



CITGO® CITGARD® 600

Heavy Duty Engine Oils Monogrades

OVERVIEW



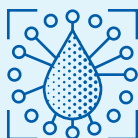
- High-quality, heavy duty crankcase oils manufactured with the latest additive technologies to provide excellent performance.
- SAE 30, 40, and 50 viscosity grades are designed with low sulfated ash to give optimal performance in Detroit Diesel two-stroke diesel engines calling for obsolete service categories CF-2 and CF.
- SAE 10W and SAE 30 viscosity grades are excellent for hydraulic applications calling for hydraulic oils with engine oil type additive systems.

FEATURES & BENEFITS



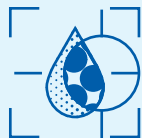
- Excellent detergency for control of exhaust port deposits in Detroit Diesel two-stroke diesel engines.
- Excellent dispersancy and oxidation resistance protect against excessive viscosity increase.
- Superior wear protection in hydraulic pumps and Detroit Diesel two-stroke diesel engines.
- Good TBN properties protect against corrosive wear.
- Proven oil consumption control in heavy duty service.
- Shear stability of monogrades assures stay-in-grade performance.
- Meet Detroit Diesel recommendations of 1.0% maximum sulfated ash for two-stroke diesel engines.

APPLICATIONS



- Recommended for use in heavy duty service in commercial trucks, agricultural equipment, construction equipment, and other diesel fueled engine, hydraulic, and transmission applications.
- Specific viscosity grades are approved for use in power-shift, manual, and hydrostatic transmissions, final drives, and hydraulic systems where the equipment manufacturer designates the use of a heavy-duty, detergent-type engine oil.
- Recommended* for equipment requiring:
Detroit Diesel Two-stroke diesel engines US CID A-A-52306
*Some performance capabilities are applicable to specific viscosity grade(s).
- Refer to equipment owner's manual for proper lubricant recommendation.

PROPERTIES



Typical Properties for CITGO CITGARD 600 Heavy Duty Engine Oils - Monogrades:

SAE Grade	10W	30	40	50
Material Code	622610001	622630001	622640001	622650001
Gravity, ASTM D4052, °API	31.8	28.4	27.3	26.5
Pounds Per Gallon	7.22	7.37	7.42	7.46
Flash Point, ASTM D92 (COC), °F (°C)	439 (226)	489 (254)	486 (252)	482 (250)
Viscosity ASTM D445				
cSt at 100°C	6.9	12.0	14.9	19.0
cSt at 40°C	41	102	145	212
Viscosity Index, ASTM D2270	129	106	103	100
HTHS Rate Vis at 150°C & 10 ⁶ sec ⁻¹ , cP	2.3	3.6	4.3	5.1
CCS Vis, ASTM D5293, cP at °C	4,000 at -25	NR*	NR*	NR*
MRV Vis, ASTM D4684, cP at °C	10,000 @ -30	NR*	NR*	NR*
MRV Yield Stress, ASTM D4684, Pa at °C	<35 at -30	NR*	NR*	NR*
Pour Point, ASTM D97, °F (°C)	-38 (-39)	-11 (-24)	10 (-12)	10 (-12)
Sulfated Ash, ASTM D874, %m	0.9	0.9	0.9	0.9
TBN (Total Base No.), ASTM D2896	8	8	8	8
Color, ASTM D1500 (may vary by location)	L3.0	L3.0	L4.0	L4.0

Key Performance Claims and Applications:

Obsolete Service Categories

CF-2	—	✓	✓	✓
CF	✓	✓	✓	✓

Approvals or performances that are
Viscosity Grade specific:

US CID A-A-52306	—	✓	✓	—
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*NR = No Requirement

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