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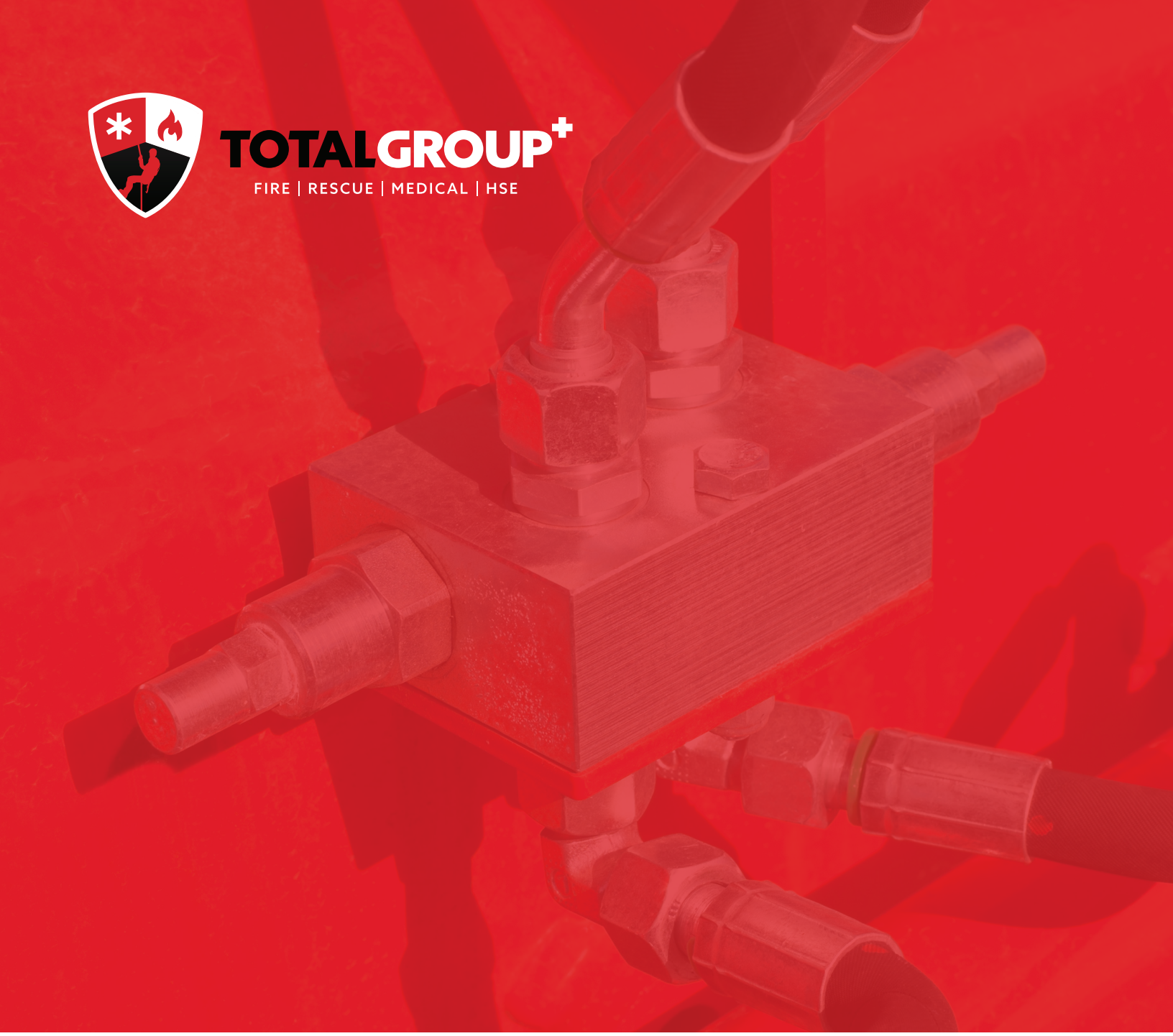

PLANIT SAFE

CLEAN APPROACH TO FOAM SYSTEM TESTING

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PLANIT SAFE – CLEAN APPROACH TO FOAM SYSTEM TESTING

At Total Fire Solutions, we are committed to the inspection and testing of Foam Fire Protection Systems in environmentally friendly manner. With recent changes in our industry, and the concern of the environmental impact testing may have due to the persistence of fluorochemical containing foams, many facilities are searching for a alternative means to test and insure their Foam Fire Protection Systems are functioning as designed.

