



Certificate No:  
**TAP00002M1**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Flexible Hoses for CO2 Systems**

with type designation(s)  
**POSEIDON 1SN**

Issued to  
**Poseidon Marine Suppliers**  
**Piraeus, Greece**

is found to comply with  
**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems**  
**DNV class programme DNV-CP-0183 – Type approval – Flexible non-metallic hoses**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV.**

**Temperature range:** -40°C to +100°C  
**Max. working press.:** 160 bar and 225 bar  
**Sizes:** 1/4" and 1/2"

Issued at **Høvik** on **2024-01-10**

This Certificate is valid until **2029-01-09**.

DNV local station: **Piraeus**

Approval Engineer: **Andreas Hansen**

for **DNV**

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**Bosman van der Merwe**  
**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

One type of non-metallic flexible hose assembly constructed according to EN 853 1SN, comprised of the following materials:

|                      |   |                                                |
|----------------------|---|------------------------------------------------|
| Tube                 | : | Black, oil resistant synthetic rubber          |
| Reinforcement        | : | Single wire braid of high tensile steel        |
| Cover                | : | Black, abrasion resistant neoprene blend, MSHA |
| Coupling and ferrule | : | Carbon steel 11SMnPb30                         |

#### Hose assembly location:

Poseidon Marine Suppliers  
 6-8 Almyridos Street  
 Piraeus, Greece

### Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled, and delivered by the holder (named as manufacturer) of this certificate.

| Size | Maximum working pressure | End fittings designation |                     |
|------|--------------------------|--------------------------|---------------------|
|      |                          | Ferrule                  | Insert              |
| 1/4" | 225 bar                  | FER02                    | FIT03, 35.45        |
| 1/2" | 160 bar                  | FER01                    | FIT01, FIT02, 35.45 |

Hose assemblies covered by this certificate are approved to be used as flexible connections between cylinders and manifolds or cylinders to cylinders in CO2 fire extinguishing systems.

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery and must only be fitted in places where they are always accessible.

The cover on hoses for gaseous systems shall be pin pricked.

Hose assemblies covered by this type approval certificate shall not be installed in systems subject to pressure below atmospheric.

Hose assemblies covered by this type approval certificate shall not be used in systems subject to pressure pulsation.

The outer end of the pipe coupling (performing the connection to the fixed piping) is not covered by this certificate and shall follow the below requirements:

- Flanged ends shall be according to a recognized standard
- Slip-on threaded joints having pipe threads where pressure-tight joints are made on the threads with parallel or tapered threads, shall comply with requirements of a recognized standard. Limitations stated in DNV-RU-SHIP Pt.4 Ch.5 Sec.9 [5.2.6] to be followed.
- If these outer ends are going to be part of a mechanical joints as covered by DNV-RU-SHIP Pt.4 Ch.6 Sec.9 [Table 10], then they shall be separately type approved.

### Production testing

All hose assemblies delivered under the DNV type approval scheme shall be subjected to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to this type approval certificate.

## **Type Approval documentation**

### **Tests carried out**

Dimensional check, change in length check, burst pressure test, proof pressure test, cover adhesion test, endurance test, cold flexibility test, ozone resistance test, and fire resistance test.

### **Marking of product**

For traceability to this type approval, the products are at least to be marked with:

- Hose manufacturer's name or trademark;
- Date of manufacture (month/year);
- Designation type reference;
- Nominal diameter;
- Pressure rating;
- Temperature rating.

### **Periodical assessment**

This certificate is only valid if required periodical assessments are carried out with satisfactory results.

For retention of the type approval, a DNV surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.