

Antifreeze Solution Testing Services



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Service Information

Introduction

Dyne Technologies is an independent compliance testing laboratory which has provided the fire and safety industry with testing services since 1999. Our mission is twofold – to provide quality, accurate and precise test results and to do so using a system that makes testing easy for our customers.

Remove the liability of field testing errors by allowing an independent laboratory to test your antifreeze solutions. Field refractometers can work for field testing but only if you are absolutely sure of the type of antifreeze chemical that has been added to the system.

NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems Section A.5.3.4 warns “Many refractometers are calibrated for a single type of antifreeze solution and will not provide accurate readings for other types of solutions”.

Our laboratory testing provides a full range of tests including verifying a maximum freeze point of the solution so you can be assured the system will operate at low temperatures.

Turn-key System

Our goal at Dyne is to provide you with a worry-free system for meeting your antifreeze solution testing requirements. Our system includes:

- Free test kits with postage-paid shipping labels (USPS or UPS) for standard NFPA 25 testing
- Results guaranteed in one week or less
- 24-hour expedited turn around available upon request
- Technical experts to answer your antifreeze solution questions
- Results archived and available via a phone call during business hours, or through our secure web site 24-hours a day
- Tags to attach to your system stating type of antifreeze solution and date tested
- Free reminder when it is time to test again
- A freeze-point measurement to be absolutely assured of performance at low temperatures

Laboratory

Our laboratory uses industry standards to test your antifreeze solution to make sure it will perform effectively in a fire situation. We will test your antifreeze solution in accordance with NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

Certifications

Dyne Technologies has been certified as meeting the requirements of the International Standards Organization ISO 9001:2008 Standards for Quality Management System—Certificate US04/33839 and operates in accordance with ISO-17025 “General Requirements for the Competence of Testing and Calibration Laboratories”.

Contact

To order your free antifreeze solution test kits, please call (800) 632-2304 or email lab@dyneusa.com



“NFPA 25 Section 5.3.4 (2011) states that the freezing point of solutions shall be tested annually... for industrial and residential fire sprinkler systems.”





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Antifreeze solution testing is recommended by the National Fire Protection Association Standard 25 – Inspection, Testing, and Maintenance of Water-based Fire Protection Systems.

- **Section, 5.3.4 titled Antifreeze Systems states:** “The freezing point of solutions in antifreeze shall be tested annually by measuring the specific gravity with a hydrometer or refractometer and adjusting the solutions if necessary.”
- **Section 5.3.4 states:** “The antifreeze solution shall be tested at its most remote portion and where it interfaces with the wet pipe system.” And “When antifreeze systems have a capacity larger than 150 gal (568 L), tests at one additional point for every 100 gal (379 L) shall be made.”

Tests Conducted	Test Type	Purpose
Appearance	Physical Property	Analyzed for color, apparent thickness, and any sediment or particulates.
Refractive Index	Physical Property	Provides an indication of the concentration of the propylene glycol, ethylene glycol or glycerine in water.
Density (Specific Gravity) Hydrometer (g/cm ³)	Physical Property	Provides an indication of the concentration of the propylene glycol, ethylene glycol or glycerine in water.
pH	Physical Property	Indicates the degree of degradation of the solution and its likelihood to degrade the piping.
Percent Concentration (% by weight/ % by volume)	Performance	A calculated value based upon the refractive index and density of a sample. This value will be reported as percent by weight and percent by volume. Note: it is important to distinguish between the % by volume and % by weight as they can be different and affect the freeze point.
Estimated Freeze Point (°F/°C)	Performance	A calculated value based upon the percent concentration. This value is determined by chemical studies with specific types of antifreeze. Values will be reported in degrees Fahrenheit and Celsius.
Freeze Point Test (°F/°C)	Performance	An actual freeze point test of the antifreeze solution. This test verifies that the solution will not freeze at a given temperature and is an absolute assurance of the system performance at this temperature.
Overall Pass/Fail Result	Overall Result	The overall result will be determined with a clear recommendation for continued use or replacement.