



Delo[®] TorqForce

Heavy-Duty Powershift Transmission and Final Drive Fluid

Product Data Sheet

Features

Delo TorqForce products are high performance lubricants designed for use in transmissions, final drives, and hydraulic systems requiring a fluid meeting Caterpillar TO-4 or Allison C-4 requirements. They are also recommended for transmission and hydraulic systems manufactured by Dana Powershift, Komatsu, Komatsu Dresser, Tremec/TTC, Eaton, Vickers and ZF.

They are manufactured using highly refined base oils, detergents, dispersants, oxidation and corrosion inhibitors, antiwear and extreme pressure agents, and a foam suppressant.

Delo TorqForce products are designed for both newly developed and older model drive train components.

They offer excellent friction retention, wear control, seal compatibility, oxidation stability, and viscosity stability.

The frictional characteristics of the fluid are retained over the life of the lubricant. Delo TorqForce products are formulated to help protect against wear, even in severe service conditions and under high loads. They help protect precision parts against wear under high load conditions by controlling the formation of corrosion, varnish, and sludge.

Delo TorqForce products are compatible with new and traditional seal and clutch materials.

Customer benefits

Delo TorqForce products deliver value through:

- Long equipment life – Special additives help protect metal surfaces against scuffing and wear even under severe operating conditions of high temperature and high load.
- Smooth operation – Excellent frictional control helps prevent clutch slippage and offers quiet and efficient action of transmission and brakes while minimizing wear.
- Minimal downtime – Good compatibility with seals, O-rings, and packing materials maintains their good condition and keeps leakage at a minimum.

Product description:

Delo TorqForce products are high performance lubricants designed for use in transmissions, final drives, and hydraulic systems in Allison, Caterpillar, Dana Powershift, Komatsu, Komatsu Dresser, Tremec /TTC, Eaton, Vickers and ZF equipment.

A Chevron company product



- Improved filterability – Delo TorqForce is formulated with special additive chemistry that allows for ultra-fine filtration which provides exceptional fluid cleanliness and equipment reliability performance. Delo TorqForce can achieve cleanliness levels down to 18/16/13 and potentially cleaner with appropriate Chevron approved ISOCLEAN® Programs.
- Long oil life – Outstanding ability of the base stock to withstand oxidation at high operating temperatures results in maximum service life for the oil.
- Reliable operation – Formulated to keep metal parts clean and free of varnish and sludge deposits that could result in premature breakdown.
- Minimizing weather and storage concerns – Protects against rust and corrosion of highly finished precision parts when operating in humid conditions and during seasonal shutdown periods.

Applications

Delo TorqForce are recommended for use in Caterpillar, Komatsu, transmissions, final drives, and wet brakes, and in Allison, Dana Powershift, Tremec/TTC, Eaton and ZF transmissions, torque converters, and Vickers hydraulic systems.

Under normal ambient temperatures, **hydraulic systems will use the SAE 10W** viscosity grade. SAE 10W and 30 are recommended for mobile hydraulic systems where operating requirements are severe.

Transmissions will use the SAE 30 viscosity grade. Delo TorqForce products are also recommended for heavy duty off highway automatic transmissions requiring an SAE 30 fluid.

Final drives will use the SAE 50 viscosity grade at normal temperatures and the SAE 60 at high ambient temperatures.

In order to meet Caterpillar specifications, Delo TorqForce products are not friction modified. Thus, they are not recommended for equipment made by other OEMs who require friction modified fluids in order to assure smooth and quiet brake operation. For example, many farm tractor OEMs require fluids such as Chevron 1000 THF in order to eliminate brake noise.

Delo TorqForce is approved for:

- ZF TE-ML 03C (SAE 30)
- ZF TE-ML 07F (SAE 30)
- Volvo 97305-90 (SAE 50)



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continued

Delo TorqForce products meet:

- requirements of Allison C-4 (SAE 10W, 30)
- service requirements of Caterpillar TO-4 (SAE 10W, 30, 50, 60)
- ZF TE-ML 03C (SAE 10W)
- Komatsu KES 07.868.1 (SAE 10W, 30, 50)

Delo TorqForce products are recommended for:

- Dana Powershift (SAE 10W, 30)
- Komatsu KES 07.868.1
- Komatsu Dresser
- Tremec/TTC
- Vickers 35VQ25 (SAE 10W)
- Eaton Fuller/Roadranger Manual Transmissions (SAE 50 - Standard Drain Applications)
- Meritor (Rockwell) Manual Transmissions (SAE 50 - Standard Drain Applications)

Do not use in high pressure systems in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

Typical test data

DELO TORQFORCE	RESULTS			
SAE Grade	10W	30	50	60
Product Number	510157	510158	510159	510160
SDS/MSDS Number				
<i>South Africa</i>	39696	39696	39696	39696
<i>United Arab Emirates</i>	39697	39697	39697	–
<i>Egypt</i>	–	39698	39698	–
API Gravity	30.0	28.7	26.5	25.0
Viscosity, Kinematic				
cSt at 40°C	43.8	87.5	199	319
cSt at 100°C	6.8	10.9	18.5	25.0
Viscosity, Cold Crank, °C/Poise	-25/60	–	–	–
Viscosity Index	110	110	103	101
Flash Point, °C(°F)	238(460)	266(511)	266(511)	266(511)
Pour Point, °C(°F)	-33(-27)	-27(-17)	-27(-17)	-15(+5)

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.

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

Produced by Chevron Lubricants; Africa, Middle East and Pakistan.

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.caltexoils.com.

For more information, go to www.chevronlubricants.com