



PETROTM OIL

LUBENZ IND SPINDLE OIL

DESCRIPTION

LUBENZ IND SPINDLE OIL are formulated from select high-quality, low viscosity base oils and additives that impart good resistance to oxidation and protection from rust and corrosion. They possess very good resistance to foaming and separate readily from water. Specifically designed for the lubrication of high-speed spindles in machine tools. They are also used in some critical hydraulic, circulation systems and airline oilers where the appropriate viscosity grade is selected.

APPLICATIONS

LUBENZ IND SPINDLE OIL are designed specifically for high speed spindle bearings in machine tools and equipment where high speeds and fine clearances are involved, precision grinders, lathes, jig borers and tracer mechanisms & some sensitive instruments such as telescopes, laboratory equipment, etc. & low pressure hydraulic systems where appropriate viscosity is selected. For sleeve type spindle bearings having greater clearances, the choice of viscosity depends on the relation between clearance and spindle speed. **LUBENZ IND SPINDLE OIL** is recommended for "zero clearance" type spindle bearings which operate with extremely close clearances.

PROPERTIES

LUBENZ IND SPINDLE OIL exhibit the required properties to function as low pressure hydraulic and circulating oils as long as the proper viscosity is selected. This feature can help minimize inventory costs and reduce the potential for product misapplication. LUBENZ IND SPINDLE OIL provide exceptional lubrication of close-tolerance bearings which helps keep the bearings running cool and helps maintain the precision required by many of today's critical machine tools.

PRODUCT BENEFITS

- Improves equipment life
- Keeps moisture out of critical lubrication areas
- Good Oxidation Resistance
- Allows easy removal of moisture from system reservoirs
- Resists emulsion formation
- Very Good Rust and Corrosion Protection
- Effective Water Separation
- Helps reduce critical deposit formation
- Provides increased precision long-term
- Improves oil life

TYPICAL TECHNICAL PROPERTIES

ISO Viscosity Grade	2	4	10	15	22
Density at 15°C, g/ml, ASTM D4052	0.802	0.822	0.844	0.854	0.862
Kinematic Viscosity at 40°C, mm ² /s, ASTM D445	2.1	4.83	10.0	15.0	22.0
Kinematic Viscosity at 100°C, mm ² /s, ASTM D445	0.95	1.53	2.62	3.28	4.0
Flash Point(COC), °C, ASTM D92	84	102	180	194	212
Pour Point, °C, ASTM D97	-36	-15	-15	-9	-30
Copper Strip Corrosion, 3 hrs @ 100° C, ASTM D 130	1A	1A	1A	1A	1A
Rust Characteristics, Proc A, ASTM D 665	Pass	Pass	Pass	Pass	Pass
Total Acid Number, ASTM D 974, mgKOH/g	0.06	0.06	0.06	0.06	0.1

Note: These characteristics are typical of current production. While future production will conform to LUBENZ IND SPINDLE OIL specification, variations in these characteristics may occur.