

# HYRANDO TS

## Non-Zinc Type Anti-Wear Hydraulic Fluid

**HYRANDO TS** is non-zinc type hydraulic fluid with superior anti-wear and load carrying characteristics suitable for all types of hydraulic pumps and motors, and all operating pressures from low to high. It is blended with highly refined base oil and new ash-less additives that prevent sludge formation and ensure longer fluid life. In addition to its excellent lubricity, it also has good oxidation and thermal stability due to special additives which ensure that this product remains stable.

### ● SPECIAL FEATURES

#### 1. Excellent Wear Protection

**HYRANDO TS** has outstanding anti-wear performance to prevent wear on modern high-pressure, high-performance hydraulic pumps and valves. It also greatly reduces the amount of wear and scuffing in heavily loaded hydraulic system components.

#### 2. Superior Rust Protection

**HYRANDO TS** helps prevent corrosion throughout the entire hydraulic system with its advanced anti-corrosion properties.

#### 3. Outstanding Oxidative and Thermal Stability

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

### ● 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. **HYRANDO TS** is available in three viscosity grades from low to high, so you can choose the grade that is best for your operating conditions.

### ● APPLICATIONS

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

### ● CONTAINERS

200-liter drums and 20-liter cans

### ● TYPICAL PROPERTIES OF HYRANDO TS

ISO Viscosity Grade			32	46	68
Color	(ASTM)		L0.5	L1.0	L1.0
Density	(15°C)	g/cm <sup>3</sup>	0.873	0.877	0.887
Kinematic Viscosity	(40°C)	mm <sup>2</sup> /s	32.6	45.8	68.5
	(100°C)	mm <sup>2</sup> /s	5.47	6.82	8.89
Viscosity Index			103	103	103
Flash Point		°C	228	236	256
Pour Point		°C	-30.0	-30.0	-25.0
Acid Number		mgKOH/g	0.10	0.10	0.10
Copper Corrosion	(100°C, 3h)		1	1	1
Rust Prevention	(distilled water, 60°C, 24 h)		No rust	No rust	No rust

Note: The typical properties may be changed without notice. (July 2013)



## Handling Precautions

▼ Follow these precautions when handling this product.

<b>Composition :</b>	Base Oil, Additives
<b>Precautionary pictograms:</b>	Not applicable
<b>Signal word:</b>	Not applicable
<b>Hazard Statement:</b>	Not applicable
<b>Precautionary Statements:</b>	<ul style="list-style-type: none"><li>• Do not handle until all safety precautions have been read and understood.</li><li>• Wear protective gloves/protective clothing/eye protection/face protection.</li><li>• Do not allow the eyes to become exposed to the product. Do not swallow the product.</li><li>• Wash hands thoroughly after handling.</li><li>• Do not eat, drink or smoke when using this product.</li></ul>
<b>Prevention</b>	
<b>Response</b>	<ul style="list-style-type: none"><li>• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</li><li>• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</li><li>• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.</li><li>• IF ON SKIN: Wash with plenty of soap and water.</li></ul>
<b>Storage</b>	<ul style="list-style-type: none"><li>• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.</li><li>• Containers that have been opened must be tightly sealed.</li></ul>
<b>Disposal</b>	<ul style="list-style-type: none"><li>• Dispose of contents/container in accordance with local/regional/national/international regulations.</li><li>• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.</li></ul>