

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**with type designation(s)
marsoflex40HW-050

Issued to

Alfons Markert + Co. GmbH
Neumünster, Schleswig-Holstein, Germany

is found to comply with

DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.****Temperature range:** -20°C up to +100°C**Max. working press.:** -0,9bar up to 10bar (gauge)**Sizes:** DN50Issued at **Hamburg** on **2021-09-22**This Certificate is valid until **2026-09-21**.DNV local station: **Hamburg – CMC North/East**for **DNV**Approval Engineer: **Hagen Markus**

Olaf Drews
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

Non-metallic hose assembly consisting of vacuum resistant non-metallic hose fitted with stainless steel end fittings ready for installation. Further details acc. to product data sheet "EPDM-Chemieschlauch Type 40 HW"

Hose

Liner and cover made of EPDM. Hose braiding made of high-strength textile yarn and kink-proofed spring steel wire spirals. The hose cover is resistant against chemicals, ozone and weather influences.
Hose design and test standard: EN 12115.

Hose end fitting

Component	Type	Drawing	Material
Ferrule	FTW/S	"Pressfassung DN50 für TW und Silikon" - 00210	1.4301, 1.4404
Nipple	AN	„Anschweißstutzen DN50“ – 00762, 00763	1.4301, 1.4435, 1.4404, 1.4571

Application/Limitation

The marsoflex 40 HW DN50 hose assembly is type approved for installation in suction lines of high-pressure pumps as part of fire extinguishing systems.

As a rule, the locations of fire extinguishing systems are classified as having a low fire risk. For this reason, the hose assembly has not been type tested with respect to fire resistance capability. Should there be any deviations from this, the "arrangement" must be agreed with the class. For other applications the requirements stipulated in the applicable Rules are to be observed.

Operation parameter

Maximum service pressure	10bar
Vacuum capability	Up to -0.9bar (gauge)
Electrical resistance	< 10 ⁶ Ω
Temperature range	-20°C up to 100°C

Type Approval documentation

Tests carried out

Burst pressure test, Vacuum test, Adhesion tests, cold flexibility at -20°C, Ozone resistance, Dimensions, Electrical resistance.

Production testing

Each hose assembly is to be pressure tested with 15 bar, (1.5 times service pressure 10bar).
Appropriate inspection certificate to be issued and to be enclosed with the delivery

Marking of product

After a successful pressure test, the product will be marked on the ferrule using a roll embossing machine.
In case of final inspection by DNV surveyor additional laser marking of Product certificate number (PC).

Principle structure

<Manufacturer> - <PN> - <Test number (3.1 certificate reference)> - <Month> - <AMCO¹ Logo> - <Year> -
<DNV Product Certificate number with logo>. The order of the data may differ.

Examples

1. Final inspection witnessed by DNV: AMCO - PN10 – 371950 - 08 <Logo AMCO> 21 - N141B6KM1 DNV
2. Final inspection by Alfons Markert: AMCO - PN10 – 371950 - 08 <Logo AMCO> 21

Notes

¹ AMCO = Alfons Markert + Co

Periodical assessment

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

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

End of certificate