



CITGO® TRANSGARD® Heavy-Duty Transmission Fluids

OVERVIEW



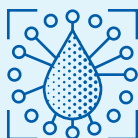
- New-generation Allison C-4 and CAT TO-4 transmission and drivetrain fluids designed for heavy-duty construction equipment powershift transmissions, final drives, and wet brakes.
- Improve transmission performance and power transfer under conditions of high horsepower output, increased loads, and higher transmission operating temperatures associated with heavy equipment, as compared to engine oil.
- Reduced maintenance costs, longer equipment life, reduced downtime, and higher production output due to reduced gear wear, improved friction control, and greater rimpull.
- Available Viscosity Grades: 10W, 30, 50 and 60.

FEATURES & BENEFITS

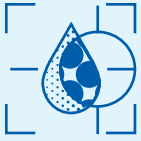


- Provide longer transmission life than heavy-duty engine oils.
- Base stocks and additives are carefully selected for compatibility with clutch face and seal materials.
- Offer improved performance while allowing product consolidation by meeting Allison C-4 (SAE 10W and 30 grades), Komatsu Micro-Clutch, and Caterpillar TO-4 requirements.
- Offered in four viscosity grades to meet summer and winter powershift requirements.
- Compatibility with asbestos-free clutch materials offers extended clutch life.
- Provide greater power transfer efficiency due to their physical and chemical properties.
- Rust and corrosion control protects gear cases and drive trains under the most severe conditions.
- SAE 60 grade provides the greatest fluid film thickness for wear protection during severe operation.

APPLICATIONS



- Recommended for lubrication of winch, clutch plates, gears and bearings.
- Help reduce brake chatter in wet brake applications.
- Formulated to meet the performance requirements of:
 - Allison C-4 (SAE 10W and 30 grades)
 - Caterpillar TO-4, CD/TO-2 (all grades)
 - Komatsu Micro-Clutch (all grades)

PROPERTIES**Typical Properties for CITGO Transgard Heavy Duty Transmission Fluids:**

SAE Grade	10W	30	50	60
Material Code	633321001	633323001	633325001	633326001
Gravity, ASTM D4052, °API	31.1	31.0	27.3	25.2
Density, lbs./gallon	7.30	7.37	7.49	7.51
Flash Point, COC, ASTM D92, °F (°C)	420 (216)	446 (230)	511 (266)	532 (278)
Viscosity, ASTM D445,				
cSt at 40°C	38.1	96	209	330
cSt at 100°C	6.3	11.3	18.8	25.5
Viscosity Index, ASTM D2270	112	104	100	100
Brookfield Apparent Viscosity	23,000	80,000	45,000	139,500
ASTM D2983, cP, at Temp, °C	-35	-25	-15	-15
Pour Point ASTM D97, °F (°C)	-38 (-39)	-27 (-33)	+5 (-18)	0 (-18)
Color, ASTM D1500	L3.0	L3.5	4.0	L7.0

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