Shell Rotella® *T6* 5W-40 (CJ-4)

Fully Synthetic Heavy Duty Diesel Engine Oil - Extreme Temperature Performance

Shell Rotella® T6 Energized Protection™ oil features Shell exclusive "Low-SAPS" additive technology reinforced with a novel and unique anti-wear system. Protective power is further enhanced through the use of synthetic base oil technology that increases additive activity to deliver low-viscosity fuel saving performance with no compromise in durability. Key benefits include; compatibility with exhaust emissions control systems, protection in extreme operating temperatures and fuel economy performance*.

**Performance, Features & Benefits**

- **Improved fuel economy**
  Through use of Shell’s most advanced technology Shell Rotella® T6 oil offers enhanced fuel economy capability* that can save money in fuel consumption, without compromising engine protection or durability.
  *eg compared to 15W-40 oils

- **Improved wear performance**
  Provides a significantly increased level of protection against harmful engine wear when compared to previous generation API CI-4+ engine oils.

- **Improved deposit control**
  The advanced multi-functional dispersant additives in combination with synthetic base oils provide an enhanced level of protection against the effects of soot, dirt and other contaminants.

- **Improved heat resistance**
  Shell Rotella® T6 Synthetic oil resists breakdown by heat to provide continuous protection throughout the service interval.

- **Emissions system compatibility**
  Advanced low-ash formulation helps control blocking of or poisoning of exhaust after-treatment devices, helping maintain vehicle emission compliance and engine fuel efficiency.

- **Protection in extreme climates**
  Shell Rotella® T6 Synthetic oil is based on freeflowing synthetic base oils that allow reliable pumping on start-up under cold climate conditions yet remain thick enough under high temperature operation to protect against wear.

- **Outstanding shear stability**
  Shell Rotella® T6 Synthetic oil resists viscosity loss through shear and will maintain optimal oil pressure in the engine.

**Main Applications**

- **For new and older diesel powered vehicles**
  Suitable for new and older diesel powered vehicles from Class 8 tractor/trailers to heavy duty diesel pickups, delivery, utility, and school bus fleets.

- **Meets or exceeds diesel engine requirements**
  Meets or exceeds requirements of API CJ-4, Cummins, Caterpillar, Detroit Diesel, Mack, Mercedes Benz, Volvo, Ford.

- **Gasoline engine applications**
  Meets the requirements of API SM.

**Specifications, Approvals & Recommendations**

- **API**: CJ-4, CI-4 PLUS, CI-4, CH-4, CG-4, CF-4, CF
- **API**: SM, SL, SJ, SH
- **ACEA**: E9
- **Caterpillar**: ECF-3, ECF-2
- **Cummins**: CES 20081
- **DDC**: 93K218
- **Ford**: WSS-M2C171-E
- **JASO**: DH2, MA
- **Mack**: EO-O Premium Plus
- **MB Approval**: 228.31
- **Volvo**: VDS-4

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Help Desk, or the OEM Approvals website.
Typical Physical Characteristics

<table>
<thead>
<tr>
<th>Properties</th>
<th>Method</th>
<th>Shell Rotella® T6 5W-40 (CJ-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE Viscosity Grade</td>
<td></td>
<td>5W-40</td>
</tr>
<tr>
<td>Kinematic Viscosity @40°C mm²/s</td>
<td>ASTM D445</td>
<td>87</td>
</tr>
<tr>
<td>Kinematic Viscosity @100°C mm²/s</td>
<td>ASTM D445</td>
<td>14.2</td>
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<tr>
<td>Dynamic Viscosity @-30°C mPa s</td>
<td>ASTM D5293</td>
<td>6000</td>
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<tr>
<td>Total Base Number mg KOH/g</td>
<td>ASTM D2896</td>
<td>10.6</td>
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<tr>
<td>Sulfated Ash %</td>
<td>ASTM D874</td>
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<tr>
<td>Density @15°C kg/l</td>
<td>ASTM D4052</td>
<td>0.858</td>
</tr>
<tr>
<td>Flash Point (OOP) °C</td>
<td>ASTM D92</td>
<td>224</td>
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<tr>
<td>Pour Point °C</td>
<td>ASTM D97</td>
<td>-42</td>
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</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.

Health, Safety & Environment

- **Health and Safety**
  Shell Rotella® T6 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.
  - Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.
  - Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from your Shell representative.

- **Protect the Environment**
  - Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**
  - Product recommendations for applications and specifications not covered here may be obtained from your Shell representative.