ENGINE OILS

HiTEC® 12210M

Heavy Duty Additive Package

Blended to Formulate Mainline Heavy Duty Diesel Engine Oils

Afton® CHEMICAL

Passion for Solutions®

HiTEC® 12210M Heavy Duty Additive Package

Blended to Formulate Mainline Heavy Duty Diesel Engine Oils

Application

HiTEC® 12210M is a dispersant inhibitor package for use in mainline heavy duty diesel engine oils. This package, when used with our OCP Viscosity Modifiers, HiTEC® 5748A or HiTEC® 5748, fully meets the following API licensing requirements.

- API CK-4 in SAE 15W-40 and 10W-30
- API FA-4 in SAE 10W-30

HiTEC® 12210M already contains a pour point depressant (PPD) so no supplemental PPD should be needed to meet low temperature properties. This robust additive package not only meets API credentials, but is also designed to meet the latest original equipment manufacturer (OEM) performance specifications in appropriate grades and base stocks.

Typical Characteristics

Appearance	Dark brown
Density, lbs/gal.	7.90
Specific Gravity @ 15.6/15.6°C	0.948
Viscosity @ 100°C, cSt	108
Flash Point, °C (PMCC)	135 min.
TBN, mg KOH/g	55

Handling Information

Max Handling Temp: 70°C
Shelf Life: 3 months @ 45°C, 36 months @ ambient (10-40°C)

HiTEC® 12210M	API CK-4	API FA-4	API SN	CAT ECF-3	Ford WSS-M2C171-F1	Cummins CES 20086	Cummins CES 20087	Detroit Diesel DDC93K222	Detroit Diesel DDC93K223	Mack EOS-4.5	Volvo VDS 4.5	Renault RLD-4	ACEA E7-22	ACEA E9-22	MB 228.31	MAN 3275	MAN 3575	MAN 3775	Deutz DQC III-18LA	Allison TES 439
API CK-4 15W-40	●		●	●	●	●		●		●	●	●	●	●	●	●	●	●	●	●
API CK-4 10W-30	●			●	●	●		●		●	●	●	●	●	●	●	●	●		
API FA-4 10W-30		●					●		●											

● Meets requirements

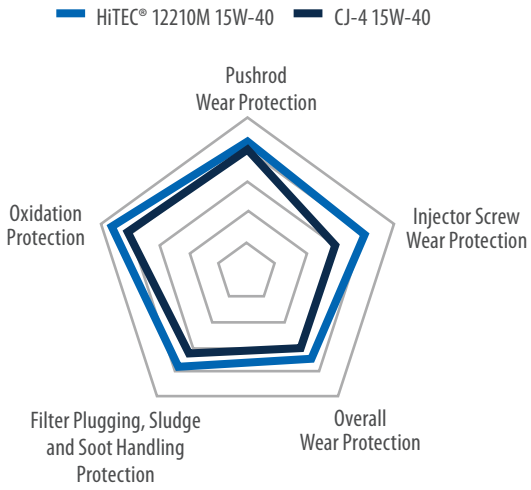
For specific formulation recommendations and licensing details, please contact your Afton Chemical representative.

Recommended Dosage

At the recommended treat rate of 18.0% wt., HiTEC® 12210M can be used to formulate both API CK-4 SAE 10W-30 and 15W-40 grades as well as API FA-4 SAE 10W-30 in a range of market basestocks.

In addition, HiTEC® 12210M CK-4 blended oils are backwards compatible at the same 18.0% wt. treat rate to API CJ-4, CI-4+, CI-4 and CH-4 performance claims under current licensing guidelines.

Afton CK-4 vs. CJ-4 Performance Comparison



Afton® CHEMICAL