

## ***Oils for tractor hydraulics and transmission***

### **ISO L-C**

# **TRANSHIDO TO-4**

TRANSHIDO TO-4 oils are produced of high quality paraffin base oils and selected additives formulated to meet fluid specifications for Caterpillar TO-4 and Allison C-4. These products have outstanding shear stability and provide excellent antiwear properties, oxidation stability, anticorrosion and antirust protection, seal compatibility as well as good foaming resistance.

TRANSHIDO TO-4 oils are particularly formulated to meet rigorous Caterpillar TO-4 requirements for friction disc and brake extended life, reduced gear wear and flawless, more silent wet brakes operation. They provide longer life of the equipment in comparison with fluids meeting TO-2.

TRANSHIDO TO-4 are produced in three viscosity grades for a wider range of applications.

#### **ADVANTAGES**

- Excellent antiwear protection ensures a long lifetime of the gears;
- Low friction coefficient ensures that wet brakes and clutch operate quietly and without vibrations;
- High thermal and oxidation stability prevents the formation of deposits and sludge;
- Good anticorrosion protection protects parts even in the presence of moisture;
- Compatibility with sealing elements.

#### **QUALITY LEVEL**

API CF/CF-2

Caterpillar TO-4

Allison C-4 (SAE 10 and SAE 30)

ZF TE-ML 01 (SAE 30 i SAE 50) -obsolete

ZF TE-ML 03C (SAE 10 i SAE 30)

ZF TE-ML 07F (SAE 30)

Kamatsu (KES 07.868.1)

#### **APPLICATION**

TRANSHIDO TO-4 10W, 30 and 50 are recommended for transmission system, rear drive and wet brakes for heavy duty Caterpillar cargo vehicles and equipment or any other equipment for which lubricant with performance level TO-4, API CD/TO-2 is recommended (it is not recommended for engine lubrication).

TRANSHIDO TO-4 oils are particularly suitable for hydraulic system on Caterpillar and Allison equipment for heavy duty operating conditions.

TRANSHIDO TO-4 10W, 30 and 50 are suitable for KAMATSU (KES 07.868.1) construction equipment as lubricants used on transmission systems, rear drive and other driving assembly blocks. These oils are suitable as replacement for KDC transmission fluids for heavy duty operating conditions for Kamatsu Dresser transmission system of power transmission and steering drive.

TRANSHIDO TO-4 10W and 30 are recommended for equipment ZF (ZF TE-ML 03) for transmission system and steering drive. These viscosity grades are also recommended for transmission system lubrication on systems with engine torque booster. Grade SAE 30 is particularly suitable for non-synchronous manual transmissions (ZF TE-ML 01).

TRANSHIDO TO-4 50 is suitable for certain manual transmissions, eg. EATON Fuller, DANA Spicer.

## TYPICAL CHARACTERISTICS

	10W	30	50	METHOD
Density at 15°C, g/ml	0.88	0.90	0.91	SRPS EN ISO 3675
Kinematic viscosity at 40°C, mm <sup>2</sup> /s	38	100	252	SRPS ISO 3104
Kinematic viscosity at 100°C, mm <sup>2</sup> /s	6.1	11.5	19.6	SRPS ISO 3104
Viscosity index	105	95	90	SRPS ISO 2909
Flash point, °C	220	245	260	SRPS EN ISO 2592
Pour point, °C	-39	-27	-18	SRPS ISO 3016
TBN, mg KOH/g	7.2	7.2	7.2	SRPS ISO 3771
Cu corrosion, 3h/121°C, degree	1a	1a	1a	SRPS EN ISO 2160

## STORAGE

Store in covered area. If stored outdoors, it is necessary to place the drums in a horizontal position to prevent the accumulation of water on the surface of the drum. Do not store at elevated temperatures or in locations exposed to direct sunlight.

All necessary instructions can be found in the product SDS. It contains the details of possible hazards, warnings and first aid measures, as well as the impact on the environment and the necessary measures for the storage and handling.

## PACKING

Drums 180kg, 60L and plastic containers 20L.

Data are orientational, manufacturer reserves the right to make changes in order to improve product quality.

