



Premium Industrial Gear Fluids (ISO 220, 320, 460 & 680)

Why Synthetic? Synthetic lubricants offer distinct performance advantages in industrial applications. **Synthetic lubricants maintain viscosity over a wider temperature range.** Oils thin when hot and thicken when cold. A thin oil will not provide enough lubricity, a thick oil will not flow to the areas where it is required.

Synthetic lubricants are far better at maintaining their viscosity over a wider temperature range than mineral based lubricants. **Synthetics have a longer life than mineral based products.**

- **Volatility.** Lubricants can react with other substances such as water or metals which may be present and break down. Synthetic fluids are less reactive.
- **Seal loss.** Some lubricant types cause seal swelling or softening and there can be a high rate of loss through seal leakage. Synthetic losses through seals are low.
- **Oxidisation.** Oils react with oxygen at high temperatures causing their molecules to break down. Synthetic lubricants have a very high resistance to oxidisation and hence a much extended life.
- **Sludge.** Petroleum basestocks are a complex and variable mixture of hydrocarbons. Some of the lighter, volatile components boil off at higher temperatures, sludge deposits remain. Synthetic lubricants have far higher temperature tolerances and molecular consistency.

Synthetic lubricants outlast mineral based products many times over, and provide better lubrication. **Synthetics are cheaper in the long run!**

Which Synthetic? Polyalphaolefin (PAO) was selected as the base for Pro-lon P.T.F.E's range of synthetic industrial lubricants. PAO is renowned for its wide operational temperature range, high viscosity index, thermal stability, oxidative stability, hydrolytic stability, compatibility with construction materials especially elastomer seals, shear stability, compatibility with mineral oils, low corrosivity, and low Toxicity.

IND-SYN Industrial Gear Oils are made from synthetic hydrocarbon PAO and special additive packages which make them ideal for use in gear sets, bearings, circulating oil systems and chain applications. The heavier viscosity grade provides excellent service in worm gear units.

- **Synthetic Durability and Long Life.** Good quality mineral oils can provide service over 1000 and sometimes up to 2000 hours but eventually oxidisation of the oil necessitates shutdown, service and oil change. IND-SYN Industrial Gear Oil can provide a service life greatly exceeding that of mineral oils. This provides lower maintenance costs and fewer disruptions to production schedules.
- **Performance.** IND-SYN Synthetic Gear Oils meet the performance requirements of US Steel 224, AGMA250.04, David Brown DB S1.53.101 and Cincinnati Milacron.
- **Compatibility.** Pro-lon P.T.F.E. PAO lubricants are compatible with paints, seals, gaskets and hoses in common use. No special precautions related to compatibility are required when changing over from a mineral oil lubricant to a Pro-lon-P.T.F.E. synthetic hydrocarbon-based lubricant.



Product Name	Base Fluid	ISO Grade	Viscosity	cSt	Spec. Gravity @ 15.6°C	Flash Point °C	Pour Point °C
IND-SYN 220	PAO	220	215	21.9	0.86	224	-35
IND-SYN 320	PAO	320	295	28	0.86	230	-35
IND-SYN 460	PAO	460	460	39	0.865	235	-30
IND-SYN 680	PAO	680	680	51	0.870	240	-26

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Advances in Synthetic technology have allowed the development of a new breed of Full Synthetic gear oils with significant performance gains over traditional gear oils. Intended for severe duty worm and gear drive industrial gearboxes IND-SYN E.P.T. utilises Extreme (E.P.) pressure advantages of P.T.F.E. and Boron Nitride, a ceramic micro-fine dispersion to dramatically reduce friction and wear.

Reductions in friction automatically reduce the high temperature problems often associated with these types of gear boxes with drops of around 10-12°C easily achieved, every 10°C reduction effectively doubles the life of the oil and allows for extended seal and equipment life. The dampening effect of this technology is recognisable by reduced noise levels and vibration.

IND-SYN E.P.T. has a distinctive "milky haze" appearance to the lubricant. This is the "Enhanced Polymer Technology" content. Engineers need to be alerted to the fact that this lubricant will not look like traditional synthetic or mineral lubricant.

IND-SYN E.P.T. is suitable for all worm and gear drive units where longer service life is desired and/or where high speed and loading can result in higher operating temperatures causing subsequent lubricant breakdown and failure resulting in costly repairs and down time.

Extruder gearbox units are a typical application where this type of lubricant has proved to be very beneficial in providing cooler, quieter operation and a smoother finish on large section water pipes etc. IND-SYN E.P.T. is available in ISO 220, 320, 460 and 680 grades.

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