Customer benefits

**Wide temperature application**
Formulated with premium Group II base oils and shear stable viscosity modifier to give high viscosity index, minimizing change in viscosity with temperature, allowing use over a wider range of operating temperatures compared to conventional monograde hydraulic oils. Improved shear stability of the viscosity modifier minimizes drop in viscosity during service compared to conventional multigrade hydraulic oils, giving better protection to the equipment.

**Protects equipment**
Contains anti-wear additive which reduce abrasive wear by protecting surfaces when load causes breakdown of the lubricant film. Effective rust and corrosion inhibitors give excellent protection against corrosion of both steel and copper.

**Smooth operation**
Good hydrolytic stability and water separation characteristics help prevent deposit formation and rust in the presence of water contamination. Good anti-foam and air release properties ensure smooth operation and system efficiency.

**Extends oil service life**
Effective oxidation inhibitors reduce oil thickening and deposit formation in service, improving filterability and minimizing the need for unscheduled change of hydraulic fluid.

**Applications**
- Industrial hydraulic equipment subject to wide variation in temperatures
- Hydraulics of mobile, construction and agricultural equipment where a water separating oil is required
- Hydraulic systems with vane, gear or piston pumps
- Fork-lift trucks (in refrigerated areas)
- Plastic injection molding machines
- Marine deck equipment, steering gears, thrusters and automatic controls
- Machine tools
- Enclosed gear systems (dependent on load)

**Product features:**
- Rando® HDZ is a premium quality, shear stable, multi-viscosity, anti-wear hydraulic fluid, designed to give robust protection for hydraulic systems subjected to wide variations in ambient and operating temperatures.
### Product specifications

**RANDO® HDZ**  
**KEY PROPERTIES**

<table>
<thead>
<tr>
<th>ISO Grade</th>
<th>15</th>
<th>22</th>
<th>32</th>
<th>46</th>
<th>68</th>
<th>100</th>
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<tbody>
<tr>
<td>Product Grade</td>
<td>520251</td>
<td>520252</td>
<td>520253</td>
<td>520254</td>
<td>520255</td>
<td>520256</td>
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<tr>
<td>Flash Point, °C</td>
<td>150</td>
<td>164</td>
<td>204</td>
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<td>FZG, Fail Load Stage</td>
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<tr>
<td>Pour Point, °C</td>
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<td>-49</td>
<td>-47</td>
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<td>-37</td>
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<td>Viscosity, mm²/s @ 40°C</td>
<td>15.7</td>
<td>22.6</td>
<td>33.0</td>
<td>46.7</td>
<td>68.7</td>
<td>100.5</td>
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<tr>
<td>Viscosity Index</td>
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<td>150</td>
<td>153</td>
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<tr>
<td>Zinc Content, mass %</td>
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<td>0.047</td>
<td>0.047</td>
<td>0.047</td>
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<tr>
<td>Oxidation Stability</td>
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<td>-</td>
<td>&gt;5000</td>
<td>&gt;5000</td>
<td>&gt;5000</td>
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</tr>
</tbody>
</table>

| Oxidation Stability, Hours to 2.0mg KOH/g TAN, ASTM D943 | - | - | >5000 | >5000 | >5000 | - |

### Performance standards

Rando® HDZ oils are approved against:

- Parker Hannifin (Denison) HF-0 (ISO 32, 46, 68)
- Eaton-Vickers 35VQ25A, 1-286-S [industrial applications], M-2950-S [mobile applications] (ISO 32, 46, 68)
- MAG Cincinnati, Cincinnati Machine P 68 (ISO 32), P 69 (ISO 68), P 70 (ISO 46)

Rando® HDZ oils meet the requirements of:

- Bosch Rexroth RE 07 075 (10.05), RE 90 220 (05.10) (ISO 32, 46, 68)
- Arburg (ISO 46 – standard wear requirements)
- JCMAS HK-1 (ISO 32, 46)
- ASTM D6158, HV (ISO 32, 46, 68, 100)
- ISO 6743 (1999) Part 4, Type HV (ISO 15, 32, 46, 68, 100)
- ISO 11158 (2009), HV (ISO 15, 32, 46, 68, 100)
- DIN 51502 (1990), Type HVLP (ISO 15, 32, 46, 68, 100)
- DIN 51524 (2006-04) Part 3, HVLP (ISO 15, 32, 46, 68, 100)

For more information, go to [www.chevronlubricants.com](http://www.chevronlubricants.com)