

What a Finnish State Academy Proved That UL, EPA, NFPA, CEN and ISO Certificates Do Not

346 major tank fires over thirty years. Not one suppressed by a fixed system. One public test the industry will not repeat.



State Fire Academy of Finland (Pelastusopisto), Korvaharju, Kuopio · 26 March 2025. Test of a certified condensed-aerosol fire-suppression product, carried out by accredited atmospheric-safety specialists under academy supervision.

The Ultimate Certifier of Any Technology Is the User. With One Exception.

In medicine, the patient either rises from the bed or is carried out. In aviation, the aircraft either lands and the passengers telephone home, or it does not, and a commission retrieves the black box. In a car, a person either arrives in comfort, or crashes, or never leaves the garage at all. A telephone either lasts the day or burns the hand and dies in two hours. A program either opens in a second or consumes all available memory and freezes. A refrigerator either keeps food cold, or in a week reduces its contents to refuse.

In every one of these fields, the same certifier is at work. The supreme one, the billion-headed one, the one that cannot be bribed. It is the user. Each time the user enters a vehicle, opens an application, or lies down on an operating table, an act of certification takes place. A vote cast in currency, in time, and in extreme cases, in a life. Paper certificates, government approvals, and corporate marks exist alongside this vote. They assist the user in making decisions. They do not exist in the user's place.

The fire-safety industry is the only engineering discipline in which the principal certifier is absent.

A fire is a rare and catastrophic event. A user does not try several different fire-suppression systems the way one tries several telephones. The user learns of the failure of his system once. By that time, it is too late. Between the user and the reality of the technology stand only paper certificates. And in an industry in which the principal voter does not vote, the paper certificate becomes the sole criterion. Not proof — compliance with a piece of paper issued by a non-governmental company. Not result — a classified and inaccessible test procedure, the very fact of which is itself classified.

What This Has Produced

346 major tank fires over thirty years. Not one suppressed by a fixed system. Sources: Chang and Lin (2006), 242 incidents; Ahmadi et al. (2020), 104 incidents; the LASTFIRE Joint Industry Project (Shell, BP, ExxonMobil, Total and others, data from 1997 onward).

The physics is straightforward. Foam is stable up to 147 °C; the burning surface of a hydrocarbon is approximately 350 °C. Increasing the application rate does not address the problem.

Fujairah, March 2026: three drone and cruise-missile strikes within fifteen days. The Asia–Europe international terminal at Tuapse, Russia: two drone strikes; a total catastrophe, burning at this very moment for many days. Fixed foam systems installed in accordance with NFPA and API were in place at every facility. All certificates were in order. The fires were not contained. The same record at Mina al-Ahmadi. At Salalah. In Ukraine. In Russia. At facilities built correctly — but to standards that contain no requirement to demonstrate whether the system extinguishes a fire or not. Nowhere in the world does a confirmatory test tank exist.

What Happened When Certification Was Subjected to a Test of Reality

On 26 March 2025, at the State Fire Academy of Finland — Pelastusopisto, under the Ministry of the Interior — a sample of a fire-suppression product manufactured by a leading global producer of condensed-aerosol systems was activated. The product carried certifications from UL, EPA SNAP, Kiwa, BSI, TÜV and others. The sample was acquired on the open commercial market in Finland. The instruments were accredited and calibrated to European Union standards. An independent body of safety control, accredited by the State — a structure that exists in every country — performed the work. A complete protocol, with measurements, was issued.

What the protocol established:

- **Carbon monoxide.** The threshold immediately dangerous to life and health (NIOSH IDLH) was exceeded by a factor of 6.7. In a clean chamber, with no fire.
- **Nitric oxide** — by a factor of 9.6. Again, with no fire. When fire was introduced, the gas analyser failed. The concentrations exceeded the instrument's measuring capacity.
- **Oxygen** fell to 18 per cent. At the limit permitted under Finnish occupational-safety norms.
- **Aerosol dust** — between 140 and 720 times the workplace-exposure limit.

This is a certified product manufactured by the global market leader, holding certifications under five separate professional standards. According to data published by the regional FirePro distributor — AESCO L.L.C — a product of this same class is installed in the oxygen storage and distribution rooms of nine hospitals.

