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LUBRICANTS

## HYDROIL AL SERIES

### Description

**HYDROIL AL SERIES** are high-quality non-staining lubricating oils developed for hydraulic systems of aluminum hot and cold rolling mills and are fully compatible and miscible with the rolling oil. They are specially designed to minimize staining of rolled aluminum sheet and foil due to leakage of the hydraulic fluid into the rolling oil system. They contain selected base oils and special additives to prevent wear and to further enhance the lubricity of the mixture hydraulic oil/rolling oil when excessive leakage occurs. They over exceed all the requirements of hydraulic system oil standards and are recommended for all wing type, piston type and gear type pumps which can be found in flat aluminum production lines. They are compatible with hydraulic systems sealing materials.

**HYDROIL AL SERIES** fluids are tolerated in rolling oils without affecting rolling efficiency and/or clean annealing properties at the temperature ranges normally employed in most of aluminum processing plants (270-400°C). Nevertheless in cases whereas either increased quantities of hydraulic oil have leaked into the rolling oil or lower than 250°C are employed cleaning of the rolled metal surface may be required to avoid spots from undesirable residues.

### Technical Properties

Property	Test Method	16	22	32	46	68
Odor	-	Typical	Typical	Typical	Typical	Typical
Appearance	ASTM D 4176-1	C&B	C&B	C&B	C&B	C&B
Density at 15 °C, kg/l	ASTM D 4052	0.836	0.840	0.840	0.842	0.846
Viscosity at 40 °C, mm <sup>2</sup> /s	ASTM D 445	16	22	32	46	68
Viscosity at 100 °C, mm <sup>2</sup> /s	ASTM D 445	3.84	4.7	5.3	6.7	8.6
Viscosity Index	ASTM D 2270	136	136	148	176	180
Flash Point COC, °C	ASTM D 92	108	108	112	116	120
Sulfated Ash %	ASTM D 2622	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulfur, %	ASTM D 2622	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Neutralization Number mgKOH/g	ASTM D 974	0.14	0.14	0.14	0.14	0.14
Copper Corrosion Test A3	-	Pass	Pass	Pass	Pass	Pass
Alumina Stain Test, 300 °C, 1 hour	-	No stain	No stain	No stain	No stain	No stain

*\* The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modification is reserved.*

### Health & Safety

For information on the safe handling and use of this product, refer to its Material Safety Data Sheet.

### Packaging

180 kg drum, 850 kg IBC.

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