DIESEL FUEL TESTING SERVICES

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WHY SHOULD DIESEL FUEL BE TESTED?

Diesel fuel degrades over time due to oxidation, contamination (e.g. water), and microbial growth. As it degrades, insoluble particulates and sludge accumulate, which can clog fuel filters and foul diesel engine injectors leading to, at best, poor performance or, at worst, catastrophic fuel system damage.

For these reasons, both NFPA 25 (fire pumps) and NFPA 110 (emergency generators) require annual testing of diesel fuel.

LAB TESTING

NFPA 25 states that fuel degradation testing shall include the fuel quality testing for stored fuel as specified in the applicable ASTM. Each of these standards contains an appendix that recommends tests for fuel quality and fuel monitoring. Our laboratory performs the following tests:

- Oxidation Stability (EN 15751)
- Water and Sediment (ASTM D2709)
- Acid Number (ASTM D664)

WHY TEST WITH DYNE?

- Test reports in 5-business days or less (rush 24 hour turn-around available)
- Free Diesel Fuel sample kits
- Free shipping within the contiguous United States (limited free 1-way shipping to Alaska, Hawaii, Puerto Rico, and Canada, inquire for details)
- Comprehensive reports and tank tags
- Online access to results and return forms
- Immediate communication with our quality technician or customer service staff

RELEVANT STANDARDS

- **NFPA 25** Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
  - **2026 Edition Section 8.3.4.1**
- NFPA 110 Standard for Emergency and Standby Power Systems
  - **2025 Edition Section 8.3.7**

SAMPLE TEST KITS

- Each kit contains two 500mL sample containers wrapped in absorbent pads, paperwork, and a permanent marker.
- UPS Ground shipping to you is included as well as return labels (UPS/USPS) that can be used within the contiguous United States (limited 1-way free shipping to Alaska, Hawaii, and Canada, inquire for details.)



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TEST	EXPLANATION
Oxidation Stability	Thermal stability of diesel fuel is its ability to resist degradation when exposed to high temperatures. The ultra-low sulfur (S15) diesel required today in the US is much more thermally stable than fuels of the past. For this reason, and the growing biodiesel market, a measure of oxidation stability - the diesel fuel's ability to resist degradation when exposed to oxygen- is recommended instead.
Water & Sediment	Contamination in fuel can be significantly reduced just by keeping storage tanks free of water (regularly draining accumulated water). Appreciable amounts of water can cause corrosion of tanks and equipment and support microbiological growth at the fuel-water interface in the fuel tank. Appreciable amounts of sediment can obstruct flow and clog fuel filters.
Acid Number	According to ASTM D6751, the acid value of biodiesel is one of the first property changes to occur as it degrades. It can accelerate fuel degradation, leading to increased deposits, as well as corrode tanks/equipment. Therefore, both ASTM D6751 and ASTM D7467 agree that a conscientious fuel monitoring program should include this analysis.

WHEN DIESEL FUEL FAILS

8.3.4.2 If diesel fuel is found to be deficient…the fuel shall be reconditioned or replaced, the supply tank shall be cleaned internally, and the engine fuel filter(s) shall be changed.

8.3.4.2.1 After the restoration of the fuel and tank…the fuel shall be retested every 6 months until experience indicates the fuel can be stored for a minimum of 1 year without degradation beyond that [which is] allowed.