The Finnish Test Is the Mildest Evidence on Record

Everything stated above is corroborated, and substantially exceeded in severity, by formal physical tests carried out by four governmental institutions on three continents, and by a private engineering review published by one of the world's largest insurers. All of these documents are in the public domain. None of the manufacturers — and none of the regulators — has chosen to see them.

- **United States.** Explosives Test Center Report 2020040, dated 4 March 2020, prepared under contract with PHMSA / U.S. Department of Transportation.
- **United States.** US Army / Naval Surface Warfare Center, condensed-aerosol assessment.
- **Canada.** Defence Research and Development Canada / University of Waterloo (2014), with the Royal Canadian Navy.
- **United Kingdom.** HSE Science and Research Centre test report of 1 September 2020, incorporated into MAIB Investigation Report 9/2023.
- **South Africa.** TGC Engineering Report 1225380, dated 4 October 2018, commissioned by Transnet Port Terminal Saldanha.
- **Allianz Global Corporate & Specialty — Allianz Risk Consulting, Tech Talk Volume 15:** Condensed Aerosol Fire Extinguishing Systems.

Five government tests on three continents. One published assessment by a global insurer. Every figure recorded in those documents is harsher than the figures recorded in the Finnish chamber. Every report is signed and authenticated by its issuing authority. **Not one manufacturer, and not one certifying body, treats them as existing.**

The Cost

In November 2019, in the United Kingdom, a man died after the activation of a generator of the same class within a confined space. MAIB Report No. 9/2023. On 14 March 2016, in Thailand, eight deaths occurred in connected circumstances.

Part 2 of EN 15276 — the mandatory toxicological safety testing — was not satisfied by this product. Nor has any other product of this class ever satisfied it. The certificate is issued solely on the basis of Part 1.

Certificate UL-EU-01339-EN, re-issued on 22 July 2025 (Issue No. 2), carries the following formulation, verbatim:

"This certification relates only to the product, as detailed in EN 15276-1, prior to installation."

That is, the certification extends solely to the product before installation. Installation, operation, and maintenance of the system have been placed by the certificate itself outside of its zone of responsibility.

The certificate does not confirm the functioning of the system under real conditions of use.

It is no different from saying that the anaesthetic is effective up to the moment of the injection — and that thereafter, the matter becomes the patient's problem.

Official investigations are now under way in six jurisdictions: the MCA of the United Kingdom, the HSE of the United Kingdom, BAM of Germany, the European Accreditation, DG GROW of the

European Commission, and the EPA of the United States. In April 2026, the United States Securities and Exchange Commission joined the proceedings.

The Single Public Test in the World

The Pelastusopisto protocol of 26 March 2025 was carried out by accredited atmospheric-safety specialists, on instruments accredited for that purpose, under the supervision of professors of the State Fire Academy of Finland.

To this date, no manufacturer has produced a public protocol of a comparable test, with open measurements, performed by an independent governmental body. **No such publications exist in the public domain.**

A Direct Challenge to Manufacturers

To manufacturers of condensed-aerosol fire suppressants. Take any sample of your own product. Summon the nearest mobile air-monitoring brigade — a State-accredited independent service that exists in every country and in every city. If you do not know where to find one, name your city and country, and I will send the telephone number of the brigade nearest to your office. Carry out the toxicological-safety test. Publish the complete protocol, without abridgement. The result is foreseeable.

The same applies to the testing of fixed suppression systems against actual tank fires. No one but us has done it. Build a test tank. Carry out the trial. You will not require advertising — purchasers will form a queue. Here too, the result is foreseeable. For four years I have been unable to obtain a coherent answer to a single question: why does everyone fear real testing, and why does no test tank exist anywhere in the world for confirming the performance of fixed systems.

Why This Article Has Been Written

So long as the principal certifier — the user — is absent, that function must be undertaken by someone else. Someone willing to publish the complete protocol, without abridgement. Someone willing to accept the challenge to repeat the procedure. Someone who builds a test tank because no one else in the industry does. To date, one company has done so.

A short technical brief, together with the complete official ESF protocol of 26 March 2025, has been openly available on our website for some time

<http://impulse-storm.com/wp-content/uploads/2026/04/Emergency-Services-test-top-ext.pdf> .

Video records of full-scale fire trials on tanks of 23 m and 42 m diameter

<https://youtu.be/fdbdZGeSbYo>