Petrochem
High Performance Lubricants

TECHNICAL DATA

Rev.06/19

HT-2000

SYNTHETIC HIGH TEMPERATURE CONVEYOR OVEN CHAIN LUBRICANT

DESCRIPTION: Synthetic, fully formulated with esters, ISO 100, NSF H-2 Registered

HT-2000 is formulated from premium state of the art synthetic Polyol ester base oils and proprietary additives for conveyor roller ball bearing chains, pin/roller chains, tortilla chains, slides and gears that operate in extreme high temperature oven environments. HT-2000 has established several OEM approvals and credible testimonies from bakeries and other industries worldwide.

APPLICATIONS:

- Bakery Oven Chains
- Roller Ball Bearing Chains on Continuous Oven Conveyors
- Pin/Roller Chains on Tunnel, Lap, Tray Ovens
- Beverage Can Line
- Lithographic Chains & many other Industrial applications

FEATURES & BENEFITS:

- NSF H-2 registered, meets USDA 1998 H-2 guidelines – Can be used in food plants for non-food contact. Contains no carcinogens and is environmentally friendly.
- HIGH FLASHPOINT (Exceeds 586° F) - Offers flexibility for lubricant to be applied either to a hot or cold chain while in production, hence reducing maintenance cost and increasing productivity.
- SUPERIOR RESISTANCE TO WEAR – In our 4-Ball Wear Test (ASTM D4172) at 400° F, the high resistance to metal wear and the ability to withstand heat, pressure and load carrying demands, prove the superiority film strength of HT-2000.
- EXCELLENT HIGH TEMPERATURE CORROSION-OXIDATION STABILITY –The low volatility and excellent oxidative thermal stability; prevents carbonization, provides extended lubrication intervals, reduces lubricant consumption, has less smoke and no objectionable odors.
- REDUCED MAINTENANCE COST & CLEANLINESS – HT-2000 is proven to be an extremely clean lubricant. It keeps the chain clean because it has an added synthetic ester that will break up any formed residue on the chain caused by airborne bake-off or other carbon deposits. Following Petrochem's maintenance and application procedures guarantee success to keep the chain clean and lubricated.
- HIGH VISCOSITY INDEX – HT-2000 stable viscosity makes smaller changes from lower to higher temperature ranges providing thorough penetration at all temperatures and chain speeds. No unstable polymers are used to build the viscosity.
- ENERGY SAVINGS - Engineers using HT-2000 report that it reduces the high load carrying demands because of two main reasons: First, the chain stays clean which eliminates dragging. Second, the roller ball bearings and/or roller pin bearings do not wear. This enables the chain to move at normal speed without increasing amperage

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PHYSICAL PROPERTIES:

Property	Test Method	Typical Specification
ISO GRADE	ASTM D445	100
SAE GRADE	ASTM D445	30
Specific Gravity, 15.6°C	ASTM D1298	< 1.0
Viscosity, cSt @ 40°C (104ºF)	ASTM D445	100
Viscosity, cSt @ 100°C (212ºF)	ASTM D445	13
Viscosity Index	ASTM D2270	115
Fire Point, °C (ºF)	ASTM D92	340°C (655°F)
Flash Point, ºC (ºF)	ASTM D92	308ºC (586ºF)
Pour Point, ºC (ºF)	ASTM D97	-40ºC (-40ºF)
Rambsbottom Carbon on 10% Residuum, %	ASTM D524	0.09
4-Ball Wear Test, 40 Kg, 1200 RPM, @ 100°C (212°F) 1 hr. Average wear scar diameter, mm	ASTM D4172	0.40
4-Ball Wear Test, 40 Kg, 600 RPM, @ 200°C (392°F) 1 hr. Average wear scar diameter, mm	ASTM D4172	0.42
Evaporation Loss, 6.5 HRS. @ 204°C (400°F)	ASTM D972	2
Typical RBOT @ 150°C, Oxidation Lifetime, min.	ASTM D2272	940
Rust Test, 48 Hrs. Distilled Water	ASTM D665A	Pass
Rust Test, 48 Hrs. Sea Water	ASTM D665B	Pass
Appearance	QL 4099	Light Amber Liquid

LUBRICATION CYCLES RECOMMENDATIONS FOR CONTINUOUS CONVEYOR OVENS:

Lubrication cycles are dependent on the OEM/Type of oven, operating temperatures, chain condition, minutes per one revolution, length of chain, the applicator, the type of lubricant applied to the chain and maintenance procedures.

If operating temperatures are between 500°F - 600°F, increase lubrication intervals by ½ to 1 hours for the following suggested lubrication intervals:

EXAMPLES:

- 800 TO 900 FEET OF CHAIN; OPERATING TEMPERATURE AT 475ºF - 500ºF; 8 MINUTES PER CYCLE; LUBRICATES EVERY 3 HOURS/24 CYCLES
- 580 FEET OF CHAIN; OPERATING TEMPERATURE 450º - 475ºF; 8 - 10 MINUTES PER CYCLE; LUBRICATES EVERY 3 HOURS/20 CYCLES
- 650 feet of chain; operating temperature 480º - 495ºF; 8 - 10 minutes per cycle; Lubricates every 3 hours (2 revolutions)/18 cycles
- 625 to 800 feet of chain; operating temperature 425°F, 7 - 10 minutes per cycle; Lubricates every 4 hours/24 cycles

LUBRICATION CYCLES RECOMMENDATIONS FOR TUNNEL OVENS:

To be determined by method of application and type of OEM applicator.

REGULATORY STATUS:

NSF REGISTERED: #138123

TSCA (USA)	YES
EINECS (EU)	YES
NDSL (CANADA)	YES
AICS (AUSTRALIA)	YES
ECL (KOREA)	YES
PICCS (PHILIPPINES)	YES
DIRECT FOOD CONTACT NO	(H-2)
FOOD PROCESSING PLANTS	YES

HANDLING PRACTICES:

For information on the safe handling and use of this product, refer to the Material Safety Data Sheet. For more information and availability, call (630) 513-6350.