



TYPE APPROVAL CERTIFICATE

Certificate No:
TAP000013R
Revision No:
1

This is to certify:

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

with type designation(s)
221FR with Parker couplings series 26

Issued to

**Parker Hannifin Corporation dba Hose Products Division
Wickliffe, OH, USA**

is found to comply with

**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
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: -20 to +100°C (see application)
Max. working press.: 500 psi (3.5MPa)
Sizes: 1/4" to 7/8"**

Issued at **Høvik** on **2023-01-06**

This Certificate is valid until **2027-11-04**.

for **DNV**

DNV local unit: **New York**

Approval Engineer: **Andreas Hansen**

**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

A single wire braid reinforced, rubber covered hose; meets or exceed all the requirements specified in SAE J1527 Style R3 USCG Type A1 and SAE J1942 standards.

Inner Tube: Synthetic rubber
 Reinforcement: One braid steel wire
 Cover: Synthetic rubber, blue, MSHA accepted

Couplings:
 Parker Coupling Series 26 of carbon steel, or brass, or 316 stainless steel.

The rubber hoses are manufactured at the following Parker Hannifin locations:
 Manhattan, Kansas; Alliance, Nebraska

The couplings are manufactured at the following Parker Hannifin locations:
 Manitowic, Wisconsin; Mason, Michigan; Yangsan, Korea; Chomotov, Czech Republic; Muecke, Germany; Bielefeld, Germany

Hose assembling locations:

- Parker Hannifin, 125 E. Meadowiew Road, Greensboro, NC, 27406
- Parker Hannifin, 3737 West River Drive, Davenport, IA, 5280

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.

The hose is designed for use with:

- marine fuels within a temperature range of -20°C to +100°C (-4°F to +212°F)
- petroleum base hydraulic fluids and lubricating oils within a temperature range of -20°C to +100°C (-4°F to +212°F)
- water, water/oil emulsion and water/glycol hydraulic fluids up to +85°C (+185°F)
- air up to +70°C (+158°F)

Manufacturer No.	Hose I.D.		Maximum working pressure	
	Inch	mm	psi	Bar
-5	1/4"	6.3	500	35
-6	5/16"	8	500	35
-8	13/32"	10	500	35
-10	1/2"	12.5	500	35
-12	5/8"	16	500	35
-16	7/8"	22	500	35

* size designations are in accordance with SAE J1527 Table 1

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.

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.

It must be possible to shut off from the system all flexible hoses used in systems for compressed air, lube oil, fuel oil and petroleum base hydraulic oil.

Hoses covered by this certificate shall not be used in oil supply lines to burners.

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.6 Sec.9 [5.2.6] to be followed.
- If these outer ends are going to be part of a mechanical joint as covered by Table 10 DNV-RU-SHIP Pt.4 Ch.6 Sec.9, then they shall be separately type approved.

Production testing

All hose assemblies delivered under the DNV 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.

Type Approval documentation

Tests carried out

Impulse, burst, cold flexibility, oil resistance, ozone, vacuum, cover adhesion, change in length, dimensional check, 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

Periodical assessment

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.