



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 16/MAY/2021. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 28/DEC/2020 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Flexible Hose
Model Name(s): 040 - VHP 10000 MARINER

Presented to:
TRANSFER OIL S.P.A.
VIA SACCA 64
Italy

Intended Service:	Marine and Offshore Applications - High Pressure Non-Flammable Hydraulic Fluid, Compressed Air, Fresh Water & Sea Water Systems.
Description:	Thermoplastic polyester elastomer hoses reinforced with one or two braids of aramid fiber and one braid of steel wire reinforcement covered by thermoplastic polyurethane elastomer. Cover not pin-pricked. For details see Manufacturer's data sheets.
Ratings:	Sizes 1/4 and 3/8 inches Working pressure 700 bar, Burst pressure 2800 bar. Temperature Range: -40°C up to +100°C with the following exceptions Air: Tmax +70°C, Water based fluids: Tmax +70 °C
Service Restrictions:	Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. 1) Hoses are to be completed with factory assembled end fittings or factory supplied end fittings installed in accordance with manufacturer's specifications. 2) End connections are to comply with applicable requirements and limitations of the Rules for the intended service (e.g. Rules for Building and Classing Steel Vessels 4-6-7/3.5.1) 3) Not to be used in piping systems for flammable media (regardless of flash point) and sea water systems where failure may result in flooding as per Rules for Building and Classing Steel Vessels 4-6-2/5.7.3(c). 4) Hose assemblies are to be installed only where flexibility is required and are not to be subject to torsional deflection under normal conditions;

hose length is to be limited to that required by flexibility only. 5) Not to be installed in applications where large amount of repeated flexing is expected in combination with pressure pulses. 6) Not to be used in high pressure fuel oil injection systems, steam systems or oil supply lines to boilers. 7) 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 rating, Temperature rating.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. Manufacturer recommended fittings: Size 1/4 inches, manufacturer's fitting SAF 121 or SAF 821 Size 3/8 inches, manufacturer's fitting SAF 141 or SAF 821 Any fluid, regardless of its flash point, liable to support a flame is to be treated as a flammable fluid. Aviation fuel, diesel fuel, heavy fuel oil, lubricating oil and hydraulic oil (unless the hydraulic oil is specifically specified as non-flammable) are all to be considered flammable fluids as per Rules for Building and Classing Steel Vessels 4-6-1/3.23.

Notes / Documentation:

Drawing No. 0402, 1/4 VHP 10000 MARINER, Revision: 1, Pages: 1 Drawing No. 0404, 3/8 VHP 10000 MARINER, Revision: 1, Pages: 1 Drawing No. 0402 CR, 0402 CROSS SECTION, Revision: 0, Pages: 1 Drawing No. 0404 CR, 0404 CROSS SECTION, Revision: 0, Pages: 1 Drawing No. BTR0402, BURST TEST REPORT 0402, Revision: 0, Pages: 0 Drawing No. BTR0404, BURST TEST REPORT 0404, Revision: 0, Pages: 0 Drawing No. Test Report ABS approved, Test Report ABS approved, Revision: 0, Pages: 1 Drawing No. MI3003159 Certificate, MI3003159 Certificate, Revision: 0, Pages: 1 Drawing No. Impulse test - CQ14045 - 0402, Impulse test - CQ14045 - 0402, Revision: 0, Pages: 1 Drawing No. Impulse test - CQ14045 - 0404, Impulse test - CQ14045 - 0404, Revision: 0, Pages: 1 Drawing No. TO Hydraulic Impulse test procedures, TO Hydraulic Impulse test procedures, Revision: 0, Pages: 1

Term of Validity:

This Product Design Assessment (PDA) Certificate 15-GE1239470-PDA, dated 29/Dec/2015 remains valid until 28/Dec/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

2015 Rules for Conditions of Classification – Offshore Units and Structures 1-1-4/9.7, 1-1 Appendix 2 and 3 2015 Mobile Offshore Drilling Units, 4-2-1/11.29 2015 Rules for Conditions of Classification, 1-1-4/7.7, 1-1 Appendix 3 and 4, 2015 Rules for Building and Classing Steel Vessels 4-6-2/5.7 except 5.7.3(c) 2015 Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length, 4-4-1/9.19 except 9.19.3 (c) 2015 Rules for Building and Classing Offshore Support Vessels, 4-6-2/5.7 except 5.7.3(c) 2015 Rules for Conditions of Classification - High-Speed Craft, 1-1-4/11.9, 1-1-A2, 1-1-A3 2015 Rules for Building and Classing High-Speed Craft, 4-4-1/ 9.19 except 9.19.3 (c)

National Standards:
International Standards:
Government Authority:
EUMED:
Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	15-GE1239470-PDA	29/DEC/2015	28/DEC/2020



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the

date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.