CERTIFICATE

Process certificate
K77477/07

Issued *2021-08-06*

Replaces *K77477/06*

Fire Protection Systems based on aerosol as medium

STATEMENT BY KIWA
With this product certificate, issued in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the products supplied by

Fire Safety 4 You B.V. / FirePro Benelux

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa certification scheme K23003/02 “Process Certification Scheme for fixed fire-extinguishing systems based on non-pressurized condensed aerosol generators” dated 17-01-2019.

Ron Scheepers
Kiwa

Publication of this certificate is allowed.
Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

2871/80711

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Fire protection components
FirePro LTD
Certificate number K21774

Detection system(s)
Siemens FC-721 / 722 / 724

Certification process consists of initial and regular assessment of:
- **quality system**
- **product**

PRODUCTS RvA C 002

Fire Protection Systems based on aerosol as medium

PROCESS SPECIFICATION

For fire protection systems based on non-pressurized condensed aerosol Including:

- Basic Design of the system, drafting of specifications
- Detailed Design of the system, component selection and system design according the Basic Design (engineering).
- Installation of the fire protection system in accordance with the Design and commissioning the installation.
- Support and Maintenance. Providing for after care to the end user.

APPLICATION AND USE

Total flooding fire-extinguishing systems are used primarily for protection against hazards that are in enclosures or equipment that, in itself, includes an enclosure to contain the extinguishant. Condensed aerosol generators can be used as a part of fire protection systems in buildings, plants or other structures. It covers total flooding systems primarily related to buildings, plants and other specific applications, utilizing electrically non-conducting condensed aerosol fire extinguishants.
Where aerosol generators are used in a potentially explosive application, the suitability of the generator to the atmosphere for the determined life shall be assessed.
The fire extinguishing components shall be suitable for extinguishing fires of the following applicable fire classes:

Applicable fire classes			
Europe	America	Australia & Asia	Fuel / Heat source
Class A	Class A	Class A	Ordinary combustibles
Class B	Class B	Class B	Flammable liquids
Class C		Class C	Flammable gases
Class F	Class K	Class F	Cooking fats or oil

Note:
Applicable for Europe, America and Australia & Asia:
Melting plastics are assigned to Class A. The suitability for extinguishing a fire shall be proven by means of an attest supplementary to the product certificate of certification scheme K23001. This attest is called „Application attest for aerosol extinguishing components as per certification scheme K23001“ and shall be provided by the supplier.

CONDITIONS FOR APPLICATION

The numbers and types of the extinguishing components have to be determined in conformity with the guidelines and calculation methods of the supplier & manufacturer.
Distribution is to be done by supplier or companies authorized by the supplier & manufacturer.
Before usage an instruction is to be given by a trainer or instructor for this product authorized by the supplier & manufacturer.
The installation and maintenance of the fire extinguishing components have to take place according to the specifications of the supplier & manufacturer, ISO15779, CEN/TR 15276-2 and the certification scheme K23003.
For specific details regarding the owner’s manual, see ISO15779 and CEN/TR 15276-1.
specific product requirements are laid down in the for confidentiality reasons undisclosed ‘appendix hygienic aspects’ to this certificate.

ENCLOSURE CONDITIONS

The enclosure conditions for the fire protection system ability to function must be defined by the certified supplier. In this respect at least the following aspects should be taken into account:
Architectural provisions for enclosures in respect of fire resistance, taking into account fires from the inside and from the outside and possible sudden pressure build-up by the system and/or the flammable materials present in the enclosure;
Connection to provisions for fire detection, fire alarm equipment (optical and acoustic signaling devices) and manual alarm devices for blocking, delaying or activating an extinguishing. Before and during the extinguishing a warning should be signaled (acoustic and optical);
Connection to technical installations like ventilation and air treatment systems, smoke control systems, doors, emergency power provisions, etc.;
The use of the enclosure to be protected in regard to the storage configuration in the protected enclosure.
The relation between the flammable materials present and the fire protection system design must be clear. This must be expressed in the risk calculation belonging to the integral safety concept of the enclosure to be protected;
The use of the enclosure to be protected in regard to the presence of people and any risks this involves. This must be expressed in the risk calculation belonging to the integral safety concept of the enclosure to be protected;
The mutual influence of protection of adjacent enclosures and buildings;

