SYN MACHINE OILS (ISO 150 - 680)

PRODUCT DESCRIPTION

Hi-Tec Syn Machine Oils are superior, full synthetic industrial extreme-pressure gear and bearing lubricants. They can be used where high loads and/or high temperatures are encountered and where water contamination cannot be avoided. **Hi-Tec Syn Machine Oils** provide superior anti-friction characteristics in bearings, steel gear transmissions and steel/phosphor bronze gear units.

Hi-Tec Syn Machine Oils combine full synthetic polyalphaolefin and ester fluids with special additives which enhance the anti-oxidation, anti-corrosion, anti-rust and anti-foam performance of the lubricants.

RECOMMENDATIONS

Hi-Tec Syn Machine Oils are recommended where high load and high temperature conditions occur in:

- Industrial enclosed gear drives lubricated by splash or circulation methods.
- Heavy duty industrial journals, plain and anti-friction bearings, chain drives, slide guides, etc.
- (In the lower viscosity grades) rock drills, hydraulics and automotive manual gearboxes which specify API grades GL-1, GL-2 (obsolete) and GL-3 (obsolete).

Hi-Tec Syn Machine Oils may also be recommended where service conditions are not severe.

CHARACTERISTICS

Hi-Tec Syn Machine Oils have combined superior additives with the inherent protection of full synthetic base fluids ensuring ultimate protection for your machinery.

EXTREME PRESSURE / ANTI-WEAR. Minimal wear to all moving surfaces assures long service life for equipment. The tough tenacious oil films, under high load/stress conditions, resist the wiping-off tendencies whenever high sliding velocities occur between the mating teeth of gear units.

NON-CORROSIVE. **Hi-Tec Syn Machine Oils** protect against corrosion to all common metals used in gears and bearings: steel, bronze and other copper alloys, nickel, chromium, cadmium, antimony, etc.

RUST INHIBITORS. Protect against rust development in systems where water contamination may occur.

DEMULSIBILITY. Quick water separation to assure effective lubrication is a special characteristic of **Hi-Tec Syn Machine Oils**. This is a necessary requirement in the heavy duty operation in some steel mills where water contamination is difficult to avoid.

OXIDATION RESISTANCE. Resistance to oxidation at high temperature helps to reduce viscosity thickening and the other undesirable oxidation products such as gums, acidity development and deposition insoluble. Any of these products may otherwise result in premature gear failure and shortened equipment service life.

Hi-Tec suggests that the equipment manufacturers' recommendations for viscosity grade, performance requirements and general operating conditions should be checked prior to use.

SPECIFICATIONS:

Hi-Tec Syn Machine Oils meet and exceed many international equipment manufacturers' specifications including:

- US Steel 224
- AGMA 250.04
- AGMA 251.02
- AGMA 9005—D94
- AGMA 9005—E02
- DIN 51517 Part 3
- ISO 12925-1 CKC/CKD

TYPICAL PROPERTIES

Property	**Typical Results**				
Item code (HI6-)	2611	2613	2615	2617	2619
ISO Viscosity Grade	150	220	320	460	680
Density (kg/Lt) @ 15°C	0.843	0.846	0.848	0.853	0.852
Viscosity (cSt) @ 40°C	150	220	320	460	680
@100°C	19.4	27.3	36.3	46.6	62.5
Viscosity Index	148	160	161	159	161
Flash Point, COC (°C)	268	267	271	278	292
Pour Point (°C)	-42	-33	-30	-21	-30
Rust Prevention, Salt Water	Pass	Pass	Pass	Pass	Pass
Copper Strip Corrosion - 3 Hours @ 100°C	1b	1b	1b	1b	1b
Foam Characteristics - All Sequences after Settling	Nil	Nil	Nil	Nil	Nil
Ash (% wt)	Nil	Nil	Nil	Nil	Nil
FZG, Pass Stages (min)	12	12	12	12	12
Timken OK Load (kg)	29	29	29	29	29
Four Ball Weld Load (kg)	250	250	250	250	250
Four Ball Wear Scar (mm)	0.32	0.32	0.32	0.32	0.32
AGMA EP Number	4	5	6	7	8
SAE Gear Oil Equivalent	90	90	110	140	140