



# Rando® HD

## Premium Anti-Wear Hydraulic Fluid

Product Data Sheet

### Customer benefits

#### Longer oil service life

The use of premium base stocks helps resist oil thickening and deposit formation in service, minimizing the possibility of an unscheduled change of hydraulic fluid. Oxidation test life is higher than solvent extracted hydraulic oil products.

#### Protects equipment

Robust anti-wear additive package minimizes wear by protecting surfaces when load causes breakdown of the lubricant film.

#### Minimized downtime

Rust and oxidation inhibitors combined with premium base oils help to prevent the production of abrasive particles from rust formation, and deposits, varnishes and sludges from oil breakdown, which can damage equipment surfaces and seals, and block filters prematurely.

#### Smooth operation

Good hydrolytic stability and water separation characteristics promote excellent filterability in the presence of water contamination. Good anti-foam and air release properties help ensure smooth operation and system efficiency.

### Applications

- Industrial hydraulic systems
- Hydraulics of mobile and construction equipment where a water separating oil is required
- Hydraulic systems with vane, gear or piston pumps
- Plastic injection molding machines
- Machine tools
- Enclosed gear systems (dependant on load)
- Industrial circulating systems

### Product features:

- **Rando® HD** oils are formulated with premium base oils and anti-wear additives, and are designed to give robust protection to hydraulic pumps in mobile and stationary systems.
- Rando HD 22, 32, 46, 68 and 100 are formulated with Group II base oils.

## Typical key properties

RANDO® HD							
ISO Grade	22	32	46	68	100	150	320
Product Code	520209	520210	520211	520212	520213	520214	520220
Air Release @ 50°C, mins	1.1	1.1	2.0	3.5	12	15	-
Flash Point, °C	190	216	238	240	240	250	277
FZG, Fail Load Stage	-	12	12	12	12	12	12
Pour Point, °C	-36	-33	-33	-30	-21	-15	-12
Oxidation Stability(TOST),hrs		5000+	4500+	4500+			
Viscosity,							
mm <sup>2</sup> /s @ 40°C	21.0	30.5	44.0	65.0	95.5	143	304
mm <sup>2</sup> /s @ 100°C	4.3	5.4	6.8	8.9	10.8	4.3	23.4
Viscosity Index	110	110	110	110	97	97	96

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## Performance standards

Rando HD oils are approved against:

- Parker Hannifin (Denison Hydraulics) HF-0 (ISO 32, 46, 68)
- Eaton Vickers I-286-S [industrial applications], M 2950-S [mobile applications] (ISO 32, 46, 68)
- David Brown Industrial Gears 0A (ISO 32), 1A (ISO 46), 2A (ISO 68), 3A (ISO 100), 4A (ISO 150)

Rando HD oils are suitable for use where oils meeting Cincinnati Machine P-68 (ISO 32), P-69 (ISO 68) and P-70 (ISO 46) are required.

Rando HD oils also meet the requirements of various industry standards:

- Bosch Rexroth former RE 90220 (ISO 32, 46, 68)
- ISO 6743:1999 Part 4, HM fluid
- ISO 11158:2009, HM (ISO 22, 32, 46, 68, 100, 150)
- DIN 51502:1990, HLP fluid
- DIN 51524:2006-04 Part 2, HLP (ISO 22, 32, 46, 68, 100)

## ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit: [www.chevronlubricants.com](http://www.chevronlubricants.com)

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:  
**Chevron Lubricants**  
- Asia Pacific