255 Avenue Labrosee
Pointe-Claire, Quebec
H9R 1A3, Canada
1-800-567-5823
www.thermal-lube.com

XL-0866

SYNTHETIC PAG HEAT-TRANSFER CALENDER LUBE

XL-0866 series of fluids are specially compounded synthetic derivatives that offer performance characteristics not available in petroleum-based products. Under demanding conditions, the **XL-0866 series** perform well where other lubricants fail. They minimize wear and maintenance and limit interruptions in output caused by reduced downtime.

XL-0866 is manufactured using water-soluble polyalkylene glycol base stocks, which are known to provide outstanding EP characteristics. These pure PAG base stocks combined with the addition of a high performance, food approved additive package, these products are able to offer excellent thermal stability, high wear reduction rates, extremely high micropitting resistance and load carrying ability as well as excellent corrosion protection.

The XL-0866 Series features:
• High Viscosity Indexes
• Chemical and Thermal Stability
• Compatibility with Metallic and Elastomer Components
• Good Water Solubility
• Excellent Shear Resistance

XL-0866 Series typical applications:
• Calender rolls
• Fill for life gearboxes
• Compressors – Both rotary screw and reciprocating
• Textile lubricants
• Chain and conveyor lubricants
• Kiln and oven lubricants

The inherent high viscosity indices provide useful viscosities at elevated temperatures. At operating conditions between 150 to 200ºC, this means better load-carrying properties of hydrodynamic fluid films in highly loaded bearings. Even under thin film and boundary conditions found especially in slow moving (heavily loaded) bearings, **XL-0866** series has demonstrated excellent load-bearing performance.

The **XL-0866** Series protects against oxidative corrosion rendering them **chemically and thermally stable**. Unlike other organic materials that oxidize at elevated temperatures in the presence of air, the by-products of oxidation inherent to the **XL-0866** series are generally soluble or volatile. Therefore, the tendency to form sludge, varnishes, or carbonaceous residues are greatly

reduced.

XL-0866 series are formulated with additives specifically designed to provide compatibility with common metals such as iron, steel, brass, bronze, and aluminum. They are also compatible with most natural and synthetic rubber compounds and gasket materials. Therefore, the main consideration for elastomer and seal selection will be the elevated temperatures to which they are exposed.

The **XL-0866** Series of fluids are **soluble in water** at ambient temperatures. If they are spilled, they can be removed with water. If they become contaminated with limited amounts of water in circulation, they will form a homogeneous solution that will provide continuous lubrication to all vital parts. The water will quickly evaporate at high temperatures.

OEM APPROVALS:
The **XL-0866** series is fully approved and listed as such by the following gearbox OEM's:

David Brown:	Type G Lubricant
Flender:	(SL 150 – SL1000) for use in Helical, Bevel Helical, Planetary and Worm gearboxes

Further details concerning these approvals can be provided on request.

FLUSH PROCEDURE:
When changing from a mineral oil or PAO based product to one of the **XL-0866** series, the following procedure should be followed:

The system should be run until the old oil is warm, then drain as fully as possible, particular attention being paid to reservoirs, lines etc., where oil may be trapped. The system should be cleaned of residual sludge.

Flush the system with the minimum quantity of **XL-0866** by operating under no load, and then drain the system whilst the fluid is warm. Repeat if necessary.

Seals, etc., should be inspected and if deteriorated then replaced. Seals previously exposed to other oils may shrink when exposed to **XL-0866** series fluids, therefore it may be advantageous to replace them. This is not mandatory, as careful inspection of the system for leaks will often suffice. It is useful to inspect the lubricant after one or two days in use to make sure that it is free of extraneous materials. Contamination with significant quantities of other lubricants can, in some cases, lead to sludging, foaming and other problems.

May be blended with powdered graphite
for extra boundary film protection.

NOTE: XL-0866 series are NOT miscible in petroleum-based products

TYPICAL SPECIFICATIONS			
Product Code: XL-0866	**/460**	**/680**	**1500**
SAE Grade	460	680	1500
Viscosity (cst @ -20°C) (ASTM D-445)	40,000	70,000	100,000

TYPICAL SPECIFICATIONS			
Viscosity (cst @ 0°C) (ASTM D-445)	2,800	4,400	14,000
Viscosity (cst @ 40°C) (ASTM D-445)	477	725	1150
Viscosity (cst @ 100°C) (ASTM D-445)	83	122	185
Viscosity (cst @ 150°C) (ASTM D-445)	32	48	80
Viscosity (cst @ 200°C) (ASTM D-445)	16.5	23	42
Viscosity (cst @ 250°C) (ASTM D-445)	n/a	n/a	23.7
Viscosity Index (ASTM D-2270)	262	272	287
Flash Point COC (°C) (ASTM D-92)	>280	>285	>290
Flash Point PMCC (°C) (ASTM D-93)	>170	>170	>170
Vapour Pressure (mm Hg @ 20°C)	<0.001	<0.001	<0.001
Water Content (% by weight)	<0.25	<0.25	<0.25
Pour Point (°C) (ASTM D-97)	-36	-33	-26
Copper Strip Test (100°C for 3 hours) (ASTM D-130)	1a	1a	1a
Rust Test (ASTM D-97 Procedure A)	Pass	Pass	Pass
Coefficient of Expansion per °C (@ 20°C)	0.00075	0.00075	0.00075
Coefficient of Expansion per °C (@ 25°C)	0.00077	0.00077	0.00077
Specific Gravity (g/ml)	1.067	1.072	1.050
Total Acid Number (TAN) (mg KOH g-1)	0.2 max	0.2 max	0.2 max
Evaporation Loss (ASTM D-972)	0.8%	0.8%	0.8%
4 Ball Wear Scar (40kg @ 75°C, 1hr) (mm)	0.33	0.33	0.33
FZG Micropitting @ 60°C & 90°C (Load Stage)	10	10	10
FZG Micropitting @ 60°C & 90°C (Endurance)	10	10	10
FZG Test DIN 51534, Fail Stage	>12	>12	>12
Falex Pass load stage (kg)	460	460	460
Flender worm gear test T60	L3/S5	L3/S5	L3/S5
Timken OK Load (kg) (ASTM D-2782)	25	25	28
Oxidation Stability (Vk 40°C increase) (ASTM D-2893)	<0.1	<0.1	<0.1
			Other viscosity grades are available by special order.