

# CITGO® CITGARD® 700 MFE Synthetic Blend Heavy Duty Engine Oil



## OVERVIEW



- A new-generation engine oil for API FA-4 compliant engines; supports the Phase II fuel efficiency standards driving the need for even more fuel-efficient heavy duty engine oils, while delivering excellent wear protection and engine durability.
- Formulated with proprietary additive technology that protects engines running at higher operating temperatures and higher fuel injection pressures, while meeting tighter wear limits and lower emission requirements.
- Provides additional fuel economy compared to API CK-4 or API CJ-4 SAE 10W-30 engine oils.

## FEATURES & BENEFITS



- Engineered for maximum fuel efficiency-- up to 4% fuel economy advantage over conventional SAE 15W-40 viscosity grade oils.
- Maintains viscosity over extended service intervals.
- Up to 100% increase in oxidation protection compared to conventional CJ-4 engine oils. Always follow OEM recommendations when extending oil drain intervals.
- Advanced wear protection for newer FA-4 compliant engines.
- Reduced air entrainment in high-pressure hydraulic fuel injection systems.

## APPLICATIONS



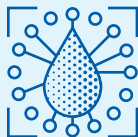
- For use in API FA-4 compliant engines.
- Refer to equipment owner's manual for proper lubricant recommendation.

Approved for equipment requiring:  
Cummins CES 20087  
Detroit Diesel DFS 93K223

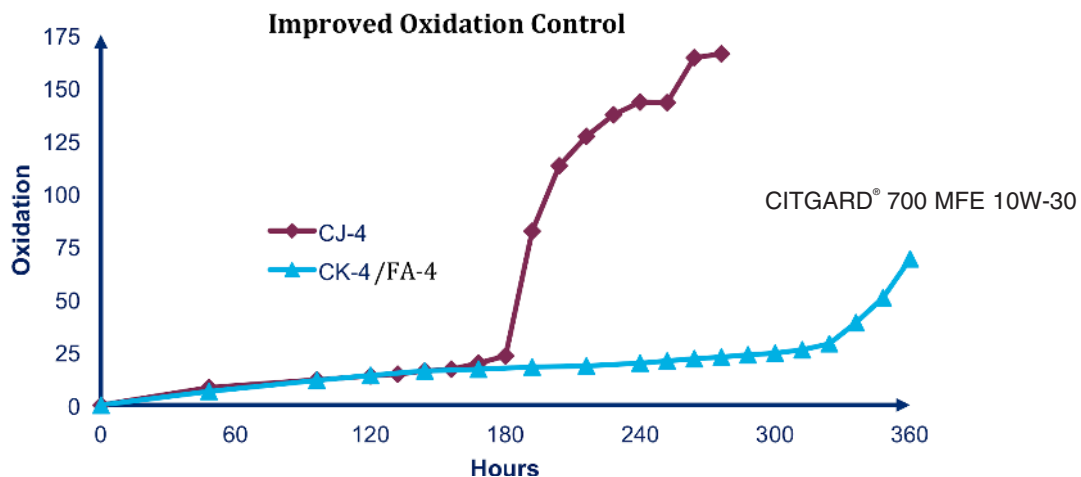
### CITGARD® 700 MFE Synthetic Blend Heavy Duty Engine Oil vs API CK-4 or CJ-4.

	More Robust Additive System than API CJ-4 Oil	Enhanced Durability Requirements	SAE Grades	High Temperature High Shear Viscosity	Fuel Economy	Back Serviceable	Recommended by OEMs	Applications
API CK-4			0W-30 and heavier	 >3.5 cP	 Better			
API FA-4			0W-30 5W-30 10W-30	 2.9-3.2 cP	 Best			

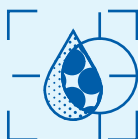
## APPLICATIONS



## Volvo-T-13 Oxidation Stability



## PROPERTIES



## Typical Properties for CITGO CITGARD 700 MFE Synthetic Blend Heavy Duty Engine Oil SAE 10W-30:

SAE Grade	10W-30
Material Code	622722001
Gravity, ASTM D4052, °API at 60°F	31.5
Pounds/Gallon at 60°F	7.25
Specific Gravity at 60°F	0.87
Viscosity ASTM D445	
cSt at 40°C	66
cSt at 100°C	10.0
Viscosity Index	136
CCS Viscosity, cP, @ Temperature	5,680 @ -25°C
MRV Viscosity, cP, @ Temperature	15,500 @ -30°C
MRV Yield Stress, Pa, @ Temperature	<35
Pour Point, °F (°C)	-33 (-36)
Flash Point, COC, °F (°C)	446 (230)
Noack Evaporative, ASTM D5800, % Loss	12.7
Color, ASTM D1500	L3.5
Total Base Number, ASTM D2896	10
Sulfated Ash, ASTM D874, % wt	1.0

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