



El Mar Mid Ash Heavy Duty

Conoco El Mar Mid Ash Heavy Duty is a high-quality, mid-ash natural gas engine oil formulated from superior-quality base stocks and selected additives to meet the unique service requirements of 4-cycle, high-speed, turbocharged gas engines which demand a mid-ash product. It is particularly effective in natural gas engines and dual-fueled engines operating under high-load, high-temperature conditions. El Mar Mid Ash Heavy Duty is recommended for use in natural gas-fueled cogeneration systems and in other systems subject to corrosive environment such as the engines in landfill operations, production fields operating on sour gas, and wastewater treatment plants fueled by digester gas where the the high-TBN content of the oil provides exceptional acid neutralization capability.

El Mar Mid Ash Heavy Duty is designed specifically for use in Waukesha engines, with extensive experience in the Waukesha VHP GL turbocharged, lean-burn series of engines. It also is recommended for use in other naturally aspirated and moderately to highly turbocharged, 4-cycle engines, such as Cooper Superior (formerly White-Superior), which call for a nominal 1% sulfated ash engine oil. El Mar Mid Ash Heavy Duty meets API CH-4, CF-2 for use in older-generation diesel engines. It has shown excellent field-proven performance in reducing carbon deposits, keeping rings and liners clean, minimizing exhaust valve recession, and eliminating piston deposits that cause harmful ring and liner wear.

Applications

El Mar Mid Ash Heavy Duty Engine Oil is recommended for natural gas engines calling for a nominal 1% sulfated ash, as listed below;

- Waukesha VHP GL turbocharged lean-burn engines
Models 3521
5115
7042
9390
- Cooper Superior (White Superior)

**Mid-Ash Natural
Gas Engine Oil**

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Outstanding Features

- Excellent oxidation/nitration control
- Excellent piston ring groove, combustion chamber and crankcase cleanliness
- Excellent wear protection for pistons, rings, liners and bearings
- Excellent rust and corrosion protection
- High TBN for enhanced acid neutralization
- Excellent low-temperature performance

El Mar Mid Ash Heavy Duty Typical Properties

SAE Grade	30	40	15W-40
Viscosity,			
cSt @ 40°C	88	141	120
cSt @ 100°C	11.2	15.3	15.4
SUS @ 100°F	455	736	619
SUS @ 210°F	64.6	80.9	81.2
Viscosity Index	111	108	137
Ash, Sulfated, ASTM D874, wt %	0.90	0.90	0.90
Pour Point, °C (°F)	-36 (-33)	-30 (-22)	-31 (-24)
Flash Point (COC), °C (°F)	234 (455)	254 (490)	232 (450)
Density, g/cm ³ @ 15.5°C (60°F)	0.878	0.883	0.869
Total Base Number, ASTM D2896	8.0	8.0	8.0
Color, ASTM	3.5	3.5	3.5
High Temperature/High Shear Viscosity, 150°C, cP	3.4	3.9	4.1
Viscosity, Cold Cranking (CCS), cP @ °C	—	—	5,500 (-20)
Phosphorus, ppm	1100	1100	1100
Zinc, ppm	1240	1240	1240

Due to continual product research and development, the information contained herein is subject to change without notification.

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