FOAM SYSTEM TESTING ISSUES

Since foam testing is not permitted to be completed in a free release manner, a means of containment, cleanup and disposal of foam solution is required to complete a full function (proportion) test. Typically, when reviewing foam concentrate SDS', the approved means for disposal is by high heat incineration only. With this comes significant additional costs, and environmental liability that facility owners want no part of.

In addition, to perform this testing the raw foam concentrate is required to perform a successful proportion test. Depending on the system demand, this could result in anywhere between 100 and 300 USG of your foam supply being depleted for testing (given multiple tests are not required to dial in the required injection rate). Not only would this add additional cost for replenishing your foam supply, but with the transition from Legacy and C6 foam formulations to a more environmentally conscious non-fluorinated foam, there is a chance that your foam may no longer be available from the manufacturer. This typically results in the entire foam supply requiring disposal via high heat incineration, complete cleaning of your foam system, and purchase of a new non-fluorinated foam.

PLANIT SAFE SOLUTION

The Planit Safe Testing Method provides an environmentally acceptable means of testing foam systems using surrogate liquids. This system employs proven conductivity methods for injection rate measurement using environmental friendly biodegradable, non-foaming surrogate test liquid. This foam solution is cost effective to dispose of as it can be disposed of in onsite water treatment facilities, waste water facilities or even dumped on the ground should you choose to.

This system consistets of:

- Electronic real time data acquisition test kit
- Assortment of electronic flow and conductivity meters, pressure transducers
- Portable bladder tank
- Required hose, fittings, adapters and materials to tie into you system
- Planit Safe environmentally friendly surrogate liquid

These components paired with our certified Fire Systems Technicians will ensure your system is ready for any emergency!

SURROGATE LIQUID

The Planit Safe test liquids are specifically formulated to be environmentally clean and contain no ingredients reportable under SARA Title III (Super find Ammendments & Reauthorization Act), Section 313 of CFR 372 or CERCLA (Comprehensive Environmental Response & Liability Act).

- The surrogate liquid mimics the physical properties and flow behaviour of the foam concentrate being used in the system (AFFF and even viscus AR-AFFF types).
- Low BOD (Biological Oxygen Demand) - high BOD can cause “shock loading” upset at the water treatment facility
- Low COD (Chemical Oxygen Demand) - requiring little dissolved oxygen to breakdown the liquid to its complete oxidized state
- SDS provided for surrogate liquid with published BOD and COD values (values used to determine if acceptable for water treatment facility disposal)

AFFF vs Planit Safe Solution

	Typical 3% AFFF Foam Solution	Planit Safe 3% AFFF Test Solution
BOD	8,750 mg/kg	18 mg/kg
COD	12,000 mg/kg	238 mg/kg

AR-AFFF vs Planit Safe Solution

	Typical 3% AR-AFFF Foam Solution	Planit Safe 3% AR- AFFF Test Solution
BOD	2,745 mg/kg	118 mg/kg
COD	8,700 mg/kg	513 mg/kg

REGULATORY REQUIREMENTS

The Planit Safe testing program has been awarded **FM Global Certification** for new system commissioning and/ or testing existing foam system installations as well as its method is recommended by NFPA as a means for testing foam fire suppression systems.

D.5.2 Tests Using Alternative Listed Approved Methods.

