

VALCO PL-PROTECT 3.9**Semi-synthetic engine oil 10W-40 E4, E7 HD**

Semi-synthetic engine oil dedicated to heavy-duty engines and public works appliances designed to meet "EURO V" emissions requirements.

It will provide excellent protection against wear and maintain optimal engine cleanliness.

VALCO PL-PROTECT 3.9 has been specially designed to meet requirements of many manufacturers (see performance level below).

It will also be suitable for vehicles for which ACEA E4, E7 or API CI-4 level is recommended.

Specifications

- ✓ ACEA E4, E7
- ✓ API CI-4
- ✓ API CF
- ✓ Daimler DTFR 15B120 (MB 228.5)
- ✓ Daimler DTFR 13D110 (MB 235.28)
- ✓ MAN M3277
- ✓ MTU Type 3
- ✓ Volvo VDS-3
- ✓ Mack EO-N
- ✓ Renault RLD-2
- ✓ Cummins CES 20077/20078
- ✓ Deutz DQC IV-18
- ✓ Scania LDF-3
- ✓ Voith Class B

Physicochemical Characteristics

Characteristics	Method	Unit	Typical value	Min.	Max.
Viscosity grade	SAE J300	-	10W-40	-	-
Kinematic viscosity @ 100°C	ASTM D 7042	cSt	14.3	13.9	16.3
Kinematic viscosity @ 40°C	ASTM D 7042	cSt	95	-	-
Viscosity index	ASTM D 2270	-	156	-	-
CCS viscosity @ -25°C	ASTM D 5293	mPa.s	6000	-	7000
HTHS viscosity @ 150°C	ASTM D 4683	mPa.s	4.0	3.5	-
MRV viscosity @ -30°C	ASTM D 4684	mPa.s	25000	-	60000
Density @ 20°C	ASTM D 7042	-	0.860	-	-
Pour point	ASTM D 97	°C	-46	-	-27
Flash point	ASTM D 92	°C	229	215	-
T.B.N.	ASTM D 2896	mg KOH/g	15.3	13.9	16.7
Sulfated ash	ASTM D 874	% mass	1.6	1.0	1.8
Spectrometric analysis	ICP	ppm			
Phosphorus			1100	-	-
Zinc			1200	350	-
Calcium			4200	-	-
Sulfur			3700	-	-
NOACK volatility	ASTM D 5800	% mass	10.6	-	12.0
Colour	ASTM D 1500	-	3.5	-	5.5

Security

See Safety Data Sheet