

TYPE APPROVAL CERTIFICATE

Certificate No:
TAP000007R
Revision No:
1

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
PTFE hose Hydraline SB

Issued to

Tofle Co., Inc.
Hagi, Yamaguchi Pref., Japan

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Temperature range: 0°C to +180°C
Max. working press.: 28 bar
Sizes: 3/8" and 1/2"

Issued at **Høvik** on **2020-08-07**

This Certificate is valid until **2025-06-29**.

DNV GL local station: **Hiroshima**

Approval Engineer: **Andreas Hansen**



for **DNV GL**

Digitally Signed By: **Zeinab Sharifi**

Location: **DNV GL Høvik, Norway**

Zeinab Sharifi
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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **262.1-007122-3**
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Product description

Hoses made of PTFE with external single wire braid (made of SUS304) as reinforcement.
Hose manufacturer: Tofle Co. Inc, Japan

Couplings are permanently fitted and are made of SUS304.
Coupling manufacturer: Tofle Co. Inc, Japan

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.

Hose assemblies are approved to be used in boiler fuel lines.

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. They shall not be used where fixed piping is possible/required.

The hose assemblies must only be fitted on places where they are always accessible for inspection and shall be mounted according to the manufacturer's instructions.

The installed hose must be possible to shut off from the system.

Hose assemblies shall not be subject to pressure below atmospheric.

Production testing

Each hose assembly shall be hydrostatically tested at a pressure of 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate.

Type Approval documentation

Drawings:

- FCF800141-B, dated 2008-11-27
- FCH800750-B, dated 2020-03-30

Reports:

- Test procedure with document no. PNO-078-01 dated 2009-07-09
- Type test report, issue D-2599 witnessed by DNV local surveyor @ Kobe. (test date: 2010-07-27 to 2010-12-15)
- Application with document no. D-0902-10 dated 2009-02-26
- Fire test procedure no PNO-041-01 dated 2008-04-25
- Type test report witnessed by DNV GL Surveyor, dated 2020-07-27

Tests carried out

Fire test, burst test, dimensional check test, change in length test and pressure pulsation test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Maximum working pressure
- Size

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a 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 DNVGL-CP-0338.