

AZOLLA ZS



LUBRICATION



TOTAL

High viscosity index anti-wear hydraulic oil

APPLICATIONS

Hydraulic systems.

- **AZOLLA ZS** oils are premium anti-wear hydraulic fluids and lubricants. They meet or exceed the requirements of the leading manufacturers of hydraulic equipment and are available in a wide range of viscosities from ISO 22 to ISO 150.
- **AZOLLA ZS** oils have been specifically designed to be used in all types of hydraulic pumps and motors that require the use of anti-wear hydraulic oils. The appropriate viscosity grade will provide excellent service in plain and anti-friction bearings and moderate service in gear reducers.

SPECIFICATIONS

International specifications

- AFNOR E48603 CATEGORY HM
- CINCINNATI MACHINE P68, P69, P70
- DENISON HF-0, HF-1, HF-2
- DIN 51524 PART 2 CATEGORY HLP
- ISO 6743/4 CATEGORY L-HM
- VICKERS I-286-S, M-2950-S

ADVANTAGES

Long equipment life and high operating reliability.

- High resistance to oxidation and thermal degradation.
- Excellent anti-wear properties.
- Inert towards metals (non-staining and no corrosive wear).
- Good compatibility with elastomers and seals.
- Excellent water-oil separation properties.
- Excellent anti-foaming, anti-corrosion, and anti-oxidation properties.

CHARACTERISTICS

TYPICAL CHARACTERISTICS--AZOLLA ZS

	22	32	46	68	100	150
Viscosity at 40°C, cSt (ASTM D 445)	22.0	32.0	46.0	68.0	100.0	150.0
Viscosity at 100°C, cSt (ASTM D 445)	4.2	5.3	6.2	8.7	11.1	14.2
Viscosity Index (ASTM D 2270)	> 95	> 95	> 95	> 95	> 95	> 95
Density @ 60°F, lbs./gal.	7.19	7.24	7.28	7.30	7.35	7.38
Specific Gravity @ 60/60°F	0.861	0.867	0.872	0.874	0.881	0.884
Pour Point, °F (°C) (ASTM D 97)	-20 (-29)	-20 (-29)	-20 (-29)	-15 (-26)	0 (-18)	0 (-18)
Flash Point, COC, °F (°C) (ASTM D 92)	400 (204)	405 (207)	410 (210)	430 (221)	475 (226)	485 (252)
Copper Strip Corrosion (ASTM D 130)	1A	1A	1A	1A	1A	1A
4 Ball Wear Test, mm (ASTM D 2266) (75°C, 40kg, 1 hr @ 1200rpm)	0.45	0.45	0.45	0.45	0.45	0.45
Oxidation Test (ASTM D 943)	3000	3000	2800	2500	2000	1500

TOTAL Lubricants USA, Inc.

400 Chisholm Place, Suite 418,
Plano, Texas 75075
800-442-5823 or 469-241-0950
www.total-us.com

AZOLLA ZS
Sheet updated: 5/10/2010

5 North Stiles Street
Linden, NJ 07036
908.862.9300 or 800.526.4127
www.total-us.com

TOTAL Lubricants USA with a policy of continuous improvement, reserves the right to change specifications as our technology progresses.
We are not responsible for the misuse and/or misapplication of our products. MSDS are found on our web sites.