



PETRONAS Tutela Trans TO4

SAE 10W, 30, 50, 60

Designed to be the Fluid Technology Solution of choice providing protection and care for Off-Highway hydraulic systems and transmissions

Description and Applications

PETRONAS Tutela Trans TO4 is a high-quality, advanced technology hydraulic and transmission fluid delivering optimized performances and component durability for today's hydraulic systems, hydrostatic and powershift transmission, axles, final drive and wet brakes. Thanks to extensive bench testing and field-testing, makes it suitable for use in off-highway equipment requiring the Caterpillar TO-4 fluids.

PETRONAS Tutela Trans TO4 meets the requirement of Caterpillar, Komatsu and others off-highway equipment.

Benefits

PETRONAS Tutela Trans TO4 protects your Business Profits and your Vehicle Availability while reducing your operating costs, through longer hydraulic system and transmission life, driven by:

- Significantly improved clutch life, friction and anti-wear performance compared to the best CD/TO-2 engine oils, to extend components life.
- Enhanced load-carrying capability and gear wear protection as measured by the FZG Gear Test to provide excellent anti-wear performance in powershift transmissions, gearboxes and final drives.
- Good thermal and oxidation stability to prevent formation of deposits and sludge to prolong oil life
- Improved hydraulic oil stability and protection against high pressure pump
- Good seals compatibility to prevent oil leakage
- Robust corrosion protection on yellow metals and steel

Provides excellent Working Experience through:

- Superior frictional performance; no degradation of frictional performance or clutch slippage to consistently maximize equipment output, particularly when moving heavy loads on an incline.
- Optimized hydraulic oil stability for consistent operability during the entire service life
- Low foaming tendency to reduce noise
- Good low temperature fluid flow performance

Approvals, Specifications and Recommendations

Approvals and Specifications:

- API CF
- API MT-1
- CAT TO-4
- ZF TE-ML 03C
- ZF TE-ML 07F

	SAE 10W	SAE 30	SAE 50	SAE 60
• API CF	✓	✓		
• API MT-1			✓	
• CAT TO-4	✓	✓	✓	✓
• ZF TE-ML 03C	✓	✓		
• ZF TE-ML 07F		✓		

Performance level:

- Allison C-4
- Komatsu KES 07.868.1 (2002)

• Allison C-4	✓	✓		
• Komatsu KES 07.868.1 (2002)	✓	✓	✓	

Note: Always consult your owner's manual to check recommended viscosity grade and specifications for your specific vehicle

Typical Physical Data

Parameters	Method	Unit	Typical Value			
			10W	30	50	60
Density @15°C	ASTM D 4052	g/cm ³	0.880	0.890	0.900	0.900
Kinematic Viscosity @100°C	ASTM D 445	mm ² /s (cSt)	6.1	9.9	17.0	22.5
Kinematic Viscosity @40°C	ASTM D 445	mm ² /s (cSt)	38	81	180	280
Viscosity Index	ASTM D 2270	-	>100	>90	>90	>90
Pour Point	ASTM D 97	°C	-39	-30	-27	-15
Cold Cranking Simulator @- 25 °C	ASTM D 5293	mPa.s (cP)	5500	-	-	-
Flash Point COC	ASTM D 92	°C	>200	>180	>180	>180
Total Base Number (TBN)	ASTM D 2896	mgKOH/g	9.5	9.5	9.5	9.5

All technical data is provided for reference only. These characteristics are typical of current production. Whilst future production will conform to PLI's specification, variations in these characteristics may occur.

Health, Safety and Environment

This product is unlikely to present any significant health and safety hazards when used in the recommended application. Avoid contact with skin. Wash immediately with soap and water after skin contact. Do not discharge into drains, soil or water.

For further detail regarding storage, safe handling, and disposal of product, please refer to product SDS or contact us at: www.pli-petronas.com

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SAE 10W Code: 76676

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SAE 60 Code: 76679