

Delo TorqForce Syn FD-1



Product description

Delo TorqForce Syn FD-1 is a premium, fully synthetic, multigrade, heavy-duty gear lubricant specifically designed for use in final drives and axles of modern Caterpillar off-road equipment operating in severe service, where fluids meeting the CAT FD-1 specification are recommended. The CAT FD-1 spec is designed to address extreme pressure (EP) or heavy load-carrying capability needed for final drive gear sets and bearings.

Customer benefits and product features

Customer benefits

- **Maximizes equipment life in severe service**
Advanced additive system minimizes wear in heavily loaded gears and bearings by forming a strong protective layer on metal surfaces under extreme service conditions.
- **Prolongs oil life**
Extremely high thermal and oxidation stability protects against viscosity increase and deposit formation. Drain interval of 6,000 hours is recommended (4,000 hour drain for Delo TorqForce FD SAE 60).
- **Extreme temperature performance**
Excellent cold weather pumpability in sub-zero/arctic operating conditions. Very good high operating temperature performance for severe service applications.
- **Minimizes unscheduled maintenance**
Effective rust and corrosion inhibitors protect final drive components. Good viscosity characteristics at low temperatures ensure rapid oil circulation on start-up, preventing premature component wear.
- **Excellent foam protection**
Works to avoid fluid loss due to foaming.
- **Better Low Temperature Performance**
Excellent cold flow properties help with rapid oil circulation to minimize wear during cold temperature starting.
- **Long equipment life**
Fluid film with special additives helps protect metal surfaces against pitting, scuffing and wear, even under severe operating conditions of high temperature and high load.
- **Warranty Plus protection**
Bumper-to-bumper warranty protection from the engine to the drive train. Payment for Chevron lubricant-related damage to your equipment, including parts and labour.

Product features

- Delo TorqForce Syn FD-1 is designed *specifically* for heavy-duty final drives and axles in severe service. It exhibits significantly improved performance versus TO-4 fluids in the area of gear protection, resistance to macropitting, improved corrosion protection and foam stability.
- For customers who have final drive applications where the fluid also lubricates oil-immersed brakes or clutches from a common sump system, please use Delo TorqForce SAE 50 (Caterpillar TO-4). Additionally, Chevron's Delo TorqForce Syn FD-1 should not be used in powershift transmissions since it doesn't contain key friction modifiers required for high friction materials found in these systems.

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Applications

- Delo TorqForce Syn FD-1 is formulated for use in CAT off-highway trucks and D11R carry dozer front wheels, differentials and final drive where gear and bearing loads and temperatures are high. It is not suitable where a common sump is used for lubricating final drive gears, and immersed brakes or clutches.
- Delo TorqForce Syn FD-1 meets or exceeds the Caterpillar FD-1 specification.

Typical test data

DELO TORQFORCE SYN FD-1	TEST METHOD	RESULTS
Product Code		510165
Density at 15 °C, kg/L	ASTM D4052	0.8447
Viscosity, Kinematic cSt at 40°C cSt at 100°C	ASTM D445 ASTM D445	274 31
Viscosity Index	ASTM D2270	152
Viscosity, Brookfield cP, -30°C(-22°F)	ASTM D2983	92,200
Pour Point, °C	ASTM D97	-48
Flash Point, COC, °C	ASTM D92	254
Phosphorus, mass %		0.031
Calcium, mass %		0.028

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 Global Lubricants: Asia Pacific.

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 the [Product Information Center](#).

This Product Data Sheet (PDS) was produced for the Asia Pacific region based on the best available information at the time of issue. The specific information included may not directly reflect the market or conditions, and may vary. For the most up-to-date, country-specific information, please contact your local customer service center

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Delo TorqForce Syn FD-1/Asia Pacific/CHV/PDSv1_03/2024



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