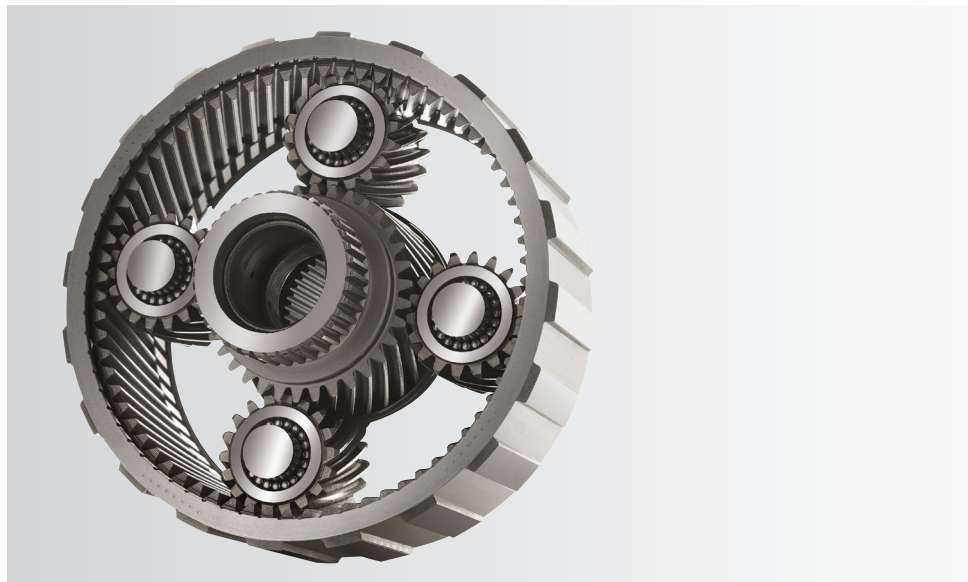


DRIVELINE

HiTEC[®] 419

ATF Additive Package



Standard tier, with GM Performance and Approvals from ZF, Voith and MAN

HiTEC® 419 ATF Additive Package

Standard Tier, with GM Performance and Approvals from ZF, Voith and MAN

Automatically First™



Key Performance Benefits

HiTEC® 419 additive is a versatile package that can be used to formulate high quality Automatic Transmission Fluids in a wide variety of base stocks.

HiTEC® 419 additive package contains a shear stable Viscosity Index Improver, enabling ATFs blended with HiTEC® 419 to provide significant customer benefits, including:

- Good film thickness resulting in better wear protection
- Improved low temperature performance for reliable cold starting
- Consistent transmission performance under a wider range of operating conditions

HiTEC® 419 additive is also available with the addition of red dye as HiTEC® 419R additive

Recommended Dosage

The recommended treat-rate for HiTEC® 419 is 11.4% wt. in good quality base stocks for conventional Automatic Transmission Fluid applications. It can also be used at a reduced treat-rate of 5.7% wt. for lower performance level applications satisfied by Type A Suffix A (TASA) fluids. Please contact your Afton Chemical representative for specific recommendations.

Approvals

Product	ALLISON TES-228 (C-4)	ALLISON TES-389	Ford Pro-2005*	GM MD-1 IIF-1	MAN 339 L1, L2	MAN 339 Z1, V1	MB 236.1	CHRYSLER-3	TASA	VOITH H55 6335	VOLVO CE 97340	VOLVO CE 97341	ZF TE-ML 03D	ZF TE-ML 03L 21L	ZF TE-ML 09	ZF TE-ML T1A, T1B	ZF TE-ML 04D, 14A	ZF TE-ML 17C
ATF Specifications	1	1	3	3	1	1	1	3	3	1	3	1	1	2	2+	3	1	1
HiTEC® 419	3+	1	3+	3	1	1	1	3	3	1	3	1	1	2	2+	3	1	1

Product Status

- Approved
- Meets Requirement
- Suitable for Use

Specification Status

- 1 Formal Approval
- 2 Self Certifying
- 3 Obsolete

Notes

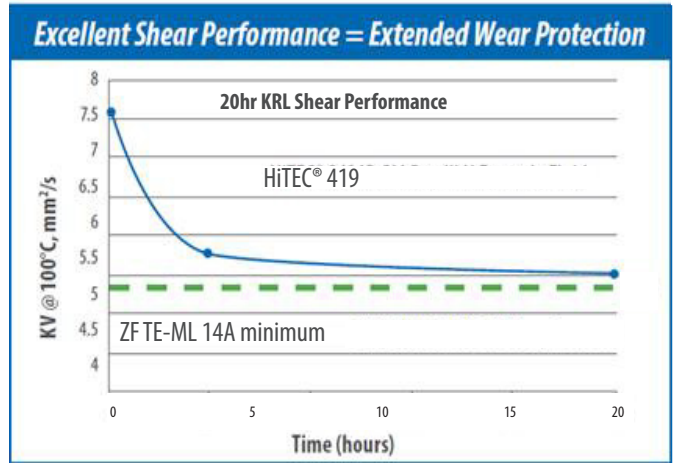
- Ω For GM vehicles of Model Years 1990 and earlier
- λ For GM vehicles of Model Years 1993 and earlier
- α For GM vehicles of Model Years 2003 and earlier
- μ For Ford vehicles of Model Years 2005 and earlier
- † Formerly approved

Afton Product Comparison

Performance	Benefit	Economic	Standard		Premium				Top
		HiTEC® 410	HiTEC® 419	HiTEC® 429	HiTEC® 2414	HiTEC® 481	HiTEC® 2018	HiTEC® 4014	HiTEC® 3491LV
Oxidative stability	Fluid life, lower parts wear	Good	Good	Better	Better	Better	Better	Best	Best
Friction durability	Fluid life	Good	Good	Better	Better	Better	Best	Best	Best
Shear stability	Lower parts wear	Good	Better	Better	Better	Best	Better	Best	Best
Low temp. performance	More efficient cold-starting	Good	Good	Better	Better	Best	Better	Best	Better
Treat-rate	Fluid cost	Best	Best	Better	Better	Good	Good	Good	Good
Range of OEM specs	Inventory, logistics	Good	Good	Better	Best	Best	Good	Good	Better

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Typical characteristics

Appearance:	Dark brown liquid
Density at 15°C, g/ml:	0.92
Flash Point (PMCC), °C:	105 min
Kinematic Viscosity at 100°C, mm²/s:	220

Handling Information

Max Handling Temp: 70°C
Shelf Life: 18 months at ambient temperature