Certificate no.:
TAP000030C

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
L46-X, L46

issued to
Danfoss Power Solutions Polimer Kaucuk San.ve Paz. A.S.
Istanbul, **Türkiye**

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
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.

Type:	Temperature range:	Max. working press.:	Sizes:
L46-X	-40°C to +100°C	420 bar / 6100 psi	DN32
L46	-40°C to +100°C	420 bar / 6090 psi	DN20 / DN25

Issued at **Hamburg** on **2025-05-27**
This Certificate is valid until **2030-05-26**.
DNV local unit: **Istanbul**

for **DNV**

Approval Engineer: **Christian Kaemmer**

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

L46-Series / L46-X-Series:
Flexible non-metallic hose consisting of synthetic rubber inner tube, 4 wire spiral reinforcement, synthetic rubber hose cover. Fire resistant acc. to ISO 15540.

Reinforcement:	Steel wire spiral
Inner Tube:	Synthetic rubber
Cover:	Synthetic rubber
Coupling:	1.0715; 1.0553

Size and pressure range:

Part Number	DN	Hose I.D.		Maximum working pressure		Ferrule
		mm	inch	[bar]	[psi]	HDS
L46	20	19.0	0.75	420	6090	NW20S46
L46	25	25.4	1.00	420	6090	NW25S46
L46-X	32	31.8	1.25	420	6100	NW32S46-X

Responsibility
Danfoss Power Solutions Polimer Kaucuk San.ve Paz. A.S takes the responsibility that the design and production of the hoses, hose end fittings and manufacturing of hose assemblies are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation
Hose assemblies covered by this type-approval certificate are approved for hydraulic oil, hydraulic systems.

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.

Installation
The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses are not to be used on boiler fronts. It must be possible to shut off from the system all flexible hoses used in systems for compressed air, fresh water cooling applications, lube oil, fuel oil and petroleum base hydraulic oil.
For temperatures below 0°C the supplementary material requirements acc. to DNV-Rules “Ships /Metallic Materials” Part 2, chapter 2, section 5 item 4 are to be observed.

Type Approval documentation

Tests carried out

Production testing

All hose assemblies 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.

Manufactured by:

- Danfoss Power Solutions Polimer Kaucuk San.ve Paz. A.S., Çerkezköy Organize Sanayi Bölgesi Karaağaç mah. 6. Sok No:3, Kapaklı / TEKİRDAĞ, TURKEY

Marking of product

For traceability to this type approval certificate, each hose assembly is 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

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com