

PRODURO™ FD-1 60 PREMIUM FINAL DRIVE AND AXLE LUBRICANT FOR CATERPILLAR EQUIPMENT

Introduction

PRODURO™ FD-1 60 is a Caterpillar FD-1 type lubricant that provides improved gear and bearing life in final drives and axles. Oils meeting the FD-1 specification are preferred by Caterpillar in final drives and axles that do not contain friction material and that previously specified TO-4 oils. **PRODURO FD-1 60 should not be used in compartments containing friction material unless a FD-1 type of product is specified.** For applications where friction material is present, Petro-Canada Lubricants recommends PRODURO TO-4 Fluids.

PRODURO FD-1 60 axle fluid starts with a blend of base oils which includes Petro-Canada Lubricants ultra pure severely hydrocracked base oils and specialty selected additives to give outstanding performance and extended oil drain intervals.

Features and Benefits

- **Extended component life**
 - Specially formulated to protect gears and bearings against wear in severe duty applications
 - Improved extreme-pressure (EP) performance when compared to TO-4 type fluids
- **Extended drain intervals**
 - Recommended drain interval of 4000 hours for off-highway trucks final drive and rear axles instead of the 2000 hour interval typically recommended for TO-4 fluids
- **Better performance at both high and low temperatures**
 - Improved performance compared to other TO-4 SAE 60 products

- **Improved rust and corrosion protection**
 - Iron and other metal components protected against water damage
- **Excellent protection from foaming**
 - Eliminates or reduces foaming
- **Compatible with TO-4 type fluids and Caterpillar seals**

Applications

PRODURO FD-1 60 Axle Oil is the primary recommendation of Petro-Canada Lubricants for the Axles and Final Drives of Caterpillar Off high equipment, especially when extended oil drain life is desired.

PRODURO FD-1 60 oil can be used in Caterpillar final drives and axles that previously specified TO-4 lubricants and do not contain friction material and/or wet brakes. **This product is not for use in engines, transmission hydraulic systems, or older Caterpillar (789 series of haul trucks) final drive technology, where ZDDP A/W additive technology is better suited.**

PRODURO FD-1 60 should not be used in compartments containing friction material unless an FD-1 type of product is specified. PRODURO FD-1 60 is not formulated to develop a sufficient friction coefficient to satisfy the requirements of most clutches and brakes.

Specific applications include the differentials and final drives of off-highway tractors, off-highway trucks, front wheels on off-highway trucks and, the final drives of most large track-type tractors, most pipelayers and track skidders that have steel tracks and elevated final drives. Please refer to the most recent Caterpillar Machine Fluid Recommendations SEBU 6250 for detailed information and specific exceptions.

PRODURO FD-1 60 meets the Caterpillar FD-1 lubricant specification for Caterpillar final drives and axles.

What is the HT difference?

Petro-Canada Lubricants starts with the HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



Typical Performance Data

| PROPERTY | TEST METHOD | PRODURO™ FD-1 |
|--|-------------|---------------|
| PRODURO™ FD-1 Viscosity Grade | | SAE 60 |
| Density, kg/L at 15°C | D4052 | 0.8882 |
| Pour Point, °C (°F) | D5950 | -24 (-11) |
| Flash Point, COC, °C (°F) | D92 | 277 (530) |
| Kinematic Viscosity, cSt @ 40°C | D445 | 360.6 |
| cSt @ 100°C | | 26.49 |
| SUS @ 100°F | | 1922 |
| SUS @ 210°F | | 131 |
| Viscosity Index | D2270 | 98 |
| Brookfield Viscosity, cP @ -10°C (14°F) | D2983 | 33,720 |
| Copper Corrosion, 3 hours, 150°C (302°F) | D130M | 1B |
| Total Base Number | D2896 | 2.50 |
| Sulfated Ash, mass % | D874 | 0.15 |
| Foaming Characteristics, mL, Sequence 1 | D892 | 0/0 |
| Foaming Characteristics, mL, Sequence 2 | D892 | 20/0 |
| Foaming Characteristics, mL, Sequence 3 | D892 | 0/0 |
| Elemental Analysis by wt %, P | D4951 | 0.0306 |

The values quoted above are typical of normal production. They do not constitute a specification.

To order product or to learn more about how Petro-Canada Lubricants can help your business visit: lubricants.petro-canada.com or contact us at: lubecsr@petrocanadalsp.com



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