



Certificate no.:
TAP00002YS

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
SF20

issued to

Techfluid Yantai Limited
Yantai, Shandong, China

is found to comply with

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 all vessels classed by DNV.

Temperature range: -30 to +100 °C

Max. working press.: 20 bar

Sizes: 3" to 8"

Issued at **Høvik** on **2025-07-25**

This Certificate is valid until **2030-07-24**.

for **DNV**

DNV local unit: **Dalian NB & CMC**

Approval Engineer: **Sarah Miller**

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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 USD 300 000.

Product description

Techfluid Yantai Limited flexible non-metallic hose assembly with permanently fitted couplings with hose type designation SF20, constructed with the following design:

Hoses designed & constructed according to ISO 28017:2018

Tube : Black NBR+NR Rubber

Reinforcement : High Tensile Synthetic Textile with Embedded Steel Helix Wire

Cover : Red or Black CR Rubber

Coupling Material: AISI 316L, AISI 316, F51 UNS No. S31603, F53 UNS No. S32750

Application/Limitation

Fuel oil, mud, sea water. Especially suitable for submersible pump hose applications that are resistant to crushing and tensile load.

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.

The hose assemblies must only be fitted in places where they are always accessible and shall be mounted in accordance with the manufacturer's instructions. Hoses in this certificate are not to be used on boiler fronts.

The hose assemblies shall not be installed in systems experiencing 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;
- If these outer ends are going to be part of a mechanical joint as covered by DNV-RU-SHIP Pt.4 Ch.7 Sec.9 [Table 9], then they shall be separately approved.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions.

Fluid medium	Temperature range for SF20
Petroleum based hydraulic fluids	-30°C to +100°C
Water based hydraulic fluids	-30°C to +100°C
Air & water	-30°C to +100°C

Size		SF20	
		Maximum working pressure (bar)	Coupling type
DN	Inch		Ferrule part #
80	3"	20	JZG-SF-76x20-01, JZG-SF-76x20-02, JZG-SF-76x20-03
100	4"	20	JZG-SF-102x20-01, JZG-SF-102x20-02, JZG-SF-102x20-03
125	5"	20	JZG-SF-127x20-01, JZG-SF-127x20-02, JZG-SF-127x20-03
150	6"	20	JZG-SF-152x20-01, JZG-SF-152x20-02, JZG-SF-152x20-03
200	8"	20	JZG-SF-203x20-01, JZG-SF-203x20-02, JZG-SF-203x20-03

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

Suction and delivery of oil and another common materials such as fuel oil, mud, sea water. Especially suitable for submerible pump hose applications that are resistant to crushing and tensile load.

Type Approval documentation

Tests carried out

Dimensional check, Change in length, Burst test, Cover Adhesion Test Report, cold flexibility (low temperature Flexibility) Test Report, ozone resistance, Vacuum Test Report, Fire resistance Test Report, Adhesion Test Report, End load Test Report and Inner Tube Abrasion Test Report.

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>.

Hose manufacturing location

Techfluid Yantai Ltd No.628, Pinglidian Road, Laizhou City, Shandong Province

Coupling manufacturing location

Techfluid Yantai Ltd No.628, Pinglidian Road, Laizhou City, Shandong Province