

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Flexible Hoses and Hose assemblies of Non-Metallic Material**

with type designation(s)
FHD, SBL, SBS, TW, STW

issued to

ELAFLEX HIBY GmbH & Co. KG
Hamburg, Germany

is found to comply with

EN 1765:2016 Rubber hose assemblies for oil suction and discharge services – Specification for the assemblies

Application:

Rubber hose assemblies for oil suction and discharge services - type R, A, S and L

Type:	Temperature range:	Max. working press.:	Sizes:
FHD	-30°C up to +90°C	up to 16bar	DN75 - DN250
SBL	-30°C up to +90°C	up to 15bar	DN100 - DN250
SBS	-30°C up to +90°C	up to 16bar	DN150 - DN300
TW	-30°C up to +90°C	up to 20bar	DN19 - DN100
STW	-30°C up to +90°C	up to 16bar	DN125 - DN200

Issued at **Hamburg** on **2025-09-16**

This Certificate is valid until **2030-09-15**.

DNV local unit: **Essen**

Approval Engineer: **Hagen Markus**

for **DNV**



Digitally Signed By:
Sven Klinger
Location: DNV Hamburg,
Germany

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

Rubber hose assemblies for oil suction and discharge services - type R, A, S and L.
 Reference: Elaflex catalogue "Petrol + Chemical Hoses, Section 1":

Marine hoses for reattachable hose couplings

Collapsible marine bunkering reel discharge hose for petroleum-based products

Type FHD

Lining : Nitrile rubber (NBR) black, seamless, electrically dissipative, no fuel-solubility
 Reinforcements : Low tensile textile braids with two crossed tinned copper strands
 Cover : Chloroprene (CR) black conductive, electrically dissipative, resistant to abrasion, weathering

Type STW

Marine suction and discharge hose for tanker vessels for petroleum-based products
 Lining : Nitrile rubber (NBR), black, no fuel solubility
 Reinforcements : Textile braids (STW 200 Nylon Cord) and galvanised steel helix
 Cover : Chloroprene (CR), black, electrically dissipative

Bunkering hoses

Marine cargo hose for bulk loading and unloading of bunkering ships and tankers for petroleum-based products

Type SBL, SBS

Lining : Nitrile rubber (NBR), black, electrically dissipative, no fuel solubility
 Reinforcements : multiple low tensile textile cord layers, standard type SBS with galvanized steel helices
 Cover : Chloroprene (CR), black, smooth, el. dissipative

Tank truck hoses with steel helix

Yellow band smooth bore tank truck hose with kink resistant steel helix for petroleum-based products

Type TW

Lining : Nitrile rubber (NBR), black, conductive, no fuel solubility
 Reinforcements : Textile braids with two crossed tinned copper strands and embedded non-kinking galvanised steel helix in the conductive layer
 Cover: Chloroprene (CR) black, conductive

Application/Limitation

Rubber Hose Assemblies for Oil Suction and Discharge Services

This Type Approval certificate is not valid for designs, components, equipment, systems or products which are subject to maritime classification by DNV.


Type Approval documentation

- Elaflex catalogue Petrol + Chemical hoses, Section 1, Revision 08.2025
- Assessment reports
 - Hose production site ContiTech Korbach
 - Hose assembly production site ELAFLEX HIBY, Hamburg
- Burst pressure reports: carried out at ELAFLEX HIBY, Hamburg

Tests carried out

Type tests according to hose design standard EN 1765

Marking of product

Scope	Example
Hose assembly manufacturer	ELAFLEX  MADE IN GERMANY
Type	ELAFLEX FHD
Design standard	EN 1765
Production date hose Quarter / Year	3Q-25

Periodical assessment

Not applicable.