PHILLIPS 66 LUBRICANTS

Spindle Oil

Spindle Bearing Oil

Phillips 66® Spindle Oil is a high-quality spindle bearing oil developed for the lubrication of high-speed spindle bearings in machine tools and textile machinery.

Spindle Oil is formulated with an oiliness agent and/or an ashless anti-wear additive plus select inhibitors to provide excellent lubricity and wear protection, protection against rust and corrosion, and resistance to foaming. It has excellent oxidation resistance and thermal stability at high temperatures to minimize deposits and provide long service life. It has excellent water-separating properties to minimize the formation of emulsions, and is resistant to excessive foam buildup. It is non-staining for use in textile equipment.

Spindle Oils ISO VG 2, 6, 10, & 22 are recommended primarily for use in high-speed CNC milling machines, precision grinders, and other machine tools. They meet the performance requirements of leading manufacturers of high-speed CNC milling machines. They also may be used in low-pressure hydraulic systems that require a low viscosity oil.

Spindle Oil ISO VG 15 is recommended for lubrication of high-speed needle and spindle bearings in agricultural and textile machinery, such as spinning machines.

Applications

- Horizontal, vertical, bed-type, knee-type, and turret-type CNC milling machines
- High-speed needle and spindle bearings in industrial, agricultural, and textile machinery
- Low-pressure hydraulic systems that require a low-viscosity oil

Features/Benefits

- Excellent oxidation resistance and thermal stability
- Long service life for reduced operating and maintenance costs
- Protects against wear
- Excellent oiliness characteristics (ISO VG 2 & 15)
- Protects against rust and corrosion
- Excellent water-separating properties
- Excellent low-temperature performance
- Clear color
- Non-staining
- Quick foam release

KEEPING THE WORLD RUNNING SMOOTHLY

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Typical Properties					
ISO Grade	**2**	**6**	**10**	**15**	**22**
Specific Gravity @ 60°F	0.806	0.833	0.848	0.852	0.856
Density, lbs/gal @ 60°F	6.71	6.94	7.06	7.09	7.13
Color, ASTM D1500	0.5	0.5	0.5	0.5	0.5
Flash Point (COC), °C (°F)	99 (210)	150 (302)	171 (340)	168 (335)	188 (370)
Pour Point, °C (°F)	-40 (-40)	-40 (-40)	-36 (-33)	-36 (-33)	-37 (-35)
Viscosity					
cSt @ 40°C	2.1	5.1	10.0	15.1	22.1
cSt @ 100°C	1.0	1.7	2.6	3.4	4.4
SUS @ 100°F	33	44	61	83	115
SUS @ 210°F	29	32	35	38	41
Acid Number, ASTM D664, mg KOH/g	0.04	0.04	0.03	0.01	0.03
Copper Corrosion, ASTM D130	1a	1a	1a	1a	1a
Four-Ball Wear, ASTM D4172, Scar Diameter, mm	0.52	0.49	0.42	-	0.41
Rust Test, ASTM D665 A&B	Pass	Pass	Pass	Pass	Pass

Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via http://www.phillips66.com/EN/products/Pages/MSDS.aspx.

07-12-16