

# AZOLLA AF



Lubrication



Antiwear, ashless hydraulic oils.

## APPLICATIONS

- Hydraulic systems operating under high pressure and/or temperature conditions.
- High-pressure vane, piston or gear pumps.
- Sensitive hydraulic circuits requiring absolute filterability of the fluid (very fine servo valve play) : plastic moulding machines.
- Any hydraulic system where the risk of contamination of the environment and waters exists.
- Any application where an antiwear, high-performance oil is necessary : various movements, plain bearings and rolling bearings, reducers under low load, etc.
- Lubrication of circuits in which the presence of water is accidental : machine tools, farm and food products industries, paper mills, steel making, etc.

## SPECIFICATIONS

### International specifications

- ISO 6743/4 HM
- DIN 51524 P2 HLP
- US steel 136, 127
- SEB 181222
- SAE MS 1004
- Bosch Rexroth RE 90 220
- Eaton Vickers I-286-S (Industrial), M-2950-S (Mobile)
- Cincinnati Milacron P 68, P 69, P 70
- DENISON HF0, HF1, HF2 (approval of T6H20C pump).

### Manufacturers



## ADVANTAGES

- Excellent antiwear properties ensuring protection of machine parts.
- Exceptional oxidation and thermal stability : greater service oil life and lengthening of oil change intervals.
- Excellent filterability with or without presence of water.
- Remarkable resistance to hydrolysis and good demulsification properties.
- Good antirust and anticorrosion properties for optimal protection of circuit components.
- Reacts very well to air : rapid air release and low foaming tendency.
- **AZOLLA AF** does not contain heavy metals or zinc to avoid contributing to their accumulation in the environment.

TYPICAL CHARACTERISTICS	METHODS	UNITS	AZOLLA AF				
			22	32	46	68	100
Density at 15 °C	ASTM D 4052	-	0.865	0.873	0.878	0.883	0.888
Kinematic viscosity at 40 °C	ASTM D 445	mm <sup>2</sup> /s	22	32	46	68	102
Kinematic viscosity at 100 °C	ASTM D 445	mm <sup>2</sup> /s	4.4	5.4	6.8	8.7	11.4
Viscosity index	ASTM D 2270	-	104	100	100	97	98
Cleveland VO flash point	ASTM D 92	°C	215	227	238	247	263
Pour point	ASTM D 97	°C	- 27	- 27	- 27	- 21	- 21
FZG test (A/8, 3/90), damage level	DIN 51354-2	-		12	12	> 12	> 12
Foaming Sequence1	DIN 51566	ml/ml	40/0	40/0	0/0	0/0	0/0
AFNOR filterability (0.8 micron), IF	NFE 48-690	-	1.03	1.07	1.12	1.10	1.10

Above characteristics are mean values given as an information.

### TOTAL LUBRIFIANTS

### Industrie et Spécialités

14-11-2011 (supersedes 15-12-2007)

AZOLLA AF

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This lubricant used as recommended and for the application for which it has been designed does not present any particular risk.  
A material safety data sheet conforming to the regulations in use in the E.C. can be obtained from your local commercial adviser or down loaded from [www.quick-fds.com](http://www.quick-fds.com).