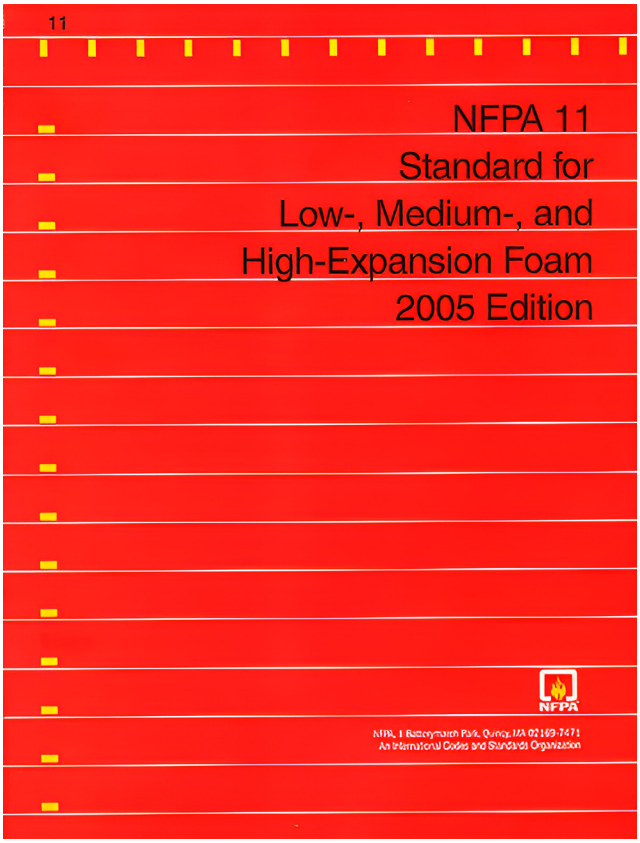
D.5.2.1 General. Foam injection rate testing can now be performed using surrogate, non foaming, environmentally acceptable, test liquids in lieu of foam discharge, or water as a surrogate for the foam concentrate. Both methods have advantages and disadvantages, but both serve to reduce the need to discharge foam concentrate. It is recommended that system proportion verification discharge tests be performed at the actual demand of the system, and at the lowest possible actual demand flow.

Both methods employ portable data acquisition instrumentation and software to enable fast, real-time data monitoring and recording. Typically measurements include conductivity (translates to percent injection rate) of the proportioned solution stream, system flow rate, and several pressures on the proportion system. Conductivity and flow are measured by means of in line electronic instrumentation installed in flow meters that are placed on the test outlet side of the proportioning system. Pressure transducers are installed temporarily at strategic locations where measurements are desired.

D.5.2.2 Surrogate Liquid Test Method. In this approach, surrogate test liquids are formulated specifically to simulate the flow behaviour (viscosity characteristics) and approximate conductivity or refractive index of the foam concentrate used in the system.

NFPA 11 - Standard for Low, Medium, and High Expansion Foam 2016 Edition Annex D.5 provides testing guidelines describing the use of surrogate non-foaming liquid in lieu of foam discharge.

NFPA 11, 16, 25 and 409 foam related standards all allow for the use of conductivity measurement to determine foam concentrate injection rates.



APPLICATION

With multiple testing configurations available, Total Fire Solutions is capable of performing Planit Safe Proportion Testing on bladder tank systems, balanced pressure systems, inductor grate nozzle type systems, high expansion foam systems, variable range proportioner systems with multiple risers and heliport foam nozzle systems. Industry applications include:

- Military and international aircraft hangers and facilites
- Chemical production and paint plant
- Commercial applications where flammable liquids are presents
- Warehouse facilities
- Bulk fuel storage and handling facilities
- Truck and rail loading facilities

AVAILABILITY

As the surrogate liquid is produced to match viscosity and performance properties in your foam, 4-6 weeks lead time is required to have a batch produced for your test program.

CONNECT WITH US FOR A CUSTOM QUOTE

Get expert insight and transparent pricing—no obligations. Let us help you plan a compliant, cost-effective testing approach best fit for you.

