

# Product Information

A PRODUCT OF VALVOLINE, A DIVISION OF ASHLAND INC.



## Valvoline™ All-Fleet 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. All Fleet Plus meets all the requirements for Tier IV engines and is backwards compatible with Tier III.

### Approvals/Formulated to Meet Performance

API CJ-4, CI-4, CH-4, CG-4	15W-40	10W-30					
API CF	15W-40	10W-30	10W	20W	30	40	50
API CF-2			10W	20W	30	40	50
API SM	15W-40	10W-30					
API SF					30	40	50
ACEA E9/E7-08	15W-40						
CATERPILLAR	15W-40#	10W-30#					
CUMMINS (CES 20081/20078)	15W-40##	10W-30##					
DETROIT DIESEL	15W-40**				30*	40*	50*
DEUTZ DQC III-10 LA	15W-40^						
MACK EO-O PP-07	15W40	10W-30					
MB p228.31	15W-40^						
NAVISTAR	15W-40						
ALLISON C-4	15W-40^		10W^		30^		
VOLVO VDS-4	15W-40	10W-30					
Global DHD-1	15W-40^^	10W-30^^					
JASO DH-2	15W-40^^	10W-30^^					

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	52	87	138	204
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)	9	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	VV401
5 Gallon Plastic Pail	VV386		VV391		VV395	VV400	
1 Gallon Jug	773634				773635		
12/1 Quart	VV388				VV396		

\* Two-Stroke engines only.

\*\* Approved for DDC 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

^^ Meets engine performance requirements of

**ASHLAND**

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

Effective Date:	Expiration Date:	Replaces:	Author's Initials:	Pages	Code
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