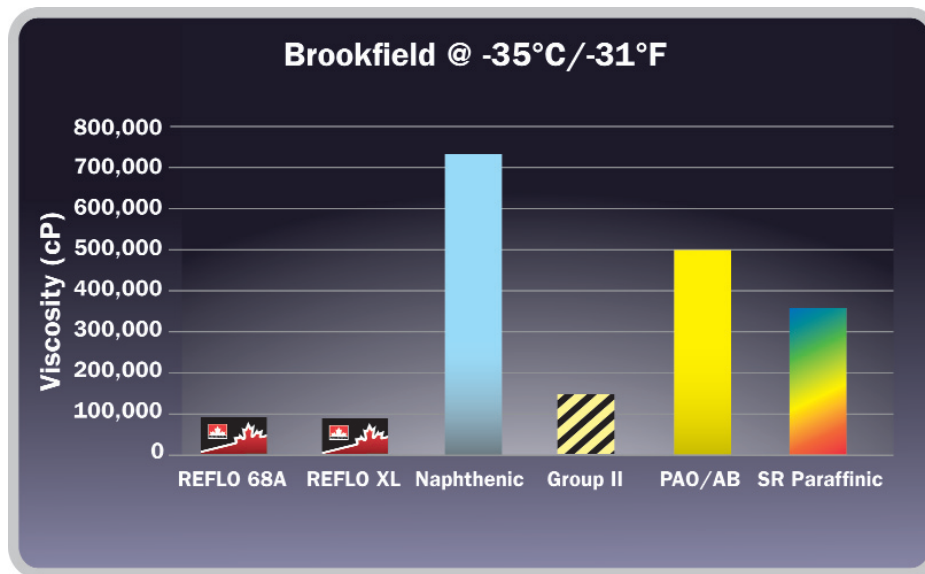
Petro-Canada starts with the patented HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



Features and Performance Benefits

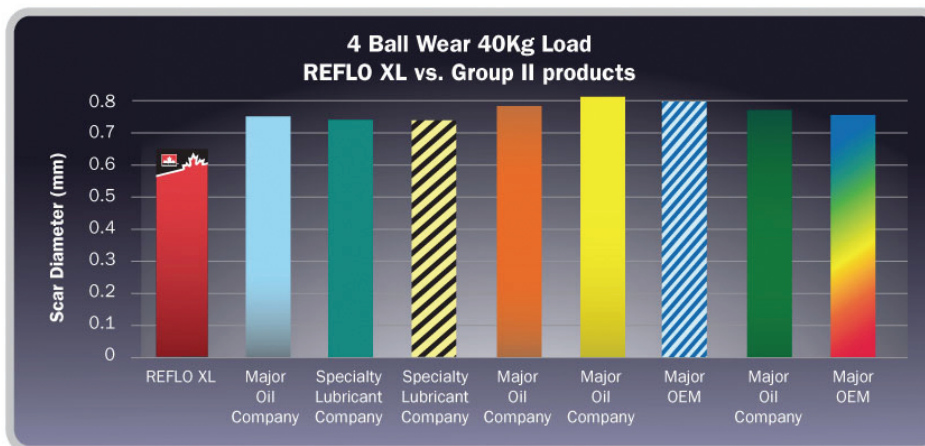


- **Excellent thermal and oxidative stability extends fluid life, reducing maintenance costs and downtime**
 - Excellent resistance to oxidative and thermal breakdown guards against oil thickening, deposits and sludge formation
 - Helps to keep the compressor, heat exchanger and expansion valves operating at their design efficiency and performance standards
 - Extends fluid life, even in the presence of impurities in the ammonia refrigerant, saving on downtime and change-out costs



- **Excellent low temperature performance**

- REFLO XL can operate at temperatures well below conventional mineral oils
- Low temperature fluidity if the fluid were to get carried into cold sections of the system by the refrigerant



- **Excellent antiwear properties and new seal swell**

- REFLO XL is formulated to reduce liner, ring and piston wear in Reciprocating compressors
- Specially formulated with seal swell agent to reduce seal swell shrinkage

- **Lower Oil Volatility reduces fluid consumption and maintenance costs**

- Significantly less volatile than solvent refined paraffinics or naphthenics at high temperatures
- Results in less oil carryover to the refrigeration system's low temperature side, reducing fluid consumption
- Lower oil carryover also reduces plugging and deposit formation in evaporators, lowering maintenance costs

- **Lower solubility in ammonia improves system efficiency and performance**
 - REFLO XL has less solubility in ammonia refrigerant than naphthenic oil
 - Less ammonia is absorbed into the compressor fluid, which can reduce gas entrainment (foaming) in separator tanks and increase system efficiency
 - Lower concentrations of ammonia in the fluid allows it to maintain viscosity, so it lubricates better, reducing wear
 - Less compressor fluid is absorbed into the ammonia, reducing the potential for fluid to block piping, valves and filters
 - Lower concentration of compressor fluid in the ammonia also helps maintain refrigerant purity, improving system efficiency and performance
- **Ensures proper lubrication and protection from wear over a wide range of operation temperatures**
- **High flash point ensures safe operation at elevated temperatures**

Applications

REFLO XL is formulated to lubricate ammonia refrigeration compressors used in large commercial operations such as cold stores, marine systems, food processing plants and ice arenas. REFLO XL is also used in manufacturing industries that require low temperature control, such as pharmaceuticals and microelectronics. REFLO XL can be used in ammonia refrigeration systems where evaporator temperatures are as low as -45°C.

REFLO XL is compatible with similar paraffinic mineral oil based products. The full benefits of REFLO XL will not be realized without a complete fluid change-out.

REFLO XL is formulated to have good compatibility with seal material; it contains a seal swell agent to protect against fluid leaks. REFLO XL is compatible with material such as Neoprene® (Polychloroprene), HSN (Highly Saturated Nitrile) or BUNA N (Nitrile).

REFLO XL meets the requirements of most major compressor OEM's.

Food Industry Registered

- Acceptable as a lubricant in and around food processing areas where there is no possibility of food contact
- Registered with the Canadian Food Inspection Agency (CFIA)
- NSF H2 registered



Typical Performance Data

| PROPERTY | ASTM TEST METHOD | DIN TEST METHOD | REFLO XL |
|--|------------------|-----------------|--------------------------|
| Density, kg/L @ 15°C | D4052 | — | 0.869 |
| Viscosity, cSt @ 40°C cSt @ 100°C SUS @ 100°F SUS @ 220°F | D445 | 51550 | 59.3 8.5 304 54 |
| Viscosity Index | D2270 | — | 115 |
| Pour Point, °C/°F | D92 | 51597 | -45 |
| Flash Point, COC, °C/°F | D92 | 515376 | 227 |
| Foam Characteristics, mL Sequence I Sequence II Sequence III | D892 | 51566 | 0/0 15/0 0/0 |
| Total Acid Number (TAN), mg KOH/g | D664 | 51558 | <0.10 |

The values quoted above are typical of normal production. They do not constitute a specification.

Health and Safety

To obtain Material Safety Data Sheet (MSDS), contact one of Petro-Canada's TechData Info Lines.

TechData Info Lines

If you would like to learn more about Petro-Canada's REFLO XL, or any other product in our complete line of quality lubricants, please contact us at:

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