



Marine & Offshore

Certificate number: 03415/10 BV

File number: ACM135/0301/003

Product code: 7312I

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**AMNITEC BV**

ROTTERDAM - NETHERLANDS

*for the type of product*

**LIQUEFIED GAS TRANSFER HOSES**

Cryoflex 50 Composite hoses

**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships

IGC Code

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 25 Feb 2025**

**For Bureau Veritas Marine & Offshore,**

At BV LONDON, on 25 Feb 2020,

Spencer Yule



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

#### **Cryoflex™ 50 Composite hoses**

##### 1.1 - Design:

Cryoflex™ 50 hoses are manufactured from multi-layers of polyamide fabric and film and may be further insulated by an additional lagging. The hoses have stainless steel inner and outer wires achieving dual wire electrical continuity.

##### 1.2 - Technical data:

Type	Nominal inner Diameter	Maximum working Pressure	Temperature range	Colour
0940 / Cryogenic duty	100 mm / 4"	21 bar	-50 to +50 °C	White/Green
	150 mm / 6"	21 bar		
	200 mm / 8"	15 bar		

Cryoflex™ 50 hoses are supplied in length up to 15 meters depending on diameters.

End fittings: ASA 150 or ASA 300 welding neck flanges made of austenitic stainless steel.

##### 1.3 - Material specification:

Inner wire	Stainless steel
Wall material	Polymeric fabrics and films
Outer wire	Stainless steel

### 2. DOCUMENTS AND DRAWINGS:

#### 2.1 - Hose winding specifications:

- N° 0940/000/0400 Issue 03 dated 07/1992 (4" CRYOFLEX 50 SS)
- N° 0940/000/0600 Issue 03 dated 07/1992 (6" CRYOFLEX 50 SS)
- N° 0940/000/0800 Issue 03 dated 07/1992 (8" CRYOFLEX 50 SS)
- N° 0940/005/0400 Issue 14 dated 07/1992 (4" CRYOFLEX 50 SS ROPE LAGGED)
- N° 0940/005/0600 Issue 16 dated 07/1992 (4" CRYOFLEX 50 SS ROPE LAGGED)
- N° 0940/005/0800 Issue 04 dated 07/1992 (4" CRYOFLEX 50 SS ROPE LAGGED)

2.2 - Drawings N° 472 dated 10/03/1988 and N° 95/467 dated 09/03/1988.

### 3. TEST REPORTS

"Certificate of Inspection and Tests" dated 10/12/1991 from the Department of Transport Marine Directorate.

### 4. APPLICATION / LIMITATION

4.1 - For use as transfer cargo hose assembly on board ships having to comply with the IGC Code and relevant requirements of the Society for the purpose of loading and discharge of the following products: Propane, Propylene, Butylene, Butane, Ammonia Anhydrous and Vinyl chloride.

4.2 - Hoses are to be compatible with the cargo and suitable for the cargo temperature. Users, in consultation with the manufacturer, will ensure that materials of hoses assemblies are suitable to be resistant to the chemicals to be conveyed.

4.3 - The hoses are to be installed according to manufacturer's instructions and Society Rules.

### 5. PRODUCTION SURVEY REQUIREMENTS

5.1 - The **Cryoflex™ 50 Composite hoses** are to be supplied by **AMNITEC BV** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

5.4 - Each cargo hose, complete with end fittings, before being placed in service, is to be hydrostatically tested at ambient temperature to a pressure not less than 1.5 times its specified maximum working pressure and not more than two fifths its bursting pressure. Visual inspection and dimension inspection are to be carried out.

**6. MARKING OF PRODUCT:**

Each hose assembly shall be marked with at least:

- Manufacturer name or trademark
- Hose designation and size
- Maximum working pressure / Maximum working temperature
- Year of manufacture
- Society's brand as relevant

**7. OTHERS:**

7.1 - It is **AMNITEC BV**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate N° 03415/H0 BV issued on 01/08/2014 by the Society.

**\*\*\* END OF CERTIFICATE \*\*\***