



TYPE APPROVAL CERTIFICATE

Certificate No:
TAP000011B
Revision No:
2

This is to certify:

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

with type designation(s)
EFG3K, EFG4K, EFG5K, EFG6K

Issued to

Volz Gruppe GmbH
Deilingen, Germany

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 :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.
Temperature range: -40°C to +100°C

Issued at **Hamburg** on **2022-10-06**

This Certificate is valid until **2027-10-05**.

DNV local station: **Augsburg**

Approval Engineer: **Christian Kaemmer**

for **DNV**

Sven Klinger
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

Hose Type	Hose standard	Ferrule	Hose end fittings	Material
EFG3K EFG4K (Gates)	Tube: Synthetic rubber Cover: Synthetic rubber Reinforcement: Four or six layers of spirally wound steel wire wrapped Abrasion resistant MegaTuff® cover, EN 856, Typ R12.	PF5	DKO ; DKO 45° ; DKO 90° ; DKLL / DKL / DKS ; DKLL / DKL / DKS 45° ; DKLL / DKL / DKS 90° ; BE ; BE 45° ; BE 90° ; BE SW ; BE SW 45° ; BE SW 90° ; DKR ; DKR 45° ; DKR 90° ; DKRF ; DKRF 45° ; DKRF 90° ; AGJ ; DKJ ; DKJ 45° ; DKJ 90° ; CE ; AGR ; AGR WD ; AGR BSPT-m ; AGN ; DSN ; SFL3 / SFS6 ; SFL3 / SFS6 45° ; SFL3 / SFS6 90° ; RGN ; DKO KÄ ; DKNPSM ; GADV ; ORFS-m ; ORFS-f ; ORFS-f 45° ; ORFS-f 90° ; TW ; SAE-f ; SAE 45°-f ; SAE 90°-f ; STL ; STL 45° ; STL 90°	1.4571 (316Ti)
EFG5K (Gates)	Tube: Synthetic rubber Cover: Synthetic rubber Reinforcement: Four or six layers of spirally wound steel wire wrapped Abrasion resistant MegaTuff® cover, EN 856, Type R13.	3/8" & 5/8": PF5 ¾"-2": PFI	DKO ; DKO 45° ; DKO 90° ; DKLL / DKL / DKS ; DKLL / DKL / DKS 45° ; DKLL / DKL / DKS 90° ; BE ; BE 45° ; BE 90° ; BE SW ; BE SW 45° ; BE SW 90° ; DKR ; DKR 45° ; DKR 90° ; DKRF ; DKRF 45° ; DKRF 90° ; AGJ ; DKJ ; DKJ 45° ; DKJ 90° ; CE ; AGR ; AGR WD ; AGR BSPT-m ; AGN ; DSN ; SFL3 / SFS6 ; SFL3 / SFS6 45° ; SFL3 / SFS6 90° ; RGN ; DKO KÄ ; DKNPSM ; GADV ; ORFS-m ; ORFS-f ; ORFS-f 45° ; ORFS-f 90° ; TW ; SAE-f ; SAE 45°-f ; SAE 90°-f ; STL ; STL 45° ; STL 90° ; DKO - IN ; DKO 45° - IN ; DKO 90° - IN ; DKR - IN ; DKR 45° - IN ; DKR 90° - IN ; AGR - IN ; AGR 45° - IN ; AGR 90° - IN ; SFL3 / SFS6 - IN ; SFL3 / SFS6 45° - IN ; SFL3 / SFS6 90° IN ; DKJ - IN ; DKJ 45° - IN ; DKJ 90° - IN ; AGN - IN ; AGN 45° - IN ; AGN 90° - IN	1.4571 (316Ti)
EFG6K (Gates)	Tube: Synthetic rubber Cover: Synthetic rubber Reinforcement: Four or six layers of spirally wound steel wire wrapped Abrasion resistant MegaTuff® cover, SAE 100R15.	3/8"-5/8": PF5 ¾"-2": PFI	DKO ; DKO 45° ; DKO 90° ; DKLL / DKL / DKS ; DKLL / DKL / DKS 45° ; DKLL / DKL / DKS 90° ; BE ; BE 45° ; BE 90° ; BE SW ; BE SW 45° ; BE SW 90° ; DKR ; DKR 45° ; DKR 90° ; DKRF ; DKRF 45° ; DKRF 90° ; AGJ ; DKJ ; DKJ 45° ; DKJ 90° ; CE ; AGR ; AGR WD ; AGR BSPT-m ; AGN ; DSN ; SFL3 / SFS6 ; SFL3 / SFS6 45° ; SFL3 / SFS6 90° ; RGN ; DKO KÄ ; DKNPSM ; GADV ; ORFS-m ; ORFS-f ; ORFS-f 45° ; ORFS-f 90° ; TW ; SAE-f ; SAE 45°-f ; SAE 90°-f ; STL ; STL 45° ; STL 90° ; DKO - IN ; DKO 45° - IN ; DKO 90° - IN ; DKR - IN ; DKR 45° - IN ; DKR 90° - IN ; AGR - IN ; AGR 45° - IN ; AGR 90° - IN ; SFL3 / SFS6 - IN ; SFL3 / SFS6 45° - IN ; SFL3 / SFS6 90° IN ; DKJ - IN ; DKJ 45° - IN ; DKJ 90° - IN ; AGN - IN ; AGN 45° - IN ; AGN 90° - IN	1.4571 (316Ti)

Size and pressure range:

Size	EFG3K	EFG4K	EFG5K	EFG6K
	Max. Allowable Working Pressure M.A.W.P. [bar]			
3/8"	-	280	350	420
1/2"	-	280	350	420
5/8"	-	280	350	420
3/4"	-	280	350	420
1"	-	280	350	420
1 1/4"	210	280	350	420
1 1/2"	210	-	350	420
2"	210	-	350	420

Temperature range

- 40°C to +100°C
 + 75°C for air, + 85°C for water

Production places

- Volz Gruppe GmbH Deilingen Germany
- The Gates Rubber Company, USA

Application/Limitation

Hose assemblies covered by this type approval certificate are type approved for fuel oil, lubricating oil and hydraulic oil, fresh and seawater, compressed air systems (pin prick cover is required for air applications above 17 [bar]).

Installation

The hose assemblies must only be fitted in places where they are always accessible.
 Flexible hoses of these types are not to be used on boiler fronts.
 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, fresh water cooling applications, lube oil, fuel oil and petroleum base hydraulic oil.
 The hoses are not to be used for suction. The use of hose assemblies is not permitted in permanently pressurized starting air lines of diesel engines.

**Type Approval documentation
 Tests carried out**

Marking of product

For traceability to this type approval the products are to be marked at least with:

- Manufacturer's name / trade-mark
- Type designation
- Dash size
- M.A.W.P

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>