



Fire Department

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Mr. Jay D'Alba
Fuel Safe Technologies
1389 Queen Emma St.
Honolulu, HI 96813

Dear Jay:

I would like to report to you the findings of tests done with your F500 product in Reno.

The tests were conducted at the University of Nevada Fire Protection Training Academy in the Stead - Reno area, Nevada. We used a Reno Fire Department pumper equipped with a Class A foam proportioner and an Elkhart inline foam eductor and 95 GPM matching nozzle.

The idea behind the tests were to compare Class A foam and F500 in different controlled burn fire scenarios. To accomplish this, we created several different burn models containing combinations of wooden pallets and rubber tires.

TEST #1:

Wooden pallets only, arranged in an 'A' frame model with two (2) pallets as a base and two (2) pallets on each side in a triangular setting. Two (2) of these models were placed approximately eight (8) feet apart with two (2) pallets placed in an 'A' between the models to serve as an exposure. The models were doused with a flammable liquid provided by the Fire Academy and lighted. No flammable liquid was used on the exposure, but it had been pre-treated with F500 to determine how long the product would protect the exposure from ignition. This time would be compared to the Class A pre-treatment of the exposure.

The models were lit and allowed to burn until all the wood was ignited. The time elapsed from ignition until the exposure lit was measured for comparison.

After the exposure lit, one 'A' frame side was extinguished using F500 and the other side was extinguished using Class A foam. The application of both products was stopped immediately after the visible flame was extinguished. This was done in order to establish a comparative rekindle analysis.

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The findings were as follows: The F500 model went out almost immediately and the Class A model closely followed. The exposure smoked, but did not light readily. Only one (1) area at the base nearest to the fuel model burned, but poorly. Flame spread did not occur and vapors did not flash across the face of the exposure. One corner of the F500 model rekindled, burned poorly and did not spread the flames. The Class A model rekindled in 1/3 the time of the F500 model, burned well, and spread the flames across the face of the model.

TEST #2:

The two (2) 'A' frame models and the exposure model were recreated using new pallets and the tests were duplicated with the exception of pre-treating the exposure with Class A foam. The results were exact duplicates as far as extinguishment was concerned. The major difference was the exposure model. It ignited in 1/3 the time of the F500 exposure and it burned readily, with rapid flame spread across the face of the exposure.

TEST #3:

One (1) 'A' frame model was created, fueled and lighted with extinguishment attempted by using a pressurized five (5) gallon water filled extinguisher with a 3% F500 addition. It put the fire out and we had no rekindle.

TEST #4:

'A' frames were again created with an addition of rubber tires throughout the models. The exposure model remained the same. The same fuel was used for ignition and the same products were used for extinguishment. The results were as follows: The F500 model went out in only a slightly longer period than the original test. The Class A model took 2 ½ times longer to significantly knock down the fire compared to the results of the original test! In addition, it rekindled almost immediately and free burned. The F500 model burned slightly in an area protected from application of product. It did not rekindle. The exposure analysis was almost an exact copy of the original burn with one (1) exception; the Class A treated exposure caught fire more quickly than in the first test because of the additional heat from the rubber tires. Of interest in the test, we could actually touch the extinguished fuels in the F500 model almost immediately following extinguishment. The Class A model remained hot and burst back into flames quickly.

TEST #5:

A stack of rubber tires was placed on top of two (2) pallets and ignited with a flammable liquid. It was allowed to burn freely and then extinguishment was attempted using two (2) pressurized five (5) gallon water extinguishers with a 3% addition of F500. The fire was very hot and the two (2) extinguishers knocked the fire down significantly, but a third extinguisher was required to complete the job. The model did not rekindle and was cool to the touch almost immediately. Class A foam was not used in this test model due to the poor performance in the combination pallet and tire fires.

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TEST #6:

A small fuel fire was created using a 10 square foot pan and several gallons of flammable liquid. One (1) pressurized five (5) gallon water extinguisher with 3% F500 added was used for controlling the fire. The fire was allowed to burn freely before application of the agent. When the extinguisher was applied, the fire went out within seconds. Attempts to relight the fuel were not only impossible, but also succeeded in preventing our torch from being relit. We accidentally stuck the head of the torch into the fuel and F500 mixture and were unable to reignite it.

This concluded our test of your product. Following the tests, I observed that we used approximately 1/2 to 3/4 gallon of your product, total for all the tests combined.

I would like to have compared your product and a CAFS foam delivery system. However, the Reno Fire Department doesn't own such a vehicle or system.

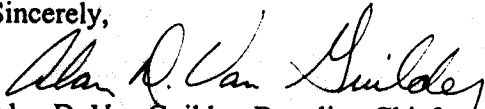
I must admit that I was amazed by your product. The closest analogy that I can make is the advent of AAAF over protein foam. I couldn't believe that, at the time.

I envision many varied uses for your product in the fire service, limited only by the imagination of the manufacturer and the users.

I'm currently planning to use your product in a controlled fire scenario involving interior fire attack. Additionally, I'm trying to recreate a sign fire scenario involving plastics, foam products and other flammable products. This is significant because of a recent sign fire in Reno that made the national news.

I would like to thank you for the use of your product and also thank the University of Nevada Fire Protection and Training Academy and Director John M. Seeck.

Sincerely,



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