CERTIFICATE

Product certificate
K-0210989/01

Issued *2023-05-04*

Valid until *Indefinite*

Glass bulb activators for Non pressurized Condensed Aerosol Generators

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

FirePro Systems Ltd

complying with the technical specifications as laid down in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate, on delivery, may be relied upon to comply with Kiwa Specific Certification Program SCP08/01 within Certification Scheme K21045 “Fire Protection Systems” of April 4th, 2023.

Kiwa licenses the certification mark to the certified company. The validity of a certificate can be checked on www.kiwafss.nl.

This certificate remains the property of Kiwa. The validity of the accreditation can be verified by the accreditation body (www.rva.nl).

Ron Scheepers
Kiwa

Further information on the application and the applicable certification can be obtained from the certified company.

This certificate consists of 4 pages.
Publication of this certificate is allowed.

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

Glass bulb activators for Solid Bound Compound - generators

Technical specification

General
The Kiwa TIC Scheme K21045 "Fire Protection Systems" has several Specific Certification Programs detailing specific requirements for additional scopes not detailed in the standards addressed in Scheme K21045.
The Kiwa Specific Certification Program 08/01"Glass bulb activators for Solid Bound Compound – generators" of April 4th, 2023 is about is specific solution for standalone object protection.

Fire Protection Systems (FPS) can be based on components being generators containing a Solid Bound Compound (SBC). This SBC is the base material for the extinguishing medium. To activate the Fire Protection System should the SBC be expelled out of the generator in a physical form designed to extinguish or control the fire.
This first activation of the generator is an activation element that produces heat in short period to start up the process of the SBC in another physical composition.

The generator needs proper activation device according to EN15726-1 - Fixed firefighting systems - Condensed aerosol extinguishing systems - Part 1: Requirements and test methods for components.
Paragraphs 4.4, 5.12 and 7.13 "Activation device" specify the requirements in general.

These generators are one of the elements for a Fire Protection System.
A Fire Protection System (FPS) needs a proper Fire Detection System (FDS) according to EN15726-1 - Fixed firefighting systems - Condensed aerosol extinguishing systems - Part 1: Requirements and test methods for components.

Normally are electrical activation devices used for Fire Protection Systems according to Fixed firefighting systems - Condensed aerosol extinguishing systems - Part 2: Design, installation and maintenance.

The Fire Protection System are equipped with control and indicating equipment according to EN12094-1 - Fixed firefighting systems - Components for gas extinguishing systems - Part 1: Requirements and test methods for electrical automatic control and delay devices" is specific designed for gas extinguishing systems.

For simple fire protection such as for object protection requires a simple method of fire detection. In this specific certification program is the sprinkler method used.

Note.
This specifies certification program specifies the requirements for such a solution. The requirements are not detailed in the standard EN15726-1.

This specific certification program details the requirements for activation based on existing glass bulb technology used for sprinkler systems. This principle is only to be used for object protection based on SBC - generators.

Field of application / scope
The functional and performance requirements for glass bulb technology used in conjunction with SBC - generators. This principle is only to be used for object protection based on SBC - generators in an controlled chloride environment.

Product - Glass bulb activators for Solid Bound Compound - generators
The FirePro Systems Ltd Bulb Thermal Actuator (BTA) has been tested and approved for the following applications.

A maximum height of 2,5 meter of the protected compartment. The BTA is to be installed at the top of the protected compartment.

- 57° Celsius rated bulb
- 68° Celsius rated bulb
- 79° Celsius rated bulb
- 93° Celsius rated bulb

Usage
The compartment has to be closed enabling the performance of the generator.
The focus of this solution is with fires (TF4) in electrical cabinets.
The specifications of the coverage of these SBC generators are laid down in Kiwa Product Certificate K21744.
This product certificate for glass bulb activators is applicable to all generators listed in the K21774 Product Certificate that have the option of thermal activation.
In any protected enclosure only one Condensed Aerosol Generator with BTA is to be used as per the area coverage test results.

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Note. Lithium Ion protection based on this method of detection is not in scope.

