

# THERMAL-LUBE

## FRICITION MODIFYING TRACTION LUBE

# XL0890

June 2022

**XL0890 Traction Lube** is a synthetic hydrocarbon formulated specifically for all-steel speed reducers that require a high coefficient of friction lubricant. **XL0890** renders the possibility of performing with a coefficient of friction at least 50% higher than that of conventional mineral oils. This dynamic effect between rolling contact surfaces results in a momentary transition of the lubricant's mobile film to rigid solid with immediate reversal when the pressure is reduced. This high traction is the result of the molecular structure of the lubricant and has been derived by chemical synthesis. The priority structure includes high-performance additives to attain maximum efficiencies, and long fluid life.

### Benefits:

- Increased power transmission in traction transmissions or drives.
- Thicker lubricating film maintained between pressurized rolling surfaces.
- Increased fatigue life of rolling contact bearings.
- High temperature stability without loss of lubricating qualities.
- Excellent power transmission at very high speeds.
- Extremely low noise level in operation.
- High efficiency
- Variable speed control operating under full load.
- Step-less, infinitely adjustable speed change.
- Precision set speeds.
- Low inertial elements that allow rapid speed change.
- Adaptable to servo-control.
- Low maintenance requirements.

### Applications:

- *Automotive*
  - Gearless traction transmissions
  - Specially designed clutches
- *Industrial*
  - High load high speed anti-friction bearings
  - Specially designed PIV drives
  - Traction drives

**Service Intervals:** Drain oil after 5000 hrs of operation, or two years maximum.



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## TYPICAL SPECIFICATIONS

Product Code: XL0890	/030		/040		/050		/070	
Viscosity (cP @ -40°C) (ASTM D2983) (cP @ -29°C) (ASTM D2983) (cP @ -17°C) (ASTM D2983)	23,400		-		-		-	
	-		31,600		41,500		-	
	-		-		5,120		93,900	
Viscosity (cSt @ 38°C) (ASTM D445) (cSt @ 99°C) (ASTM D445)	14.7 3.1		22.7 3.7		33.6 5.6		121 11.4	
Pour Point °C	-54		-43		-37		23	
Specific Gravity (g/ml @ 38°C) (g/ml @ 93°C) (g/ml @ 148°C)	0.891 0.853 0.817		0.888 0.850 0.814		0.889 0.855 0.820		0.885 0.850 0.815	
Coefficient of Expansion (1/°F)	4.58 x 10 <sup>-4</sup>		4.42 x 10 <sup>-4</sup>		4.42 x 10 <sup>-4</sup>		4.19 x 10 <sup>-4</sup>	
Specific Heat (BTU/lb·°F) @ 38°C @ 93°C @ 148°C	0.453 0.061 0.058		0.460 0.059 0.056		0.446 0.059 0.056		0.426 0.061 0.058	
Thermal Conductivity (BTU/hr·ft·°F) @ 38°C @ 93°C @ 148°C	0.063 0.061 0.058		0.060 0.059 0.056		0.060 0.059 0.056		0.062 0.061 0.058	
Vapor Pressure (mm Hg abs)	12		12		12		10	
Flash Point °C	163		149		163		168	
Fire Point °C	171		163		174		177	
Coefficient of Traction	0.084		0.095		0.095		0.095	
Napthenic oil = 0.066 MIL H-5606 Hydraulic oil = 0.060 MIL L-7808 Jet Engine oil = 0.039								
Four Ball Wear Test (Scar diameter)	0.67		0.75		0.51		0.54	
Shear Stability (% visc. Change @ 37°C)	-5		0		-11		-24	
Rust & Corrosion (ASTM D665A)	Pass		Fail		Pass		Pass	
Foam @ 24°C (ASTM D892) @ 93°C @ 24°C	5/0 35/0 5/0		0/0 0/0 0/0		0/0 22/0 0/0		0/0 20/0 0/0	
<b>Elastomer Compatibility</b> (ASTM D471) (7 hours @ 150°C, immersion)	<b>Initial</b>	<b>Final</b>	<b>Initial</b>	<b>Final</b>	<b>Initial</b>	<b>Final</b>	<b>Initial</b>	<b>Final</b>
<b>Buna N</b>								
Durometer Hardness (Shore 'A' Points)	64	49	64	58	63	54	64	48
Volumetric Swell (%)	-	10	-	6	-	6	-	39
Ultimate Tensile Strength (psi)	1815	374	1815	521	1815	428	1815	297
Ultimate Elongation (%)	380	62	380	81	380	73	380	131
<b>Polyacrylate</b>								
Durometer Hardness (Shore 'A' Points)	66	47	65	55	66	57	66	50
Volumetric Swell (%)	-	22	-	15	-	16	-	47
Ultimate Tensile Strength (psi)	1668	1261	1668	1508	1668	1467	1668	1045
Ultimate Elongation (%)	179	181	179	185	179	197	179	183
<b>Viton A</b>								
Durometer Hardness (Shore 'A' Points)	58	54	59	57	58	57	59	-
Volumetric Swell (%)	-	7	-	5	-	5	-	-
Ultimate Tensile Strength (psi)	2118	1535	2118	1625	2118	1695	2118	1647
Ultimate Elongation (%)	475	458	475	445	475	477	475	472



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