

Marine engine analysis



Energy lives here

Designed to help increase the reliability of your engines by accurately analyzing your lubrication needs and lowering maintenance costs.

Programme features

Mobil ServSM Lubricant Analysis features a suite of engine lubricant analysis tests designed to monitor and help you take corrective action to protect your engine.

Application	Test	Purpose
Low-speed	Mobil Serv Cylinder Condition Monitoring	Helps to proactively monitor for engine wear, mitigate cold corrosion and optimize feed rates through a comprehensive program
Medium-speed using residual fuels	Detecting Asphaltene Contamination	Provides early insights into the presence of contaminants and asphaltenes, monitors lubricant condition and recommends corrective action
High-speed	Mobil Serv Lubricant Analysis	Delivers insights into engine and lubricant condition, allowing early corrective action. May help extend drain intervals, decrease oil usage and waste disposal.

Engine analysis

	Tests			
Viscosity				
Water Vol % Fourier transform infrared spectroscopy (FTIR)				
Oxidation				
Total Acid Number (TAN)				
Total Base Number (TBN)				
Soot				
Fuel Dilution	С			
Metals				
DAC				

Potential benefits Mobil Serv Lubricant Analysis can help:		
1 Prolong marine engine life		
2 Improve equipment reliability		
3 Reduce total operating costs		
4 Lower lubricant consumption		

Mobil ServsM Lubricant Analysis — Engine analysis

The engine analysis offered through Mobil ServSM Lubricant Analysis can help enhance equipment reliability by detecting problems before they occur, which can minimise operating costs and increase productivity.

Test	Ригроѕе	Importance of test
Fuel Dilution (medium & high speed engines)	To measure the amount of unburned fuel that goes to the crankcase. Provided only when viscosity receives 'low caution' result.	The presence of distillate fuel in the crankcase reduces oil viscosity and weakens detergency. Excessive amounts may indicate potential mechanical problems
Metals	To determine the presence and levels of metallic content in the oil, including contaminants and wear particles	The level of wear metals helps determine if equipment components are wearing or if harmful contamination has entered the oil. The level of metals that are part of the additive chemistry is also reported
Oxidation	To determine the level of lubricant oxidation and deterioration	Oxidation can mean: Increased wear and corrosion Shorter equipment life Increased viscosity Excessive deposits and plugging
Soot	To determine the soot content in an oil by percentage weight	Excessive soot contamination may mean: Decreased engine performance Reduced fuel economy Excessive deposits and sludge Shorter oil life High blowby
Total Acid Number (TAN)	To measure acidic oil oxidation by-products	An elevated Total Acid Number may indicate increased oil acidity resulting from increased oil oxidation
Total Base Number (TBN)	To determine the reserve alkalinity of the oil used to neutralise the formation of acids	 A decrease in TBN may be indicative of: Oil degradation caused by rapid acid formation due to changing fuel characteristics or a high rate of oil oxidation Decreased acid-neutralising reserve
Viscosity	To determine the oil's resistance to flow	 An increase in viscosity may be due to high soot or insoluble content, water contamination, or admixture with higher viscosity fuel or lubricant A decrease in viscosity may be due to water contamination, or admixture with lower viscosity fuel or lubricant Both high or low viscosity may result in premature equipment wear
Water	To detect presence of water contamination	Water contamination may cause severe corrosion and subsequent wear or poor oil film thickness
Detect Asphaltenes Contamination (DAC)	To detect heavy fuel ingress	Excessive asphaltenes can affect engine and lubricant performance. These issues can lead to: • Piston undercrown deposits • Crankcase deposits

Why Mobil Serv Lubricant Analysis?

Mobil ServSM Lubricant Analysis streamlines the entire used oil analysis process, from initial sample gathering to final reporting, as the mobile-enabled platform eliminates the need for paperwork, improving equipment and operational efficiency.

Through this service, marine customers will acquire crucial information that can help enhance efficiency, protect engines and equipment, increase reliability and lower maintenance costs.



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