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Before and during the extinguishing a warning signal shall be activated (acoustic and optical according EN 12094);
The internal organization shall be provided with adequate information regarding the required (enclosure) conditions in relation to the function and activation of the fire-extinguishing system and the associated consequences in case these conditions are not met.

FIRE DETECTION SYSTEM

Fire detection systems shall be designed to meet the requirements related to the activation of the aerosol generator(s).

POWER SUPPLY AND DRIVING UNIT OF THE AEROSOL FIRE-EXTINGUISHING GENERATORS

The Siemens FC-721 / 722 / 724 one to four loop addressable Fire Alarm Control Panel shall be used for the activation of aerosol extinguishing generators. Due to the large power this demands, auxiliary power supply, modules and fuses are installed for this purpose. Type tests are performed to determine that these components can activate the aerosol extinguishing generators according K23003.

Configuration	Specifications
Fire Alarm Control Panel	Siemens FC-721 (Central Panel with 1 addressable loop) (EN54-2/EN54-4) Siemens FC-722 (Central Panel with 2 addressable loops) (EN54-2/EN54-4) Siemens FC-724 (Central Panel with 4 addressable loops) (EN54-2/EN54-4) Expansion card: Siemens FCI2003/A1 The expansion card FCI2003/A1 is applicable to the FC-722 and FC-724
Fire Detectors	Siemens OOH740 (Multi sensor smoke detector, ASA)
Output module	FDC IO-223 (send module with 2 supervised send lines, activation extinguishing generators)
Input module	FDC IO-FDCIO-221 and 222 (input for blocking/activation buttons) FDC IO-221 to monitor power supply FDC IO-222 Input for blocking activation and delay extinguishing
Cable (for loop)	Nexans, YR-mb 2X0.8 MM RED, Nexans ref.: OF105312769
Cable (extinguishing lines and other)	Nexans, JE-H(St)H 2x2x0.8 mm E30 – 90, Nexans ref.: 10008826 Nexans, YR-mb 2X0.8 MM RED, Nexans ref.: OF104946597
Auxiliary power supply	EN54-4 power supply (5A)
Activator FirePro Generators	Electric match
	Resistance 1.6 – 3.6 Ω Fire current ≥ 800 ±50 mA No-Fire current ≤ 20±1 mA

Secondary power supply calculation of the central panel and auxiliary power supply of the extinguishing lines is based according the following formula:

Formula
(fault current x 71.5 hours) + (alarm current x 0.5 hours) x 1.25 = battery capacity

Explanation	
Fault current	Current of central panel in fault condition, mains unplugged
Alarm current	Current of central panel in alarm condition, mains unplugged
1.25	Compensation for the ageing of the battery
Battery capacity	Battery capacity to be installed for the central panel or auxiliary power supply for a minimum of 72 hours operation time with mains unplugged or unavailable

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MARKING

Marking

Certification Mark

The implementation of attaching the Kiwa certification mark to certified processes is done with the following pictogram stating the certification scheme K23003. See “Kiwa Regulations for Certification” for more details.

RECOMMENDATIONS FOR CUSTOMERS

Check at the time of delivery whether:
- the supplier has delivered in accordance with the agreement;
- the mark and the marking method are correct;
- the process / products show no visible defects as a result of transport etc.

If you should reject a product on the basis of the above, please contact:
- Fire Safety 4 You B.V.

and, if necessary,
- Kiwa Nederland B.V.

Consult the supplier’s processing guidelines for the proper storage and transport methods.