

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
TRACTOR 1SC

Issued to

Jiangsu Tieke New Material Co.,Ltd.
Zhenjiang, China

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Temperature range: see certificate
Max. working press.: 5 to 30 bar (see certificate)
Sizes: ø10, 15A, 20A, 25A, 40A, 65A & 80A

This Certificate is valid until **2022-01-12**.

Issued at **Høvik** on **2017-01-13**

for **DNV GL**

DNV GL local station: **Shanghai CMC**

Approval Engineer: **Maheshraja Venkatesan**

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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:
Certificate No: **TAP00000R4**

Product description

One type of hose assembly with 8 different variants:

Hose:

- Tube : oil & water resistant synthetic rubber
- Reinforcement : one layer of high tensile steel braid
- Cover : oil & weather resistant synthetic rubber

Socket:

- Grade 20 from standard GB/T699

End connection (nipple & flanges):

- Grade 25 from standard GB/T699

Manufacturing locations:

- Hose : Manuli Hydraulics (Suzhou) Co. Ltd., Jiangsu Sheng, China
- Couplings : Jiangsu Tieke New Material Co.,Ltd., Zhenjiang, China

Assembling location : Jiangsu Tieke New Material Co.,Ltd., Zhenjiang, China

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 covered by this certificate are suitable for use with:

- hydraulic fluids in accordance with ISO 6743-4 with the exception of HFD R, HFD S & HFD T at temperatures ranging from -40 °C to +100 °C
- water based fluids at temperatures ranging from -40°C to 70°C
- water at temperatures ranging from 0 °C to +70°C

Maximum working pressure for each type and size:

Hose	Symbol mark	Size	Max. outside diameter of hose (mm)	Nipple form	Maximum working pressure bar(g)
TRACTOR 1SC DN16	FLS05-15A	15A	23.0	Form (1)	5
TRACTOR 1SC DN19	FLS05-20A	20A	26.7		
TRACTOR 1SC DN25	FLS05-25A	25A	34.9		
TRACTOR 1SC DN38	FLS05-40A	40A	48.1		
TRACTOR 1SC DN63	FLS05-65A	65A	73.0		
TRACTOR 1SC DN76	FLS05-80A	80A	88.3		
TRACTOR 1SC DN25	FLS30-25A	25A	34.9	Form (2)	30
TRACTOR 1SC DN10	KT10-Ø10	Ø10	16.9	Form (3)	10

Flexible hoses are only to be used in short lengths 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 hose assemblies 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 hose assemblies must only be fitted in places where they are always accessible.

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

Type Approval documentation

Tests carried out

Dimensional check, change in length, cold flexibility, oil resistance, water resistance, cover adhesion, ozone resistance, impulse, fire & burst 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
- Additional marking at manufacturer's option

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
- Burst test

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