

# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAF00000D4**  
Revision No:  
**2**

## This is to certify:

**That the Fixed water-based fire-fighting systems for ro-ro spaces and special category spaces equivalent to that referred to in resolution A.123(V)**

with type designation(s)  
**VID FireKill OH-OPX1 Suez, VID FireKill OH-OPX1 Panama**

Issued to  
**Vid Fire-Kill ApS**  
**Svendborg, Syddanmark, Denmark**

is found to comply with  
**DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021**  
**DNV rules for classification – Ships**  
**DNV offshore standards**

## Application :

**Approved for use as a fixed water-based fire-fighting systems for ro-ro spaces and special category spaces (performance-based system) equivalent to that referred to in resolution A.123(V).**

**Products approved by this certificate are accepted for installation on all vessels classed by DNV.**

Issued at **Høvik** on **2021-11-29**

for **DNV**

This Certificate is valid until **2026-11-28**.

DNV local station: **Fredericia FiS**

Approval Engineer: **Helge Bjørnarå**

**Helene David-Andersen**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

“VID FireKill OH-OPX1 Suez, VID FireKill OH-OPX1 Panama” is a water mist system of deluge type. The system consists of nozzles and section valves, in addition to pump unit(s), piping, control system as associated equipment.

The system is to be designed in accordance with the "Principal Requirements" of IMO MSC.1/Circ.1430 for performance-based systems.

Only nozzles are type approved by this certificate. Other components are to be approved and/or certified case by case.

Nozzles are manufactured by Vid Fire-Kill Aps, Svendborg, Denmark.

## Application/Limitation

Approved for use as a fixed water-based fire-fighting systems for ro-ro spaces and special category spaces (performance-based system).

Installation should be in accordance with Principal Requirements and performance-based system requirements of IMO MSC.1/Circ.1430 Ch.3 and 5 with the following parameters:

| System type   | Nozzle         | Max. spacing [m] <sup>1)</sup> | Min. pres. at nozzles [bar] | Min. coverage area [m <sup>2</sup> ] |
|---|----------------|--------------------------------|-----------------------------|--------------------------------------|
| Deck height up to 5.0 m <sup>2)</sup>   |                |                                |                             |                                      |
| Deluge  | OH-OPX1 Panama | 3.5                            | 6.0                         | See note <sup>3)</sup>               |
| Deck height up to 2.5 m   |                |                                |                             |                                      |
| Deluge  | OH-OPX1 Suez   | 4.0                            | 6.0                         | See note <sup>3)</sup>               |
| <u>Notes</u>  |                |                                |                             |                                      |
| 1) Distance to bulkheads should be half spacing.  |                |                                |                             |                                      |
| 2) Installations with height above 5.0 will be considered case by case.   |                |                                |                             |                                      |
| 3) According to Principal Requirements of IMO MSC.1/Circ.1430 Ch. 5.4 for type B or type C systems (as applicable). |                |                                |                             |                                      |

### Nozzle head information:

| Nozzle type  | k-factor [lpm/bar <sup>1/2</sup> ] | Flow [lpm] | Min. pressure [bar] | Drawings                         |
|--|------------------------------------|------------|---------------------|----------------------------------|
| OH-OPX1 Panama   | 23.0                               | 56.3       | 6.0                 | Ref. type approval documentation |
| OH-OPX1 Suez   | 23.0                               | 56.3       | 6.0                 | Ref. type approval documentation |
| Nozzles are made of brass coated with NiSn. Maximum operating pressure is 16 bar.<br>Nozzles are to be installed in a pendant (downward) position. |                                    |            |                     |                                  |

### For all applications

- The pumps or pump unit and the pressure tank are to be delivered with DNV product certificate. Other system components are to be certified or inspected in accordance with Class Rules (or equivalent standard as specified by the Flag Administration).
- Redundant pump arrangement is subject to approval in each case.
- Restrictions apply to use of this system on open ro-ro and open special category spaces (see IMO MSC.1/Circ.1430).
- Pipes, couplings and other components are regarded as “Class III” piping.
- The pump unit and section / sprinkler valves shall be installed in a room having ambient temperature between 4 °C and 45 °C

### The following items are to be submitted for approval for each project:

- System arrangement plans including routing of pipes, location of nozzles, sections valves, release stations and pump unit.
- Documentation of power supply and control system.
- Specification of pipes, section valves, pumps, including drivers and associated components.
- Pressure drop calculations and water mist capacity calculations.
- Design, installation, operation and maintenance manual.

### Installation testing:

- The system is to be cleaned in accordance with routines outlined in maker’s system description manual.
- At least 2 sections should be tested with full flow through the nozzles. Manual release of all section valves (without water accepted) shall be carried out.

- Manual start of pumps shall be carried out.
- Alarms at the manned control stations shall be tested.
- Other tests as required by class rules (pressure testing of piping, etc.) or a similar standard acceptable to the Flag Administration and according to maker's manual shall be carried out.

Periodical testing:

- Periodical control and inspection shall be carried out in accordance with maker's system description manual.
- At least one section should each year be tested with full flow through the nozzle heads (not the same section every year).

## **Type Approval documentation**

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Fire Performance Test Reports:

Test report No.120413-68 dated 21 June 2012 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Test report No.120413-69 dated 21 June 2012 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Component testing:

Test report No. 110415-5 dated 14 April 2012 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Letter dated 2 November 2012 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Test report No. 160129-164 dated 7 March 2016 from Danish Fire Laboratories (DFL), Svendborg, Denmark.

Drawings:

Drawing No. 120802-1057 Rev. C dated 2 August 2012 from manufacturer.

Drawing No. 120802-1058 Rev. A dated 2 August 2012 from manufacturer.

Drawing No. 101116-852 Rev. B dated 5 May 2011 from manufacturer.

Drawing No. 71120-473 Rev. B dated 21 November 2007 from manufacturer.

Drawing No. 120802-1055 Rev. B dated 2 August 2012 from manufacturer.

Drawing No. 120802-1056 dated 2 August 2012 from manufacturer.

Drawing No. 81021-607 Rev. B dated 11 September 2009 from manufacturer.

Drawing No. 71121-476 Rev. C dated 15 June 2010 from manufacturer.

Data sheet pendent open low pressure water mist nozzle, Model: Suez & Panama OH-OPX1.

## **Tests carried out**

Fire performance test in accordance with IMO MSC.1/Circ.1272 and in compliance with IMO MSC.1/Circ.1430.

Component test in accordance with IMO Res. A.800(19) and IMO Res. MSC.265(84), and in compliance with IMO MSC.1/Circ. 1430.

## **Marking of product**

The nozzle heads and nozzles are to be marked with manufacturer name, type designation whereas other main components are to be marked with name of manufacturer.

## **Periodical assessment**

DNV's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNV-CP-0338, Section 4.