DNV·GL

Certificate No:
MEDB00000GZ

EC-TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Sprinkler systems components for accommodation spaces, service spaces and control stations equivalent to that referred to in SOLAS 74 Regulation II-2/12

with type designation(s)
Neptun

Issued to
Vid Fire-Kill ApS
Svendborg, Denmark

is found to comply with the requirements in the following Regulations/Standards:
Annex A.1, item No. A.1/3.9 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/7, II-2/9 & II-2/10, FSS Code 8

Further details of the equipment and conditions for certification are given overleaf.

Høvik,
for **DNV GL AS**

This Certificate is valid until

Notified Body No.: **0575**

Vidar Dolonen
Vidar Dolonen

DNV GL local office:
Fredericia

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Surveyor

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Job Id: **344.1-005119-1**
Certificate No: **MEDB00000GZ**

Product description

"Neptun"
is an automatic, fast response, low-pressure sprinkler system of wet pipe type. The system composed of sprinkler heads, stainless steel piping, sections valves, pump units, filter units and alarm panel.

Only the sprinklers are type approved by this certificate. Other components are to be approved and/or certified case by case. The system is to be designed in accordance with the "Principal Requirements for the System" in IMO Res. A.800(19) as amended by IMO Res. MSC.265(84).

Application/Limitation

Approved for use as an automatic water sprinkler system for accommodation areas, public spaces, service spaces and store rooms.

Installation shall be in accordance with table 1, appendix 2, IMO Res. MSC.265(84):

Application	Sprinkler head	Spacing [m]	Distance to wall [m]
Cabins < 12 m²	OH-CA1	One per room	0.9
Cabins < 18 m²	OH-SWC	On centred located in front wall[3)]	
Cabins < 20 m²	OH-CA	Two per room	0.9
Corridors [2)]	OH-CO	3.0	0.75
Public space (h < 2.5 m)	OH-L0	2.5	1.3
Public space (h < 2.5 m)	OH-L1	4.0	2.0
Public space (h < 5 m) [1)]	OH-L2	4.0	2.0
Storage areas	OH-PX1	4.0	2.0

Notes:
1) Ceiling height of more than 5 meter is subject to case by case approval.
2) Maximum width of corridor should not exceed 1.5 m.
3) Installed 0.12 m beneath the ceiling.

All sprinklers are to be installed in the ceiling in a pendant (downward) position, except model OH-SWC which has to be placed sideways located centred in front wall.

Sprinkler head	k-factor [lpm/bar$^{1/2}$]	Pressure [bar]	Min. flow [lpm]	Drawings
OH-L0	7.0	6.0	17.0	151203-4107A rev. A
OH-L1	13.5	6.0	33.1	91104-737B rev. C, 71016-459D rev. D, 71114-468B rev. B, 80115-494, 80220-524A rev. A
OH-L2	14.5	6.0	35.5	81201-624B rev. B, 71114-468B rev. B, 80115-494, 80125-518F rev. E-F, 71212-488C rev. C
OH-CA1	13	6.0	31.8	151202-4106A
OH-SWC	23.0	6.0	56.3	100519-830, 100519-828A rev. A, 100519-829A rev. A, 100519-827A rev. A, 100519-826D rev. D
OH-CA	10	6.0	24.0	151203-4109A
OH-CO	15.5	6.0	38.0	110420-857B, rev. B, 71112-466C rev. C, 71121-471A rev. A, 71112-467d rev. D, 71114-468C, rev. C
OH-PX1	23.0	9.0	69.0	80930-596D, 101116-852A rev. A, 80717-570A rev. A, 81021-607A rev. A

For all applications

A. Maximum system working pressure is 16 bars, while the minimum working pressure at the sprinkler heads is 6 bars, except for stores which are 9 bars.
B. All sprinklers are to be installed in the ceiling in a pendant (downward) position, except model OH-SWC which has to be placed sideways located centred in front wall.
C. All sprinklers are made of brass and are fitted with Job F2 bulbs, with nominal releases temperature of 57 °C (orange). Bulbs with higher temperature ratings, but not more than 30 °C above ambient temperature, are subject to approval in each case.
D. The pumps (or pump unit) and gas cylinders shall be delivered with DNV GL product certificate, whereas other system components are to be certified or inspected in accordance with DNV GL Rules (or equivalent standard as specified by the Flag Administration).
E. Redundant pump arrangement is to be approved on a case by case basis.
F. Only stainless steel piping or equivalent fire and corrosion resistant pipes are to be applied (to avoid clogging of sprinklers). Primary water supply shall be fresh water of potable quality.
G. Pipes, couplings and other components are regarded as "Class III" piping.
H. The pump unit and section valves shall be installed in a room having ambient temperature between +4°C and +45°C.

The following items are to be approved and filed by the flag administration for each project:

I. System arrangement plans including location of sprinklers, pipes, sections valves, control system and pump-unit
II. Specification of pipes, valves, electrical motor, pumps, pressurised tank(s) and associated components (including water supply specifications)
III. Pressure drop calculations and water capacity calculations
IV. Manual containing installation, operation and maintenance instructions
V. Arrangement of power supply and control system

Installation

- Water to be in accordance with manufacturer's specification for water quality. No chemicals shall be added to the water, for the purpose of e.g. cleaning, bacterial control, corrosion inhibition, etc., without the acceptance from the Manufacturer.

Installation testing:

- Not less than 2 sprinkler heads in each section shall be tested. Testing may be limited to 10 sections. i.e. 2x10 sprinkler heads if it is successful.
- Automatic start and stop of pumps.
- Automatic change over from main to emergency electric supply
- Other tests as required by DNV GL Rules (pressure testing of piping, etc.) and according to maker's manual (or equivalent standard as specified by the Flag Administration).

Periodical testing:

- Not less than 2 sprinkler heads shall be tested annually.
- Other tests and inspection to be in accordance with DNV GL's procedures and maker's manual (or equivalent standard as specified by the Flag Administration)

Type Examination documentation

Drawing from manufacturer: 91104-737B rev. C, 71016-459D rev. D, 71114-468B rev. B, 80115-494, 80220-524A rev. A, 81201-624B rev. B, 71114-468B rev. B, 80115-494, 80125-518F rev. E-F, 71212-488C rev. C, 100519-830, 100519-828A rev. A, 100519-829A rev. A, 100519-827A rev.A, 100519-826D rev. D, 110420-857B, rev. B, 71112-466C rev. C, 71121-471A rev. A, 71112-467d rev. D, 71114-468C, rev. C, 80930-596D, 101116-852A rev. A, 80717-570A rev. A, 81021-607A rev. A, 151203-4109A, 151202-4106A, 151203-4107A.

Tests carried out

Tested according to IMO Res. A.800(19) as amended by IMO Res. MSC.265(84).

Marking of product

The product is to be marked with name of manufacturer, type designation, the MED Mark of Conformity, Notified Body No. and the year of manufacturing.

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.