



Marine & Offshore

Certificate number: 40957/B0 BV
 File number: ACI 2200/002/01-02-03
 Product code: 5720H

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
FENNER MANDALS A/S
 Mandal - NORWAY

for the type of product
FIRE HOSES
 Mandals Guardman
 Mandals Martex
 Mandals Mertex

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- SOLAS 74 Convention as amended, Regulation II-2/10, X/3
- IMO Res. MSC.36(63)-(1994 HSC Code) as amended, 7
- IMO Res. MSC.97(73)-(2000 HSC Code) as amended, 7
- EN 14540:2014

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: 09 Apr 2025

For Bureau Veritas Marine & Offshore,
 At BV OSLO, on 09 Apr 2020,
 Rune MARSTEIN

Rune Marstein



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.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=moagyb022d>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

1.1 Fire hose Mandals Guardman

Design

- Non-percolating layflat fire hose for fire fighting purposes
- Fire hose made from a blend of nitrile rubber and PVC

Technical Data

Inner Diameter (inch)	Inner Diameter (mm)	Mass per Unit Length (Kg/m)	Max. Working Pressure (MPa)	Bursting Pressure (Min. 4.5 MPa)
1-1/2	38 + 1.6	0.30	1.5	5.0
1-3/4	45 + 1.6	0.36	1.5	5.0
2	51 + 2.0	0.38	1.5	4.5
2-1/2	65 + 2.0	0.50	1.5	4.5
3	76 + 2.0	0.65	1.5	4.5

1.2 Fire hose Mandals Martex

Design

- Non-percolating layflat fire hose for fire fighting purposes
- Uncovered, fully synthetic polyester fire hose with an EPDM inner lining

Technical Data

Inner Diameter (inch)	Inner Diameter (mm)	Mass per Unit Length (Kg/m)	Max. Working Pressure (MPa)	Bursting Pressure (Min. 4.5 MPa)
1-1/2	38 + 1.6	0.21	1.5	7.0
2	51 + 2.0	0.29	1.5	5.0
2-1/2	65 + 2.0	0.38	1.5	5.0

1.3 Fire hose Mandals Mertex

Design

- Non-percolating layflat fire hose for fire fighting purposes
- Uncovered, fully synthetic polyester fire hose with a thermoplastic polyurethane (TPU) inner lining

Technical Data

Inner Diameter (inch)	Inner Diameter (mm)	Mass per Unit Length (Kg/m)	Max. Working Pressure (MPa)	Bursting Pressure (Min. 4.5 MPa)
1-1/2	38,1 + 1.6	0.19	1.5	6.0
2	51,5 + 2.0	0.27	1.5	5.5
2-1/2	64,5 + 2.0	0.35	1.5	5.0

2. DOCUMENTS AND DRAWINGS

- Manufacturer's technical specifications as provided on 31/03/2020
- Instruction manual dated July 2019

No departure from the above documents and drawings shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

3.1 Fire hoses type-tested in accordance with EN 14540, witnessed by the Society.

3.2 Test reports dated 09/07/2009 and 02/02/2015 (hot surface resistance test).

Test reports include the hose inside diameter 65 mm (> 52 mm) meeting the performance of the requirements of EN 14540.

4. APPLICATION / LIMITATION

4.1 Approved as fire hoses of fire fighting for ships having to comply with SOLAS 74 Convention as amended.

4.2 The supplier supplying the ship/unit will have to comply with the Rules and the applicable regulations acceptable by the National Authorities of the country in which the ship/unit is registered with respect to the maximum length of the fire hoses and the assembly couplings. The supplier shall make available its instruction manual for installation, use and maintenance.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **MANDALS A/S** in compliance with the type described in this certificate and in compliance with the requirements stated on the front page of this certificate.

5.2 This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 **MANDALS A/S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR 320 for HBV products.

5.4 For information, **MANDALS A/S** has declared to Bureau Veritas the following production site(s):

MANDALS A/S: P.O.B.101, Nordre Banegt 26, 4502 Mandal, NORWAY

6. MARKING OF PRODUCT

Each length of hose shall be clearly and indelibly marked with the following information, at least twice per length:

- Manufacturer's means of identification
- EN standard (number and date)
- Inside diameter
- Maximum working pressure
- Quarter and year of manufacture

7. OTHERS

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 fittings and general maintenance of the product and of the conditions of this approval.

This certificate supersedes the Type Approval Certificate No. 40957/A0 BV issued by the Society.

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