

IND-4001-2104E

SUPER HYRANDO

HIGH PERFORMANCE ANTI-WEAR HYDRAULIC FLUID

SUPER HYRANDO is a hydraulic fluid with superior antiwear characteristics for use in all types of hydraulic equipment. When used in a high-pressure pump, SUPER HYRANDO not only provides excellent wear-prevention but also anti-seizure protection during shock loading. SUPER HYRANDO also has superior oxidation and thermal stability. Special additives ensure that this product remains stable even under high-heat and moisture conditions.

SUPER HYRANDO can be called a high-grade anti-wear hydraulic fluid that provides the rust and oxidation stability of most all R&O-type fluids. It is suited for use in all types of hydraulic pumps and motors, from low to high pressure, and will maximize the operating performance in any type of hydraulic machinery.

● SPECIAL FEATURES

1. Excellent Wear Protection

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

2. Wide Operating Temperature Range

SUPER HYRANDO has a high viscosity index and low pour point so that temperature-related viscosity change is low. Accordingly, this product functions well through a wide range of temperatures.

3. Superior Rust Protection

SUPER HYRANDO helps prevent corrosion through-out the entire hydraulic system with its advanced anti-corrosion properties.

4. Superior Oxidation and Thermal Stability

SUPER HYRANDO is protected against oxidation and thermal degradation even in hydraulic systems with severe operating conditions.

5. Long Service Life

SUPER HYRANDO has superior shearing stability so that there is almost no change in viscosity even during extended periods of use.

● GRADES

The various grades of SUPER HYRANDO are divided into different grades according to their kinematic viscosity measured at 40°C

The optimum viscosity for a hydraulic fluid depends on the type of the pump employed and the specific operating conditions of each system. Also, always remember to select a hydraulic fluid that matches the pump manufacturer's recommendations.

There are seven grades of SUPER HYRANDO with viscosities ranging from ISO VG 22 to ISO VG 150.

● APPLICATIONS

A full range of viscosity grades allows for the use of this product in metal bending and machining equipment, extrusion presses, injection presses, machine tools, construction equipment, marine deck equipment, cargo machinery, mining machinery and many others.

● SHIPPING CONTAINERS

200-liter drums and 20-liter cans.

● **TYPICAL PROPERTIES OF SUPER HYRANDO**

ISO Viscosity Grade	22	32	46	56*	68	100	150
Color(ASTM)	L0.5	L0.5	L0.5	L1.0	L1.0	L1.0	L1.5
Density(15 °C) g/cm ³	0.866	0.869	0.872	0.874	0.875	0.882	0.886
Viscosity (40 °C) mm ² /s	22.0	32.6	45.8	55.7	68.0	105.5	157.0
(100 °C) mm ² /s	4.44	5.49	6.86	7.77	8.73	11.9	15.5
Viscosity Index	105	105	105	105	105	101	100
Acid Number mgKOH/g	0.46	0.46	0.46	0.47	0.46	0.49	0.46
Flash Point (COC) °C	210	-226	242	252	258	276	278
Pour Point °C	-35.0	-32.5	-30.0	-27.5	-25.0	-25.0	-20
Rust Test (sea water, 60°C,24h)	pass	pass	pass	pass	pass	pass	pass
Thermal Stability (120 °C, 70h)	pass	pass	pass	pass	pass	pass	pass
Copper Corrosion (100 °C,3h)	1	1	1	1	1	1	1

*Viscosity grade 56 is a special grade which is not included in the ISO viscosity grades.
 Note: The typical properties may be changed without notice. (June 2002).



**Handling Pre-
cautions**

▼ Follow these precautions when handling this product.

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