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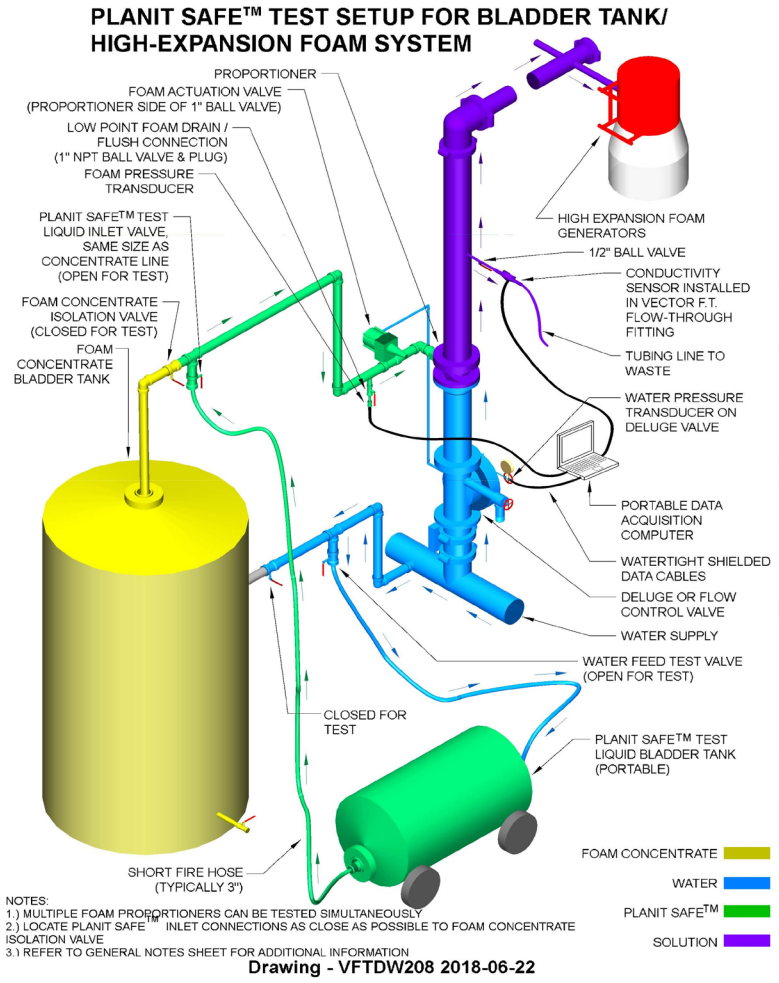
info@totalgroup.ca

TYPICAL PLANET SAFE TESTING CONFIGURATION



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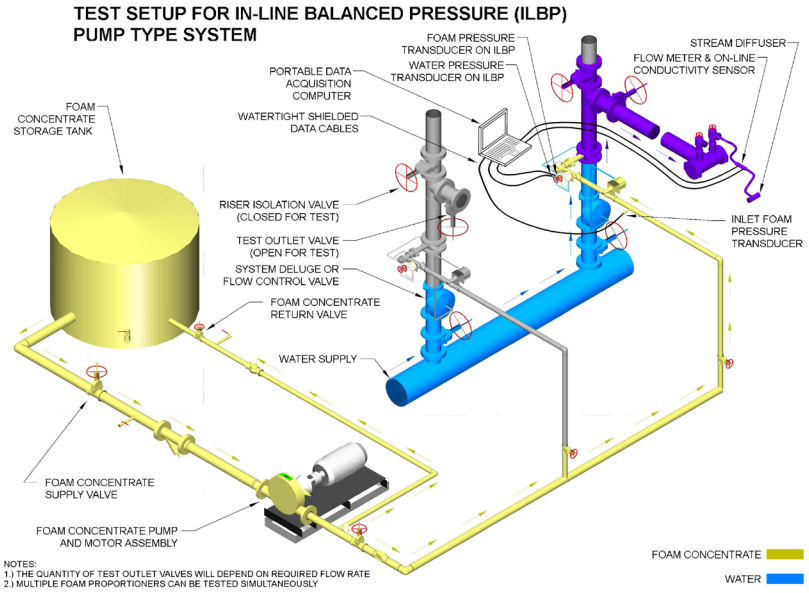

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