



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 25-APR-2022. 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 Hose
**Model Name(s): ALFAGOMMA 1SN TEMP TECH, DUNLOP HIFLEX 1SN
COMMANDER**

Presented to:

ALFAGOMMA HYDRAULIC S.P.A.
VIA E. MATTEI 6
I-64020
Italy

Intended Service:

High pressure hydraulic lines, fuel oil, antifreeze solutions, air and water systems

Description:

Oil resistant synthetic rubber tube reinforced with one high tensile steel wire braid covered by abrasion, ozone and hydrocarbon resistant rubber MSHA approved.

Tier:

3

Ratings:

From DN6 to DN51, pressure from 225 bar to 40 bar. Temperature range: -40/+150 °C Max air temperature 110 °C. For additional details see attached table.

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 complete 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 limitation of Steel Vessel 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). 3) Hose assemblies are to be installed only where flexibility is required, in clearly visible and readily accessible locations, and are not to be subject to torsional deflection under normal conditions; hose length is to be limited to that required by flexibility only. 4) Not to be used in high pressure fuel oil injection systems, steam systems or oil supply lines to boilers. 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.

Comments:

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

Notes / Documentation:

Drawing No. Burst Test dn12-16-32-51, Burst Test dn12-16-32-51 dated 05 April 2017, Revision: 0, Pages: 1 Drawing No. COC2.2_1sntt, COC 2.2 dated 05 March 2014, Revision: 0, Pages: 1 Drawing No. Crimping Table, Crimping Table, Revision: 0, Pages: 1 Drawing No. Disegni Fitting, Disegni Fitting, Revision: 0, Pages: 1 Drawing No. FIRE TEST acc 15540, FIRE TEST according ISO15540 dated 12 Dec 2016, Revision: 0, Pages: 1 Drawing No. Fitting Table , Fitting Table 1SN TT, Revision: 0, Pages: 1 Drawing No. IC3.2_1sntt, Inspection Certificate 3.2 dated 05 March 2014, Revision: 0, Pages: 1 Drawing No. Impulse Test, Impulse Test dn6-25-51 dated 02 Feb 2016, Revision: 0, Pages: 1 Drawing No. TDSn92, TEchnical Data Sheet N92, Revision: 0, Pages: 1

Term of Validity:


This Product Design Assessment (PDA) Certificate 17-GE1615455-PDA, dated 26/Apr/2017 remains valid until 25/Apr/2022 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:

2017 Rules for Conditions of Classification - Offshore Units and Structures 1-1-4/9.7, Appendix 2 and 3 2017 Mobile Offshore Drilling Unit Rules 1-1-4/9.7, Appendix 2 and 3, 4-2-1/11.29 2017 Rules for Conditions of Classification, 1-1-4/7.7, 1-1 Appendix 3 and 4, which covers the following: 2017 Steel Vessel Rules 4-6-2/5.7, 4-6-7/3.5.2 2017 Steel Vessel Rules Under 90 Meters 4-4-1/9.19 2017 Offshore Supply Vessel Rules 4-6-2/5.7 2017 High Speed Craft Rules 1-1-4/11.9, 1-1-Appendix 2 and 3, 4-4-1/9.19 2017 Guide for Building and Classing Yachts 1-1-3/3.3, 1-1-Appendix 3 and 5 and 4-1-1/Table 3, 4-4-1/9.19

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

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	17-GE1615455-PDA	26-APR-2017	25-APR-2022



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.