

Use of FirePro Condensed Aerosol Fire Suppression Systems Safe Usage & Safeguards.

1. Background

Condensed aerosol is deployed manually or automatically, for local (in-cabinet) protection or enclosure total flooding. As with any suppression medium, defined procedures govern its safe handling, installation, and after-care. Key safety considerations are set out below.

2. Designer / Installer Competency

2.1 Individual level. FirePro UK Ltd provides product engineering training against the manufacturer's operating and maintenance manual, delivered to individuals rather than organisations. The content advises that any individual undertaking works to a condensed aerosol system must hold basic fire system competency accreditations / experience also access to the relevant standards, particularly the current version of BS/EN 15276-2. Attendees who pass a basic competency test are recorded by name and date. Training entitles the individual to free technical support for 24 months, after which a refresher course is required. Support requests from untrained personnel are declined.

2.2 Company level. LPS 1204.3.2 accreditation, issued by the BRE, provides third-party inspection and stakeholder assurance (for the certificate's validity period) that design, installation, commissioning, handover, and maintenance are carried out correctly in accordance with the BS/EN standard and site-specific specification.

3. General Safety

3.1 Standards. Under UK/European codes and standards, Condensed Aerosol Total Flooding Systems are restricted to normally unoccupied and unoccupiable areas only (refer to BS/EN 15276-2 for specific scope wording).

3.2 Permit to work. Access to protected areas is typically controlled via a permit-to-work system, carrying its own requirements under the Health and Safety at Work etc. Act (HSAW) and applicable site and/or client management controls.

3.3 Exposure. Unnecessary exposure to condensed aerosol shall be avoided. Where personnel may enter the protected enclosure or be present near the protected risk, the above BS/EN Standard requires the following safeguards in addition to the manufacturer's own requirements:

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Safeguard	Description
Warning Signage	Displayed at all relevant access points
Auto/Manual Keyswitch	Most extinguishing panels incorporate an auto/manual key switch, the switch position must correctly reflect the occupancy status of the protected area set to Manual before entry and returned to Auto only once the area is confirmed clear.
Master isolation call point	Installed at the panel to open the circuit of the extinguishing line and prevent actuation while occupied, must be engaged before entry, with corresponding signage at the entrance.
Pre-discharge signalling	Audible and visual alarms for 1st-stage and 2nd-stage warnings
Time delay	Sufficient delay before agent release to allow evacuation
Post-fire ventilation	Means to extract agent to fresh air, readily available
Risk assessment	Site-specific exposure assessment, referencing product SDS
Optional Key Lock / Door Contacts	Special door locking device with volt free contacts to isolate system when unlocked / re-instate when locked.

3.4 Storage. Undischarged generators shall be stored in a dry, cool, well-ventilated area, clearly marked and accessible only to authorised personnel, and kept in their original packaging away from heat sources and physical damage. Storage temperature shall be maintained at -10 to +50°C. Storage life is 15 years from the date of manufacture, after which units shall be replaced in line with manufacturer guidance.

4. Hazards Arising from Condensed Aerosol

Under normal use and in compliance with manufacturer guidelines, no significant hazards are anticipated. The following should be read alongside the manufacturer's Safety Data Sheet (Document No. SDS-5000, Version 2026-4, dated 28-07-2026).

4.1 Visibility and gas concentration. On activation, the agent forms an opaque aerosol that may obscure visibility and elevate concentrations of hazardous gases already present in an enclosed space (e.g. CO, CO₂, NH₃, NO, NO₂).

4.2 Respiratory irritation. The agent's fine solid particles primarily potassium carbonate (K₂CO₃), with lower concentrations of other potassium compounds may irritate the respiratory tract if inhaled at high concentrations.

4.3 Thermal hazard. The agent discharges at high temperature, producing elevated temperatures at the generator surface and immediate surrounding area. Correct system design and generator positioning by suitably competent persons must maintain safe thermal clearances. Exposure to the discharged agent, even at limited concentrations, shall be prevented.

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4.4 Post-discharge re-entry. The enclosure shall not be re-entered until deemed safe preferably confirmed by Fire & Rescue services, and fully ventilated. Where entry is unavoidable beforehand, appropriate breathing apparatus shall be used, operated by suitably competent persons. Heat-resistant gloves shall be used when handling generators before they have cooled following discharge, and eye protection shall be worn during installation, maintenance, and clean-up operations. Any incident involving the discharge of these dangerous goods shall be reported to the authority having jurisdiction, in line with applicable local requirements.

4.5 Product classification (CLP) and handling of undischarged units. FirePro generators are fully compliant and classified as hazardous under Regulation (EC) No. 1272/2008 (CLP): Explosive - Division 1.4, GHS01 pictogram, Signal Word "Warning", Hazard Statement H204 (fire or projection hazard). Precautionary measures apply to the storage, handling, and installation of undischarged units: keep away from heat, hot surfaces, sparks, open flames and other ignition sources, and do not smoke nearby (P210); keep the article only in its original packaging (P234); do not subject the article to grinding, shock, or friction (P250). Refer to Section 2 of the manufacturer's SDS-5000 (Version 2026-4) for full classification detail.

4.6 Self-activation risk in fire. Generators that are not in use under normal conditions but become directly or indirectly involved in an unrelated fire may self-activate, resulting in the generation of aerosol and posing a fire or projection hazard. In such cases, the surrounding area should be warned and evacuated, and the fire fought from a reasonable distance rather than approaching the affected articles directly.

4.7 Use with sensitive electronic equipment. Where a protected enclosure contains sensitive electronic equipment (e.g. servers, computers, hard drives), it should be noted that the discharged agent is a dry, hygroscopic potassium-based particulate that will be drawn into such equipment via air inlet fans, and the risk of irreparable equipment damage cannot be eliminated, only mitigated. Timely post-discharge extraction and clean-up, in line with the manufacturer's operation and maintenance manual, is essential, as prolonged unmanaged exposure to the particulate can cause corrosion and discolouration to equipment. Where FirePro is proposed for such applications, client-specific SOP's should be developed, which may include manual-only (rather than automatic) release by trained personnel to reduce the risk of inadvertent discharge, and use of the system in this context is accepted only on the basis of full acceptance of this risk and the terms of FirePro UK's disclaimer.

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