Certificate no.:
TAP000033Z

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
PLKTC (ParLock Multispiral)

issued to
Parker Hannifin Manufacturing S.r.l.
Corsico, MI, Italy

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:	**See page 2.**
Max. working press.:	**See page 2.**
Sizes:	**DN6 to DN76**

Issued at **Høvik** on **2026-03-19**
This Certificate is valid until **2031-03-18**.
DNV local unit: **Italy/Malta CMC**

for **DNV**

Approval Engineer: **Tobias Berntsen**

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

PLKTC non-metallic hose with permanently attached couplings designed according to ISO 3862 / EN 856 compromising of following construction:

Tube	:	Synthetic rubber resistant to hydraulic oil
Reinforcement	:	4 or 6-high tensile steel spirals
Cover	:	Highly abrasion resistant MSHA approved synthetic rubber
Fittings	:	External skiving type VS for sizes DN06 to DN12 Internal and external skiving, type V4 for sizes DN16 to DN51 Internal and external skiving, type V6 for sizes DN63 to DN76

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 may be used in:

- Hydraulic based fluids (Mineral oils) and Biological Oils (-40°C to +100C°, for sizes DN63 and DN76: -40°C to +125°C);
- Water Based Fluids and compressed air (-40°C to +70 °C);
- Water (0°C to +85°C).

Maximum working pressure at room temperature:

Size		PLKTC
DASH	DN	
4	6	500 bar
6	10	450 bar
8	12	420 bar
10	16	390 bar
12	19	430 bar
16	25	400 bar
20	31	350 bar
24	38	310 bar
32	51	280 bar
40	63	350 bar
48	76	210 bar

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 covered by this certificate shall not be used in system subject to pressure below atmospheric or vacuum condition

The cover of hoses for air and gaseous applications shall be pin-pricked.

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 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 DNV-RU-SHIP Pt.4 Ch.6 Sec.9 [Table 10], then they shall be separately type approved.

Production testing

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

Type Approval documentation

Tests carried out
Dimensional check, change in length, leakage test, cold flexibility, resistance against liquids, cover adhesion, ozone resistance, fire test, impulse, burst at minimum design temperature, endurance test with liquid carbon dioxide.

Marking of product
For traceability to this type approval the products are 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.

Manufactured by:
Manufacturing location for hose:

Parker Hannifin Manufacturing S.r.l
6 Via Giovanni Battista Pirelli
Veniano, CO, 22070 Italy

Manufacturing location for end fittings:

Parker Hannifin GmbH,
Fluid Verbindungsteile,
35325, Mücke, Germany