

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**with type designation(s)
PTFE hose type 11-8850T

Issued to

DUNLOP HIFLEX OY
Vantaa, Finland

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme CP-0183 – Type Approval of flexible hoses of non-metallic material**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Temperature range:** 0°C to 200°C
Max. working press.: 16 bar
Sizes: 3/8" - 1/2" - 5/8" - 3/4" - 1" - 1 1/4" - 1 1/2" - 2"This Certificate is valid until **2019-06-30**.Issued at **Høvik** on **2016-03-04**for **DNV GL**DNV GL local station: **Turku**Approval Engineer: **Adel Samiei**-----
Marianne Spæren Marveng
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.

Job Id: **262.1-010117-2**
Certificate No: **TAP000007C**

Product description

Dunlop Hiflex type designation: 11-8850T.

The hose is a Tubiflex Tubiflon TX T 8850.50 Teflon hose with Dunlop Hiflex 50-serie fittings.

Reinforcement: One layer of stainless steel wire braid made from AISI 302 or 304.

The hose is protected by an Insulflex red fire sleeve

Application/Limitation

The hose assemblies are approved to be used in fuel oil & lubricant oil systems.

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.

Flexible hoses are only to be used where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

Hose assemblies with couplings made of carbon steel are not to be used at temperatures below -10°C unless the material is normalized.

All hoses delivered under the DNV GL type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate.

The hoses must only be fitted in places where they are always accessible.

The hoses are to be mounted in accordance with the manufacturer's instructions.

The hose assemblies shall not be installed in systems subject to pressure pulsation or pressure below atmospheric.

The hose assemblies shall not be installed in high pressure fuel oil injection systems.

Type Approval documentation

Tests carried out

Type tests have been done in accordance with DNV type approval programme 5-791.70:
Dimensional check test, Change in length test, Burst test, Fire 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

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Periodical assessment

For retention of the Type Approval, DNV GL Surveyor shall perform a periodical assessment every second year, to verify that the conditions for the type approval are complied with and to witness the following tests on a selection of sizes:

Dimensional check/ Change in length/ Production test/ Burst test

The tests are to be performed with the type of couplings fitted that are Type Approved with the hoses.