



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 21-FEB-2023. 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 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 Wire Braided Rubber Hose Assembly

Model Name(s): DS1-T, DS2-T, JACK HOSE, FAHERENHEIT 302/2, DS-17, DS-19, FIGHTER DS 2SC/R16, 2 STARK

Presented to:

DIESSE RUBBER HOSES SPA
VIA PROVINCIALE, 8
BERGAMO 24040
Italy

Intended Service:

Medium/high pressure hoses for hydraulic applications, suitable for mineral and vegetable oils, water-based solutions, water, air and inert gas.

Description:

Black synthetic rubber resistant tube with one or more high tensile steel braids covered by black synthetic rubber, resistant to oil, abrasion and weather condition.

Tier:

3

Ratings:

DS1-T: from DN5 to DN51, from 250 bar to 40 bar DS2-T: from DN5 to DN51, from 415 bar to 80 bar JACK HOSE: from DN6 to DN10, 700 bar FAHERENHEIT 302/2: from DN5 to DN51, from 415 bar to 80 bar DS-17: from DN6 to DN25, 210 bar DS-19: from DN6 to DN25, 280 bar FIGHTER DS 2SC/R16: from DN6 to DN38, from 420 bar to 135 bar 2 STARK: from DN6 to DN31, from 450 bar to 175 bar Temperature range: -40 / +150 degC. For additional details, please refer to attachment.

Service Restrictions:

1) 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. 2) Hoses are to be complete with factory assembled end fittings or factory supplied end fittings installed in accordance with manufacturer's specifications. 3) End connections are to comply with applicable requirements and

limitation of Rules (4-6-2/5.5.4, 4-6-2/5.5.5, 4-6-7/3.5.1, 4-6-7/5.3.2). 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 used for installations where repeated and/or frequent flexing is expected. 6) Flexible Hoses are to be permanently marked by the manufacturer with the following details: Hose manufacturer's name or trademark, date of manufacturer (month/year), designation type reference, nominal diameter, pressure and temperature rating in accordance with Steel Vessel Rules 4-6-2/5.7.6 The scope of Type Approval is to comply with MSC.1/Circ.1221 dated 11 December 2006.

Comments:

- The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. - Only the Manufacturer's approved end fittings are to be used, as per the Manufacturer's recommendations.

Notes / Documentation:

