HYRANDO WIDE
A MULTIGRADE, ANTIWEAR HYDRAULIC OIL

HYRANDO WIDE is a hydraulic oil appropriate for hydraulic devices that demand low changes in viscosity resulting from changes in temperature. It is also appropriate for use outdoors in cold climates, in freezers, and in other low-temperature environments. This hydraulic oil is particularly effective in equipment requiring good low-temperature starting characteristics, and it offers superior energy savings by helping to reduce electrical consumption.

● SPECIAL FEATURES

1. Superior Temperature Characteristics

HYRANDO WIDE is made from agents specially selected to improve the viscosity coefficient. It has a high viscosity index of 140, and temperature changes cause little change in its viscosity. Its pour point is low, and it provides stable performance across a wide range of temperatures.

2. Excellent Lubricity

HYRANDO WIDE includes highly effective anti-wear agents, making it the ideal hydraulic oil for preventing wear in the hydraulic pumps and valves of the latest high-pressure, high-performance hydraulic equipment.

3. Good Prevention of Abnormal Noise from Hydraulic Cylinders

When the temperature of an actuator oil increases, under some operating conditions stick-slips can occur in the seal materials of the rods or pistons of hydraulic cylinders. This creates abnormal noise.

HYRANDO WIDE reduces stick-slips in hydraulic cylinders and provides superior prevention of abnormal noise.

4. Superior Heat and Oxidation Stability

HYRANDO WIDE has excellent heat and oxidation stability, so it provides long life with low deterioration even when used under high temperatures.

● APPLICATIONS

1. In construction machinery, flood locks, and other hydraulic equipment used outdoors in cold climates.
2. In hydraulic equipment used in freezers.
3. In measuring gauges and other precision hydraulic devices.
4. In remote-control devices for deck equipment on ships.
5. In a wide range of other hydraulic machinery requiring low pour points and high viscosity indexes.
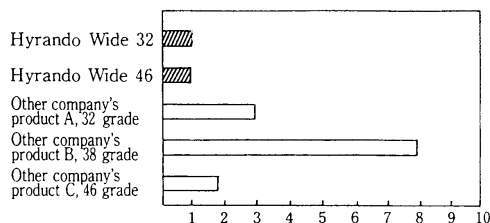
● SHIPPING CONTAINERS

200-liter drums and 20-liter cans

● SHEAR STABILITY OF HYRANDO WIDE

It is important that the hydraulic oil used in hydraulic equipment maintain a proper viscosity. In general, though, when hydraulic oil with a high viscosity index is used for long periods of time, its polymer additives rupture and the viscosity of the oil decreases.

HYRANDO WIDE's carefully selected viscosity-improving agents provide it with excellent shear stability.

Acoustic Shear Stability Test
(10kC, 60min.)

Shear stability, decrease in viscosity (%, at 40℃)

● TYPICAL TEST DATA FOR HYRANDO WIDE

Viscosity Grade		15	22	32	46	68	100
Color(ASTM)		L0.5	L0.5	L0.5	L0.5	L0.5	L1.0
Specific gravity(15°C)	g/cm^3	0.836	0.840	0.842	0.857	0.863	0.882
Viscosity (40°C)	mm^2/s	16.0	23.9	32.9	48.2	68.1	97.1
(100°C)	mm^2/s	3.94	5.18	6.37	8.35	10.7	13.5
(-20°C)	mm^2/s	410	850	1550	4600	7500	10300
Viscosity index		149	154	149	149	147	140
Flash point	°C	192	216	238	264	268	266
Pour point	°C	-45	-45	-40	-40	-37.5	-35
Acid number	mgKOH/g	0.34	0.34	0.34	0.34	0.34	0.34
Copper strip corrosion (100°C,3h)		1	1	1	1	1	1
Rust test (artificial sea water, 24 h)		Pass	Pass	Pass	Pass	Pass	Pass

Handling Pre-cautions

▼ **Follow these precautions when handling this product.**

HYRANDO WIDE 15

Composition :	Base Oil, Additives
Precautionary pictograms:	
Signal word:	Danger
Hazard Statement:	May be fatal if swallowed and enters airways
Precautionary Statements: **Prevention**	· 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	· 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. · Do NOT induce vomiting.
Storage	· 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. · Store locked up.
Disposal	· 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.

HYRANDO WIDE 22、32、46、68、100

Composition：	Base Oil, Additives
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements: Prevention	・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	・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.
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