



Marine & Offshore
Division

Certificate number: 23277/B0 BV

File number: ACI 1800/014/001

Product code: 5562H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

Fireaway Inc

Minnetonka - UNITED STATES OF AMERICA

for the type of product

AEROSOL FIXED FIRE EXTINGUISHING SYSTEMS

Stat-X Fire Suppression Systems for machinery spaces and cargo pump rooms up to 64 m² and less than 4 m high (limited to aerosol generator and its performance).

Requirements:

Based on the test protocol applied by Fireaway on July 12, 2006.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 12 Nov 2020

For BUREAU VERITAS,

At BV PORT EVERGLADES CENTRE, on 12 Nov 2015,

Flavio Rosas



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Stat-X aerosol fire extinguishing system unit with dry condensed extinguishing agent

Pyrotechnically generated fire extinguishing aerosol system (condensed type) consists in :

- Generator: Non-pressurised canisters capped with non-permeable membrane filled with:
 - chemical coolant,
 - solid aerosol generating compound.

After activation of the system, the extinguishing aerosol is a mixture of finely divided solid particles and gaseous matter. Solids form 70% and mainly consist in potassium salts while gases form 30% and comprise nitrogen gas, carbone dioxide, water vapour, carbon monoxide, nitrogen dioxide and ammonia.

- An electrical initiator device,
- A thermal initiator device
- A Control Panel

2. DOCUMENTS AND DRAWINGS:

2.1 - "Stat-X Fire Suppression Systems, Design, Installation, Operation and Maintenance Manual", version 1.3.5, issued by Fireaway Inc in May 2015.

2.2 - "Stat-X Automatic Fire Suppression Systems, Design, Installation, Operation and Maintenance Manual", version 1.2, issued by Fireaway Inc in June 2010.

3. TEST REPORTS:

3.1 - Test report "MCA fire test for condensed aerosol fire extinguishing systems" issued by Fireaway Inc on 27/07/2006. The tests were attended by Mr J.Pillai from MCA.

3.2 - Certificate of inspection and tests MSF 1814 rev.0904 issued by MCA on 20/11/2006.

3.3 - Letter FILE EX15004 from Underwriters Laboratories Inc. dated 30/10/2009.

3.4 - Certificate "Acceptance of Stat-X fixed aerosol suppression system" dated 01/12/2006 from Swedish Maritime Safety Inspectorate.

3.5 - Type approval certificate N°FPE060910CS issued by RINA on 15/06/2010.

3.6 - Type approval certificate N°08-LD310998/1-PDA issued by ABS on 28/08/2009.

3.7 - Letter TMN001.99 from Talley Defense Systems dated 20/10/1999.

3.8 - "Findings - toxicology and hygiene characteristics of stimel extinguishing compound" issued by the Department of Public Health and Medical Industry of the Russian Federation on 18/11/1998.

4. APPLICATION / LIMITATION:

4.1 - Acceptable for use on non-SOLAS vessels in **normally occupied and unoccupied** machinery spaces and cargo pump rooms, with a deck height not exceeding 4m and an area not exceeding 64m². **In any case**, the installation of the STAT-X fire suppression system on board a ship is subject to the authorization of the flag Administration for the ship concerned.

4.2 - Total mass of aerosol required: $M = K1 \cdot K2 \cdot V \cdot q$

where :

- M : the total mass of aerosol required to protect the hazard (g)
- K1: ratio based on non-uniformity of aerosol distribution according to the height of the protected enclosure
- K2: ratio based on the calculated leakage rate and leakage distribution for the protected volume
- V : total volume of the protected (m3)
- q :design density of aerosol required to extinguish the hazard class

4.3 - The design criteria of extinguishing medium should be at least 58g/m3 of net volume of the protected space for B-class fires, 72g/m3 for surface A-class fires.

4.4 - Minimum holding time : 10min.

- 4.5 - **Automatic release:** Automatic release is subject to the appraisal of the Society and of the Administration.
- 4.6 - To be used and maintained in accordance with the manual(s) for installation, use and maintenance.
- 4.7 - Clear and legible safety labels shall be placed at the entrance to the protected space, inside the protected space, at the system isolation switch and the manual release point. Also, simple operating instructions are to be placed at the system operating position.
- 4.8 - Means are to be provided to close all openings, which may admit air into the protected space.
- 4.9 - A means should be provided to relieve any initial overpressure in the protected space when the Stat-X generators are activated, to prevent structural damage to the boundaries of the enclosure.
- 4.10 - The following documentation is to be submitted in each separate application, prior to installation onboard: System design and operation principles; capacity calculations; wiring diagram and cable specifications showing cable layout, alarm circuitry and location of the release station; control system and service manual. Separate review and testing for the control panel may be required on a case-by-case basis.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The **Stat-X fire suppression systems** are to be manufactured, examined and tested by **Fireaway Inc** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
- 5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Fireaway Inc** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
- 5.3 - **Fireaway Inc** has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production site:

Fireaway Inc
5852 Baker Road
Minnetonka, MN, 55345
UNITED STATES OF AMERICA

6. MARKING OF PRODUCT:

The product or packing is to be marked with manufacturer name, type, designation and fire-technical rating.

7. OTHERS:

- 7.1 - This approval is given under the understanding that the Manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This Certificate supersedes the Type Approval Certificate n° 23277/A2 BV issued on 22nd August 2013 by the Society.

*** END OF CERTIFICATE ***