

# SUPER HYRANDO SE

## Energy-Saving Antiwear Sludgeless Hydraulic Fluid

**SUPER HYRANDO SE** is hydraulic fluid suitable for all types of hydraulic pumps and motors and all operating pressures from low to high. Because it is blended with friction modifier additives, it provides much better energy-saving performance than conventional mineral-oil-based hydraulic fluids. **SUPER HYRANDO SE** is also blended with highly refined base oil and new ashless additives that prevent sludge formation and ensure longer fluid life. In addition to its excellent antiwear performance, **SUPER HYRANDO SE** also has good seizure prevention performance for withstanding shock loads.

### ● SPECIAL FEATURES

#### 1. Excellent Energy-Saving Performance

**SUPER HYRANDO SE** is blended with friction modifiers that provide excellent friction characteristics and reduce the friction resistance in hydraulic pumps, valves, and actuators. As a result, hydraulic systems that use **SUPER HYRANDO SE** can consume less electricity than systems that use conventional hydraulic fluids.

#### 2. Outstanding Oxidative and Thermal Stability

Because **SUPER HYRANDO SE** is blended with highly refined base oil and new types of ashless additives, it produces extremely little sludge, so it can be used for longer periods without replacement even at high temperatures and pressures.

#### 3. Superb Lubrication

Thanks to **SUPER HYRANDO SE**'s outstanding antiwear performance, it prevents wear and boosts performance in today's high-pressure, high-performance hydraulic pumps and valves.

#### 4. High Viscosity Index and Low Pour Point

**SUPER HYRANDO SE** has a high viscosity index, so its viscosity changes little when the temperature changes. As a result, it provides smooth operation across a wide range of temperatures.

#### 5. Excellent Shear Stability

**SUPER HYRANDO SE** possesses excellent shear stability, so it undergoes almost no drop in viscosity even when used for long periods of time.

### ● GRADES

The optimal viscosity for fluids used in hydraulic equipment depends on the hydraulic pump type and the operating conditions. You should choose a hydraulic fluid according to the viscosity specified by your pump's manufacturer.

**SUPER HYRANDO SE** is available in five viscosity grades from low to high, so you can choose the grade that is best for your operating conditions.

### ● APPLICATIONS

**SUPER HYRANDO SE** can be used in a wide range of low- to high-pressure hydraulic machinery, including forging presses, metal-working machines, injection molding machines, extruders, machine tools, construction machinery, marine deck equipment, cargo handling machinery, mining machinery, etc.

### ● SHIPPING CONTAINERS

200-liter drums and 20-liter cans.

## SUPER HYRANDO SE TYPICAL TEST DATA

Viscosity grade		22	32	46	56	68
Viscosity, mm <sup>2</sup> /s	at 40°C	21.8	32.2	46.0	55.7	68.2
	at 100°C	4.64	6.05	7.53	8.42	9.37
Viscosity index		133	137	129	126	115
Total acid number	mgKOH/g	0.06	0.06	0.06	0.06	0.06
Flash point (COC)	°C	216	250	260	262	264
Pour point	°C	-35	-32.5	-30	-27.5	-27.5
Rust prevention	artificial seawater, 24 h	Passed	Passed	Passed	Passed	Passed
Copper strip corrosion	100°C, 3 h	1	1	1	1	1

### Notes

- (1) Viscosity grade 56 is a special grade not included in the ISO viscosity grades.
- (2) The typical properties are subject to change without notice. (July 2006)



## Handling Precautions

### ▼ Follow the following precautions when handling this product.

- Read this product's Material Safety Data Sheet before using the product.
- Obey all applicable laws and regulations concerning the handling and disposal of this product, particularly laws and regulations related to fire safety, the treatment and disposal of waste and sewage, the prevention of water and ocean pollution, and workplace safety and hygiene.  
Please request the Material Safety Date Sheet where you purchased this product.

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