

MARINE DIVISION

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Certificate number: 05611/F1 BV

File number : ACM 135/2014/001

Product code : 2103I

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

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

This certificate is issued to

AmniTec Ltd.

Merthyr Tydfil - UNITED KINGDOM

for the type of product

METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES

Metallic flexible hoses in stainless steel covered with stainless steel braid

Regulations and standards :

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.

This certificate is valid until : 01 Apr 2013

At Paris la Défense, on : 11 Jun 2008

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV LONDON
Surveyor : S. Yule

L. COURREGELONGUE



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. 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 Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS 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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Metallic flexible hoses in stainless steel covered with stainless steel braid

1.1 Maximum working pressure (bar)

Nominal Internal Diameter (mm)	Single braided	Double braided
6	167	220
8	136	210
10	100	178
12	74	103
15	70	125
20	65	86
25	50	76
32	39	57
40	35	55
50	30	44
65	26	46
80	22	40
90	20.6	27
100	18.4	33

1.2 Material specification

UFBX corrugated hose	BS EN 10088-2:2005 grades 1.4404 or 1.4541
Braid	BS EN 10088-3:2005 grades 1.4401 or 1.4541
End fittings	As designated by the customer

2. DOCUMENTS AND DRAWINGS

- Manufacturer's catalogue

3. TEST REPORTS

Type tests carried out, witnessed by a Society's Surveyor:

- Pressure test, static bend test, fatigue test, vibration resistance test, burst pressure test

4. APPLICATION / LIMITATION

4.1 May be used for the following services on board:

- Liquid fuel, heated liquid fuel, lubrication oil, steam, fresh and sea water, compressed air, exhaust gas

4.2 Material of fittings and flanges shall comply with the relevant requirements of Bureau Veritas Rules.

4.3 Taper threaded fittings are not to be used for liquid fuel pipings and oil pipings located in engine room and in spaces containing a source of ignition.

4.4 Temperature reduction factors are to be taken into account for maximum working pressure caused by temperature influence according to manufacturer's specifications.

4.5 The hoses are only to be used in short lengths (up to 2 m) and are to be so arranged as to be accessible at all times.

4.6 The use of stainless steel is to be restricted as per the requirements of the Bureau Veritas Rules.

4.7 The hoses are to be installed according to manufacturer's instructions and Bureau Veritas Rules and Regulations stated on the front page of this certificate.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be manufactured, examined and tested by the manufacturer in accordance with the approved type described in this certificate and Bureau Veritas Rules and Regulations stated on the front page of this certificate. Arrangements shall be made for a Society's Surveyor to attend the tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme, BV Mode I, has been arranged, in order to issue the Bureau Veritas certificate for the approved type to be fitted on board ships classed with Bureau Veritas.

5.2 The manufacturer has declared to Bureau Veritas that the products detailed in this certificate are manufactured at the production site stated on the front page of this certificate.

5.3 Each metallic flexible pipe with end fittings is to be hydraulically pressure tested to twice the maximum working pressure and provided with the manufacturer's pressure test report and conformity of production.

6. MARKING OF PRODUCT

Each hose is to be at least permanently marked with:

- Manufacturer name or logo
- Type designation
- Date of manufacture
- Society's brand as relevant

7. OTHERS

7.1 This approval is given on the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper method of fitting and general maintenance of the approved products and of the conditions of this approval.

7.2 This certificate supersedes the Type Approval Certificate N° 05611/F0 BV issued on 01/04/2008 by the Society.

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