

## VALCO PL-PROTECT 3.8

Engine oil 10W40 HD

Engine oil mainly dedicated to trucks and off-road vehicles.

### Specifications

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| <ul style="list-style-type: none"> <li>✓ ACEA E7</li> <li>✓ ACEA A3 / B4</li> <li>✓ API CI-4 / SL</li> <li>✓ Renault RLD-2</li> <li>✓ MB 228.3</li> <li>✓ MAN 3275</li> <li>✓ JASO DH-1</li> <li>✓ DDC 93K215</li> </ul> | <ul style="list-style-type: none"> <li>✓ Volvo VDS-3</li> <li>✓ MTU Type 2</li> <li>✓ Deutz DQC-3</li> <li>✓ Caterpillar ECF-2</li> <li>✓ MACK EO-N</li> <li>✓ Cummins CES 20078</li> <li>✓ Global DHD-1</li> </ul> |
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### Physicochemical Characteristics

Characteristics	Method	Units	Typical value	Mini	Maxi
Viscosity grade	SAE-J	-	10W40	-	-
Kinematic viscosity @ 100°C	ASTM D 7279	cSt	14.5	14.2	16.3
Kinematic viscosity @ 40°C	ASTM D 7279	cSt	94	-	-
Viscosity index	ASTM D 2270	-	148	-	-
CCS viscosity @ -25°C	ASTM D 5293	mPa.s	6600	-	7000
HTHS viscosity @ 150°C	CEC-L-36-A-97	mPa.s	3.8	3.5	-
MRV viscosity @ -30°C	ASTM D4684	mPa.s	-	-	60000
Density	D 20/4	-	0.861	-	-
Poor point	ASTM D 5950	°C	-36	-	-
T.B.N.	ASTM D 2896	Mg KOH/g	11.1	10.1	12.1
Spectrometric analysis	ICP	ppm			
Phosphorus			1000		
Zinc			1100		
Calcium			3630		
Boron			90		
NOACK volatility	ASTM D 5800	% mass	11.5	-	13.0
Color	ASTM D1500	-	4.5	4.0	5.0

### Security

See Safety Data Sheet