

**CASE STUDY: AVIATION FIRE SAFETY**

Schiphol Airport Transitions to Fluorine-Free Foams

Challenge

Maintaining firefighting performance level when transitioning from AFFF to fluorine-free foam

Solution:

Perimeter Solutions' SOLBERG® RE-HEALING™ RF 3x6% ATC™ Foam Concentrate

Fire Safety System

The fire brigade at Schiphol Airport in Amsterdam must be ready to provide at least 7,900 liters of water and foam per minute in order to battle any major fire that breaks out on the property. With six operational runways, it's a big task, and to handle it, the airport employs 150 firefighters and has three fire stations on the property. In the event of a fire, the team must be at the scene within three minutes after the alarm rings to put out 90 percent of a fire within 60 seconds after arrival at the incident.

Active fires are not a frequent occurrence at the airport, but in 2016 the airport was modernizing their operations and they were also prompted to update their fire safety system due to new regulations introduced by the European Union to reduce or eliminate the use of certain C8 from firefighting foams.

"The fire brigade of Schiphol needed to upgrade to provide sustainable firefighting performance with their trucks. They have the ambition to become the world's most sustainable hub airport. That being said, they also needed to achieve the same performance they had with their existing foam, and that is why it was so important to select the right SFFF [synthetic fluorine-free foam] for the transition. There are huge stakes at the airport if one of our trucks doesn't perform well. For the fire brigade of Schiphol it's literally a matter of life and death," according to Hans Harding, manager of the department Risk management and Operations.

Moving from their existing aqueous film forming foam (AFFF) system to SFFF would not be simple. Schiphol stores 13,000 liters

of water and 1,600 liters of foam on each of its trucks. Schiphol also used a 3% AFFF solution, but with jets now using fuel with alcohol, they needed foam with more resistance that could support two tanks of water and wanted to move to an alcohol-resistant concentrate.

Firefighting Foam Selection

The team at Schiphol conducted research on the SFFF market to find the top players, and then asked providers to discuss the features of the products they offered. Perimeter Solutions and its SOLBERG® RE-HEALING™ fluorine-free fighting foam (RF3x6) was ultimately selected. SOLBERG RE-HEALING RF3x6 is a sustainable, fluorosurfactant and fluoropolymer-free foam concentrate that is used to extinguish Class B fuels, developed specifically to replace traditional AFFF and alcohol resistant AFFF (AR-AFFF) concentrates, like those previously used at Schiphol Airport.

For the job, the fire brigade of Schiphol had purchased the best firetrucks in the world and the best fluorine-free foam. The trucks and the foam work great on their own, but getting them to work together effectively takes time. The fire brigade had to figure out which nozzle was the best to use, the best mixing system to use for the foam; there were a lot of little issues, but now it's ready and they are able to adjust.

Conclusion

Schiphol Airport's firefighters are put through a rigorous training regiment to ensure that they are ready if a fire were to start. The fire brigade of Schiphol organized ten training sessions over three days, and each day they used 1,000 liters of foam.

In one exercise, the firefighters put flames out as they drive in one of their trucks, and then they must exit the vehicle while it's moving to extinguish the fire with the hose because the fire can sometimes reignite. While testing the SOLBERG RE-HEALING RF3x6 foam concentrate, the foam worked and extinguished all the flames before the firefighters jumped off the vehicle. The RF3x6 foam concentrate made it easy to put out the fire and made the exercise a lot easier than planned for the crew.

While making the transition, the Schiphol team learned some lessons along the way. First, it was important for them to regularly conduct large-scale testing. Because it's not possible for them at Schiphol they do this in locations where it's possible to do the exercises with no possibility to harm the environment to conduct it, so that you can work out all the kinks and learn how SFFF will work most effectively with your equipment.

Harding says it is also imperative to have a good working relationship with your supplier, and to have an open line of communications with them, so that everyone can share their own experience and knowledge of the products.

If you have any questions about transitioning to fluorine-free firefighting foam in aviation environments, contact your Perimeter Solutions representative.



Perimeter Solutions technical personnel went onsite to Schiphol Airport and worked with ARFF truck manufacturer OSHKOSH and airport personnel to test SOLBERG RE-HEALING RF-3 in existing equipment.



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FOR MORE INFORMATION

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