



## **Powersall Power Transmission Fluid (PTF)**

**DESCRIPTION:** Powersall Power Transmission Fluid (PTF) is premium quality hydraulic/transmission and drive-train fluid containing additive technology that meets or exceeds the Caterpillar TO-4 specification requirement for use in off-highway equipment. These fluids can also be used in Allison transmissions, torque converters, and hydraulic systems requiring Allison C-4 fluid. Powersall Power Transmission Fluid (PTF) provides excellent protection of gears and offers superior thermal stability. They are formulated to give smooth transmission power transfer under high horsepower conditions. The additive technology utilized has been tested and proven in all makes and models of equipment requiring TO-4 performance and is supported by years of trouble free operation.

- BENEFITS:**
- Excellent anti-wear protection to critical components
  - Good Fluidity at low ambient temperatures
  - Outstanding oxidation stability, foam resistance and rust control
  - Balanced frictional properties for efficient clutch operation improved wet brake performance

**APPLICATION:** Formulated to meet the performance requirements of:

- Caterpillar TO-4, CF/TO-2 – all grades
- ZF TE-ML 03C – (SAE 10W, 30)
- Allison C-4 SAE 10W and 30 grades
- Komatsu Micro-Clutch – all grades
- Eaton Fuller Transmission (SAE 50)
- Komatsu Dresser
- Dana Powershift
- Komatsu KES 07.868.1 (SAE 10, 30, 50)

**Powersall Power Transmission Fluid (PTF)** is designed for use in power-shift, direct drive transmissions, winches and final drives of all new Caterpillar equipment which require the use of a TO-4 fluid. It is also recommended for the transmissions and final drives of all older Caterpillar equipment that required a TO-2 fluid. Additionally, this product is recommended for heavy-duty manual and semi-automatic transmissions in trucks and buses where the OEM specifies Caterpillar TO-4 quality or heavy-duty engine oil. Typically, the SAE 10W and SAE 30 viscosity grades are recommended for hydraulic and transmissions, and the SAE 50 viscosity grade is recommended for differentials, final drives and heavy-duty manual transmissions.



# PRODUCT INFORMATION



## Powersall Power Transmission Fluid (PTF)

Typical Properties				
SAE Grade		10W	30	50
Product Code	Test Method	PA331910	PA331930	PA331950
Viscosity, cSt @ 40°C	ASTM D-445	39	92	218
Viscosity, cSt @ 100°C	ASTM D-445	6.5	11.0	20.0
Brookfield Apparent Viscosity @-35°C	ASTM D-2983	32,000	N/A	N/A
Viscosity Index	ASTM D-2270	117	104	95
Color	ASTM D-1500	L3.0	L3.5	4.0
Pour Point, °F	ASTM D-5949	-25	-22	-0.5
Flash Point, °F	ASTM D-92	434	448	465
Gravity, API	ASTM D-4052	32.3	28.7	25.4
Gravity, Specific		0.8648	0.8828	0.9020
Density, lbs/gal	Calculated	7.194	7.353	7.511

*\*Note: Values shown are typical only and do not constitute a specification. Minor variations in product are to be expected in normal manufacturing. Always confirm with the original manufacturer's recommendation for proper equipment operating requirements.*



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