FIRE TEST 101 - DS117 FIRE TEST 101 dated 16/12/2016 FIRE TEST 102 - DS117 FIRE TEST 102 dated 16/12/2016 FIRE TEST 103 - DS117 FIRE TEST 103 dated 16/12/2016 IMPULSE TEST 117-06-04 - DS117 dated 19/11/2016 IMPULSE TEST 117-10-06 - DS117 dated 22/10/2016 IMPULSE TEST 117-16-10 - DS117 dated 21/10/2016 IMPULSE TEST 117-31-20 - DS117 dated 23/09/2015 TEST REPORT DS117 - DS117 dated 16/12/2016 FIRE TEST 104 - DS19 FIRE TEST 104 dated 16/12/2016 FIRE TEST 105 - DS19 FIRE TEST 105 dated 16/12/2016 FIRE TEST 106 - DS19 FIRE TEST 106 dated 16/12/2016 IMPULSE TEST R19-10-09 - DS19 dated 02/12/2016 IMPULSE TEST R19-19-12 - DS19 dated 23/12/2016 TEST REPORT DS19 - DS19 dated 16/12/2016 FIRE TEST 107 - FIGHTER DS 2SC-R16 FIRE TEST 107 dated 16/12/2016 FIRE TEST 108 - FIGHTER DS 2SC-R16 FIRE TEST 108 dated 16/12/2016 FIRE TEST 109 - FIGHTER DS 2SC-R16 FIRE TEST 109 dated 16/12/2016 IMPULSE TEST FGT16-06-04 - FIGHTER DS 2SC-R16 dated 22/12/2016 IMPULSE TEST FGT16-10-06 - FIGHTER DS 2SC-R16 dated 02/12/2016 IMPULSE TEST FGT16-16-10 - FIGHTER DS 2SC-R16 dated 20/03/2014 TEST REPORT FIGHTER DS 2SC-R16 - FIGHTER DS 2SC-R16 dated 16/12/2016 FIRE TEST 110 - 2STARK FIRE TEST 110 dated 16/12/2016 FIRE TEST 111 - 2STARK FIRE TEST 111 dated 16/12/2016 FIRE TEST 112 - 2STARK FIRE TEST 112 dated 16/12/2016 IMPULSE TEST 2STK-08-05 - 2STARK dated 02/07/2014 IMPULSE TEST 2STK-12-08 - 2STARK dated 18/11/2014 IMPULSE TEST 2STK-25-16 - 2STARK dated 25/11/2015 TEST REPORT 2STARK - 2STARK dated 16/12/2016 IMPULSE TEST 1SN-06-04 - DS1-T dated 18/02/2015 IMPULSE TEST 1SN-10-06 - DS1-T dated 18/02/2015 IMPULSE TEST 1SN-19-12 - DS1-T dated 15/12/2016 IMPULSE TEST 1SN-38-24 - DS1-T dated 09/10/2015 TEST REPORT DS1-T - DS1-T dated 16/12/2016 FIRE TEST 113 - DS1-T FIRE TEST 113 dated 16/12/2016 FIRE TEST 114 - DS1-T FIRE TEST 114 dated 16/12/2016 FIRE TEST 115 - DS1-T FIRE TEST 115 dated 16/12/2016 IMPULSE TEST 2SN-06-04 - DS2-T dated 26/09/2014 IMPULSE TEST 2SN-10-06 - DS2-T dated 21/10/2014 IMPULSE TEST 2SN-19-12 - DS2-T dated 13/03/2015 IMPULSE TEST 2SN-38-24 - DS2-T dated 15/10/2015 FIRE TEST 116 - DS2-T FIRE TEST 116 dated 16/12/2016 FIRE TEST 117 - DS2-T FIRE TEST 117 dated 16/12/2016 FIRE TEST 118 - DS2-T FIRE TEST 118 dated 16/12/2016 TEST REPORT DS2-T - DS2-T dated 16/12/2016 IMPULSE TEST JCK-06-04 - JACK HOSE dated 15/12/2016 IMPULSE TEST JCK-10-06 - JACK HOSE dated 16/12/2016 dated FIRE TEST 119 - JACK HOSE FIRE TEST 119 dated 16/12/2016 FIRE TEST 120 - JACK HOSE FIRE TEST 120 dated 16/12/2016 TEST REPORT JACK HOSE - JACK HOSE dated 19/10/2016 FIRE TEST 121 - FAHRENHEIT 302-2 FIRE TEST 121 dated 16/12/2016 FIRE TEST 122 - FAHRENHEIT 302-2 FIRE TEST 122 dated 16/12/2016 FIRE TEST 123 - FAHRENHEIT 302-2 FIRE TEST 123 dated 16/12/2016 IMPULSE TEST 2FF-06-04 - FAHRENHEIT 302-2 dated 21/01/2016 IMPULSE TEST 2FF-10-06 - FAHRENHEIT 302-2 dated 25/01/2016 IMPULSE TEST 2FF-19-12 - FAHRENHEIT 302-2 dated 16/12/2016 IMPULSE TEST 2FF-38-24 - FAHRENHEIT 302-2 dated 09/02/2016 TEST REPORT FAHRENHEIT 302-2 - FAHRENHEIT 302-2 dated 16/12/2016 IMPULSE TEST FGT16-31-20 - FIGHTER DS 2SC-R16 dated 23/02/2015 Request 2STARK - 2STARK Request DS1-T - DS1-T Request DS2-T - DS2-T Request DS17 - DS17 Request DS19 - DS19 Request_FAHRENHEIT 302-2 - FAHRENHEIT 302-2 Request FIGHTER DS 2SC-R16 - FIGHTER DS 2SC-R16 Request JACK HOSE - JACK HOSE Diesse Catalog 2017 - Diesse Catalog 2017

Term of Validity:

This Product Design Assessment (PDA) Certificate 18-GE1704062-PDA, dated

22/Feb/2018 remains valid until 21/Feb/2023 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:

The Rules for Conditions of Classification, Part 1 (2018) - Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: Rules for Building and Classing Steel Vessels (2018) 4-6-2/5.7, 4-6-7/3.5.2 Rules for Building and Classing Steel Vessels Under 90 Meters (295 feet) in Length (2018) 4-4-1/9.19 Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways (2018) 4-3-1/7.21 Guide for Building and Classing Yachts (2018) 1-1-3/3.3, 1-1-Appendix 3 and 5 and 4-1-1/Table 3, 4-4-1/9.19 Rules for Building and Classing Steel Barges (2018) 4-1-1/1 Rules for Building and Classing High Speed Craft 1-1-4/11. (2018) 4-4-1/9.19 Rules for Building and Classing Offshore Support Vessels (2018) 4-6-2/5.7 The Rules for Conditions of Classification, Part 1 (2018) - Offshore Units and Structures 1-1-A2, 1-1-A3, which covers the following: Rules for Building and Classing Mobile Offshore Drilling Units (2018) 1-1-4/9.7, Appendix 2 and 3

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

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	18-GE1704062-PDA	23-FEB-2018	21-FEB-2023



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.