

# Product Information

A PRODUCT OF VALVOLINE, A DIVISION OF ASHLAND INC.



## Valvoline All-Fleet<sup>®</sup> Plus Engine Oil

Valvoline All-Fleet Plus Engine Oils are formulated to provide optimum performance in modern, emissions treatment equipped diesel engines operating under a wide variety of service conditions, including engines with diesel particulate filters (DPF) and cooled exhaust gas recirculation (EGR). They are blended with premium basestocks and high quality additive chemistry to achieve the following benefits: high temperature piston deposit control, foam protection, soot dispersancy and oil-thickening control, oxidation inhibition, low temperature sludge protection, corrosion and rust inhibition, valve train wear protection and TBN retention.

Valvoline All-Fleet Plus Engine Oils are recommended for use in turbocharged and naturally aspirated two and four cycle diesel engines. They may also be used in gasoline engines for the "mixed fleet" operator. These motor oils provide excellent performance in local stop and go routes, on-and off-highway, farm, construction, and mining applications.

### Approvals/Formulated to Meet Performance

API CJ-4,	15W40	10W30					
API CI-4, CH-4, CG-4, CF-4	15W40	10W30					
API CF	15W40	10W30	10W	20W	30	40	50
API CF-2			10W	20W	30	40	50
API CI-4 Plus, SL	15W40						
API SM		10W30					
ACEA E7-04	15W40						
CATERPILLAR	15W40#	10W30#					
CUMMINS (CES 20081/20078)	15W40##	10W30##					
DETROIT DIESEL	15W40**				30*	40*	50*
MACK EO-N Premium Plus 03	15W40						
NAVISTAR	15W40						
ALLISON C-4	15W40^		10W^		30^		
VOLVO VDS-3	15W40						

Typical Properties	15W-40	10W-30	10W	20W	30	40	50
Gravity, degree API	29.5	31.1	31.5	30.4	29.7	29.3	27.8
Specific Gravity, 15 C	0.879	0.870	0.868	0.874	0.878	0.880	0.888
Viscosity @ 40 C, cSt	117	80	37.5	52.21	86.89	138.3	203.9
Viscosity @ 100 C, cSt	15.2	11.9	6.4	8.0	11.0	14.6	20.0
Viscosity Index	135	143	122	122	113	105	113
CCS Viscosity, cP	6600@-20	6600@-25	6800@-25	8000@-15	-----	-----	-----
HTHS Viscosity, cP	4.2	3.5	-----	-----	3.7	>3.7	>3.7
Borderline Pumping Viscosity	Pass	Pass	Pass	Pass	-----	-----	-----
Pour Point, deg. C	-30	-33	-36	-30	-24	-21	-18
Total Base Number (D-2896)	10	10	7	7	7	7	7
Sulfated Ash, %	1.0	1.0	0.8	0.8	0.8	0.8	0.8
Zinc, wt %	0.127	0.127	0.126	0.126	0.126	0.126	0.126

### Part Numbers

Bulk	VV3850	VV3820	VV3900	VV3920	VV3930	VV3980	VV4010
55 Gallon Drum	VV385	VV382	VV390		VV393	VV398	
5 Gallon Plastic Pail	VV386		VV391		VV395	VV400	
4/1 Gallon Jug	VV387				VV397		
12/1 Quart	VV388				VV396		

\* Two-Stroke engines only.

\*\* Approved for Power Guard 93K218 (Detroit Diesel recommends this viscosity grade only for their four-cycle engines.)

# Meets Caterpillar ECF-3 and older Specification Requirements

## Meets the engine performance requirements of CES 20078. Is approved against CES 20081.

^ Meets the performance requirements of

Refer to Valvoline's Material Safety Data Sheet for health and safety instructions.

This information only applies to products manufactured in the following location(s): USA, Canada

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