



CERTIFICATE NUMBER 26-0659750-PDA
EFFECTIVE DATE 17-Sep-2026
EXPIRY DATE 16-Sep-2031
ABS TECHNICAL OFFICE Houston ESD

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

GATES CORPORATION

located at

330 INVERNESS DRIVE SOUTH, , ENGLEWOOD, CO, United States, 80112

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Non-Metallic Flexible Hoses with End Fittings
Model: M4K-MTF, M5K-MTF, EFG4K-MTF, EFG5K-MTF, and EFG6K-MTF
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 16/Sep/2031 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Electronically Signed by:
Emma Youjin Lee, Senior Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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Product: Non-Metallic Flexible Hoses with End Fittings
Model: M4K-MTF, M5K-MTF, EFG4K-MTF, EFG5K-MTF, and EFG6K-MTF
Endorsements:

Intended Service:

Marine and Offshore Applications - High Pressure Hydraulic Fluid, Compressed Air, Fresh Water, and Sea Water Systems.

Description:

M4K-MTF Series
Tube: Black, Oil Resistant Synthetic Rubber (Nitrile); Reinforcement: two braided of high-tensile steel wire; Cover: Black, Oil, abrasion, and weather resistant MegaTuff cover with color-coded layline. Also available with unique abrasion-resistant XtraTuff or Standard covers; End fittings: MegaCrimp (Type G), GlobalSpiral (Type GS), Stainless Steel Braid Couplings, and Stainless Steel Spiral Couplings.

M5K-MTF Series:

Tube: Black, Oil Resistant Synthetic Rubber (Nitrile); Reinforcement: two braided of high-tensile steel wire; Cover: Black, Oil, abrasion, and weather resistant MegaTuff cover with color-coded layline. Also available with unique abrasion-resistant XtraTuff or Standard covers; End fittings: MegaCrimp (Type G), GlobalSpiral (Type GS), and Stainless Steel Braid Couplings.

EFG4K-MTF Series

Tube: Black, Oil Resistant, Synthetic Rubber (Nitrile); Reinforcement: Four alternating layers of spiraled, high-tensile steel wire; Cover: Black, Oil, abrasion, and weather resistant MegaTuff cover with color-coded layline. Also available with unique abrasion-resistant XtraTuff or Standard covers; End fittings: GlobalSpiral (Type GS), GlobalSpiral One-Piece Couplings, and Stainless Steel Spiral Couplings.

EFG5K-MTF Series:

Tube: Black, Oil Resistant, Synthetic Rubber (Nitrile); Reinforcement: Four (Six for -20, -24, and -32) alternating layers of spiraled, high-tensile steel; Cover: Black, Oil, abrasion, and weather resistant MegaTuff cover with color-coded layline. Also available with unique abrasion-resistant XtraTuff or Standard covers; End fittings: GlobalSpiral (Type GS), GlobalSpiral MAX Pressure Couplings, and Stainless Steel Spiral Couplings.

EFG6K-MTF Series:

Tube: Black, Oil Resistant, Synthetic Rubber (Nitrile); Reinforcement: Four (Six for -20, -24, and -32) alternating layers of spiraled, high-tensile steel; Cover: Black, Oil, abrasion, and weather resistant MegaTuff cover with color-coded layline. Also available with unique abrasion-resistant XtraTuff or Standard covers; End fittings: GlobalSpiral (Type GS), GlobalSpiral MAX Pressure Couplings, and Stainless Steel Spiral Couplings.

Rating:

M4K-MTF: -40 F to 212 F, 4000 psi;
M5K-MTF: -40 F to 212 F, 5000 psi;
EFG4K-MTF: -40 F to 250 F, 4000 psi;
EFG5K-MTF: -40 F to 250 F, 5000 psi;
EFG6K-MTF: -40 F to 250 F, 6000 psi;

Service Restriction:

1. Unit Certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. Flexible hoses are not acceptable in high-pressure fuel oil injection systems.

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Comments:

- 1) The manufacturer has provided a declaration about the control of or the lack of Asbestos in this product.
- 2) The hoses are to be complete with factory assembled end fittings or factory-supplied ends installed according to the manufacturer's procedure according to Marine Vessels Rules 4-6-2/5.7.3(b).
- 3) Hose assemblies are to be installed only where flexibility is required and are not to be subject to torsional deflection under normal conditions. In addition, the length of the hose is to be limited to the required flexibility only as indicated in Marine Vessels Rules 4-6-2/5.7.4.
- 4) Flexible Hoses are to be permanently marked by the manufacturer with the following details: Hose manufacturer's name or trademark, date of manufacture (month/year), designation type reference, nominal diameter, pressure, and temperature rating per Marine Vessels Rules 4-6-2/5.7.6.

Notes/Drawing/Documentation:

Drawing No. LOCCI15001, LOCCI15001 ABS 21-2130587-PDA Revalidation Test, Revision: 1,
Drawing No. EFG6K-MTF Hose Catalog, EFG6K-MTF Hose Catalog edition 2026, Revision: 2026,
Drawing No. M5K-MTF Hose Catalog, M5K-MTF Hose Catalog edition 2026, Revision: 2026,
Drawing No. EFG4K-MTF Hose Catalog, EFG4K-MTF Hose Catalog edition 2026, Revision: 2026,
Drawing No. M4K-MTF Hose Catalog, M4K-MTF Hose Catalog edition 2026, Revision: 2026,
Drawing No. EFG5K-MTF Hose Catalog, EFG5K-MTF Hose Catalog edition 2026, Revision: 2026,
Drawing No. G Coupling, MegaCrimp(G) Coupling Catalog, Revision: 01,
Drawing No. GS Coupling, GlobalSpiral(GS) Coupling Catalog, Revision: 01,
Drawing No. Technical Dossier, Submission for MTF ABS Type Approval, Revision: 01,
Drawing No. Witness Test Report, ABS M5K-MTF New Type Approval - Burst Test and Fire Test, Revision: 01,

Terms of Validity:

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STANDARDS

ABS Rules:

2026 Rules for Conditions of Classification, Part 1A-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
2026 Rules for Building and Classing Marine Vessel: 4-6-2/5.7

2026 Rules for Conditions of Classification, Offshore Units Part 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, which covers the following:

2026 Rules for Building and Classing Offshore Units: 4-2-1/11.29

National:

EN 856:2026
SAE J517:2020
ASTM 471: 2021

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International:
ISO 15540:2016
ISO 15541:2016
ISO 11237:2025
ISO 18752:2025
ISO 3862:2020
ISO/TS 20444:2024

Government:
NA

EUMED:
NA

OTHERS:
NA