Mechanism

A pre-tensioned striker/spring mechanism is released when the BTA Thermal bulb bursts at the rated temperature.
Therefore, the striker's edge pin impacts the surface of a percussion cup at high momentum causing a short burst of heat within the BTA activator housing which then initiates the reaction of the BTA activator charge.
The mechanism that remains in a static and not a dynamic load has undergone an aging test and has a product life of 15 years.

Application and use

It is important that the fire protection of a building or plant be considered as a whole. Condensed aerosol Fire Protection Systems form only a part, though an important part, of the available facilities, but it should not be assumed that their adoption necessarily removes the need to consider supplementary measures, such as the provision of portable fire extinguishers or other mobile appliances for first aid or emergency use, or to deal with special hazards.

Condensed aerosol extinguishants are an effective medium for the extinction of flammable liquid fires (Class B according to EN2), and ordinary Class A to EN2 hazards (solid surface burning fires), but it should not be forgotten, in the planning of comprehensive schemes, that there may be hazards for which these mediums are not suitable, or that in certain circumstances or situations there may be dangers in their use requiring special precautions.

Advice on these matters can be obtained from the approved supplier of this manufacturer of the extinguishant and / or the Fire Protection Systems according to scheme K21045. Information may also be sought from the appropriate fire authority, the health and safety authorities and insurers. In addition, reference should be made as necessary to other national standards and statutory regulations of the particular country.

It is essential that firefighting equipment be carefully maintained to ensure instant readiness when required. Routine maintenance is liable to be overlooked or given insufficient attention by the owner of the system. It is, however, neglected at peril to the lives of occupants of the premises and at the risk of crippling financial loss. The importance of maintenance cannot be too highly emphasized. Installation and maintenance should only be carried out by qualified personnel according to scheme K21045.

Inspection should include an evaluation that the Fire Protection Systems continues to provide adequate protection for the risk (protected zones as well as state of the art can change over time).

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.

Conditions for application

- The detail engineering and installation of the extinguishing system shall to be determined in conformity with the guidelines and calculation methods of the manufacturer.
- The user of the extinguishing system is instructed by an instructor for this system authorized by the supplier on behalf of the manufacturer.
- The detail engineering, installation and maintenance of the fire extinguishing components have to take place according to the specifications of the manufacturer, ISO15779 & EN 15276-2 and certification scheme K21045. The minimal density for the extinguishing systems shall be based on a Class A according to EN2 for the compatible wood crib according to ISO15779. For risk associated with deep seated fires shall be based on a Class A wood crib test according to EN 15276-1.

Point of interest during use

The condensed aerosol extinguishing components should not be used on fires involving the following unless relevant testing by accredited testing laboratories has been carried out to the satisfaction of the Authority:

- Temperatures for use of aerosol extinguishing agents shall be within the supplier’s listed limits.
- Local applications of condensed aerosol extinguishing systems are not covered by this product declaration. Local applications require a pre-engineered and pre-designed system which has been tested and approved for a specific application by an authority such as Kiwa or by an accredited testing laboratory.

Manual

At delivery the product should be accompanied by an operation manual in the English language, known and authorized by Kiwa. Following minimum items shall be described:

- Type of aerosol generators;
- Design application density in relation to Fire Class according to EN2 with a minimum based on Fire Class A (compatible wood crib);
- Description of occupancies and hazards to be protected against;
- Specification of aerosol generators;

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- Equipment schedule or list of materials for each piece of equipment or device, showing device name; supplier, model or part number and description;
- System calculation;
- Enclosure pressurization and venting calculations;
- Description of fire detection, actuation and control systems.
- Requirements for inspection, maintenance and testing of an aerosol fire-extinguishing system and for the training of inspection and maintenance personnel.

For specific details regarding the owner's manual, see EN 15276-1&2 and ISO15779.

The products should be marked with the Kiwa®-mark according to TIC-scheme K21045.

Method of marking
- Non-erasable and non-detachable;
- Non-flammable;
- Permanent and legible

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 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:
- FirePro Systems Ltd.

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

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