

AZOLLA AL



Hydraulic oils



Low staining Hydraulic oils designed for rolling mills, suitable for incidental food contact.

APPLICATIONS

Hydraulic oil for aluminum rolling mills

- Recommended for the lubrication of hydraulic systems in particularly for aluminum rolling mills, where cross-contamination of rolling oils with standard maintenance lubricants could cause staining problems after annealing.
- **AZOLLA AL** series are formulated with non-staining base oils and high performance additives providing good oxidation stability and anti-wear properties.
- The different viscosity grades make **AZOLLA AL** suitable for low and high pressure hydraulic systems.

ADVANTAGES

Low-staining
NSF H1

- **AZOLLA AL** series are formulated with non-staining base oils and specific non-staining additives.
- **AZOLLA AL** series provide the non-staining performances required for the aluminum rolling mills or yellow metals. Using **AZOLLA AL** reduces the potential of production rejects.
- **AZOLLA AL** oils present good anti-wear properties and a high resistance to corrosion even in the presence of water.
- **AZOLLA AL** oils prevent formation of deposits thanks to a very good thermal stability. Their excellent oxidation resistance improves oil lifetime reducing maintenance costs.
- **AZOLLA AL** has very low gum content reducing aluminum staining risks
- **AZOLLA AL** oils have good demulsification properties.
- **AZOLLA AL** oils are **NSF H1** registered.
They are recommended for use where incidental contact with food may occur.
- **AZOLLA AL** oils have been formulated for aluminum but they can also be used for steel or yellow metal rolling mills.

| TYPICAL CHARACTERISTICS | METHODS | UNITS | AZOLLA AL | | | |
|-----------------------------|-----------|--------------------|-----------|-------|-------|-------|
| | | | 15 | 22 | 32 | 46 |
| Viscosity at 40 °C | ISO 3104 | mm ² /s | 15 | 22 | 32 | 46 |
| Viscosity at 100 °C | ISO 3104 | mm ² /s | 4.2 | 5.5 | 7.6 | 9.9 |
| Viscosity index | ISO 2909 | - | 207 | 220 | 218 | 212 |
| Density at 15 °C | ISO 12185 | kg/m ³ | 831 | 834 | 838 | 842 |
| Flash point | ISO 22592 | °C | > 140 | > 140 | > 140 | > 140 |
| Pour point | ISO 3016 | °C | -18 | -18 | -18 | -18 |
| Copper corrosion, 3h, 100°C | ISO 2160 | - | 1a | 1a | 1a | 1a |
| Rust prevention | ISO 7120 | - | Pass | Pass | Pass | Pass |

Above characteristics are mean values given as an information.

TOTAL LUBRIFIANTS
INDUSTRIE
29-03-2017 (supersedes 17-05-2010)
AZOLLA AL
1/1



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.