

Date: September 09, 2025

Subject: RELY P2.5SFFF Additional Class “B” Fuel Fire Testing

Numerical fire ratings on portable fire extinguishers have evolved since the late 1800s. However, it was not until 1965 when the first edition of the UL-711 fire testing standard was introduced and recognized by the NFPA-10 Portable Fire Extinguisher Standard, that a live fire testing standard generated and established the uniform class “A” and “B” industry numerical ratings that currently exist. The UL-711 standard identifies the various live fire test conditions necessary to earn and bear the numerical fire ratings observed on properly listed and labeled fire extinguishers for compliance with applicable codes. For consistency in testing, the “Class B” fire test rating system is based on the utilization of only Heptane, a hydrocarbon fuel.

The use of only one fuel ensures similar fire pre-burn and extinguishment conditions are present during official fire tests for consistency in evaluating different types of extinguishing agents and hardware configurations. However, liquid fires that happen in the real world often involve different Class B fuels. To evaluate our new Synthetic Fluorine-Free Foam (SFFF) agent, RELY FX™ conducted additional fire tests based on the Department of Defense Performance Specification MIL-PRF-32725 (January 2023).

Testing was conducted using a round 28 sq. ft. pan, controlled pre-burns, and five gallons of fuel to represent the most common potential fuel spill scenarios found in NFPA-10 for both "light" and "ordinary" occupancies. It also simulates an incipient fire scenario where novice users can operate a 2.5-gallon foam extinguisher safely without specialized training or protective gear. These tests were conducted under controlled, indoor, no-wind conditions and observed by various industry representatives in 2024. Videos of the tests are available on the RELY website (www.RelyFX.com) under the "Additional RELY SFFF Foam Class 'B' Fuel Fire Tests" link.

Fuel Used	Pan Shape/Size	Fuel Amount	Pre-Burn Time (sec)	Extinguish Time (sec)
Heptane (UL-711 Test)	Square 25 sq. ft.	31 gal	60	38
#1 Diesel Fuel	Round 28 sq. ft.	5 gal	15	19
#2 Diesel Fuel	Round 28 sq. ft.	5 gal	15	15
Jet-A Fuel	Round 28 sq. ft.	5 gal	15	23
100 Octane Avgas	Round 28 sq. ft.	5 gal	15	69
91 Octane Unleaded	Round 28 sq. ft.	5 gal	15	59
87 Octane Unleaded	Round 28 sq. ft.	5 gal	15	48
E85 Octane Unleaded	Round 28 sq. ft.	5 gal	15	62
Navy Hydraulic Fluid (hydrocarbon)	Round 28 sq. ft.	5 gal	30	9
Navy Hydraulic Fluid (synthetic)	Round 28 sq. ft.	5 gal	30	19
Ethyl Alcohol (polar solvent)	Round 28 sq. ft.	1 gal	30	22

RELY FX™ Model P2.5SFFF 2.5 Gal Fluorine-Free Foam	
UL/ULC/USCG Rating:	2-A:10-B
Discharge Range:	10-25 feet
Discharge Duration:	63 seconds
Typically Observed Total Foam Agent Discharge:	65-75 sec

NOTE: The above fire test information reflects the initial in-house testing conducted by the manufacture to determine the subject new foam extinguisher models potential extinguishment capabilities, under the conditions identified. It is only intended to help show and address some of the basic customer related questions and concerns regarding its ability to potentially address other common types of class “B” liquid fuels. RELY recommends users consult and refer to the specific fire extinguishing agent recommendations contained within the applicable fuel supplier’s SDS information.