



**BUREAU
VERITAS**

Bureau Veritas S.A. Zweigniederlassung Hamburg
Veritaskai 1 · 21079 Hamburg

MARINE DIVISION
GERMAN PLAN OFFICE

OSW Eschbach GmbH
Herrenhöfer Landstraße 2
99885 Ohrdruf

Your ref.: Letter dd. 20.03.2007/Mr. Manitz
Our ref.: **GPO.2007.1846.AD.if**

Contact: Mr. Adama Diène
Phone: +49-40 – 2 36 25 - 901
Fax: +49-40 – 2 36 25 - 622
Email: gpo.germany@de.bureauveritas.com

Hamburg, 13 July 2007

Ref.: BV Reg. No.: ACI 2200/010/001

**Subject: Type Approval Certificate
FIRE HOSES**

OSW non-percolating Layflat Fire Hoses Syntex 2F white and Syntex 2F red

Dear Sir or Madam,

We are sending you the Type Approval Certificate in original which has been issued by our Society and which is intended for your use:

TAC nos.	issued on	valid to
08807/B0 EC	11 July 2007	29 September 2008

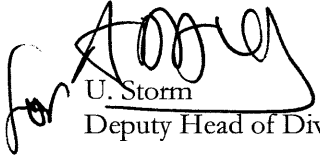
Please be informed that the Type Approval Certificate is valid only if the Company manufacturing is approved as per BV Mode. Please contact our Bureau Veritas local office for further information:

Bureau Veritas S.A.	Prager Str. 193	+49 341 86146-30
Büro Leipzig	04299 Leipzig / Germany	+49 341 86146-31

Additionally, please find enclosed herewith our invoice no.: 7010238 for the above mentioned documents.

Yours faithfully

BUREAU VERITAS S.A.
ZWEIGNIEDERLASSUNG HAMBURG


U. Storm
Deputy Head of Division

Enclosures

cc: - BV Leipzig

MARINE DIVISION

17 bis Place des Reflets - La Défense 2
92400 Courbevoie - France

Tel. 33 1 42 91 52 91
Fax. 33 1 42 91 28 94
www.veristar.com



Certificate number: 08807/B0 EC

File number : ACI 2200/010/001

Annex A1 Item number : A.1/3.29

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

EC TYPE EXAMINATION CERTIFICATE

*as per Module B of European Union Council Directive 96/98/EC on marine equipment
as last amended by Commission Directive 2002/75/EC of 2 September 2002*

This certificate is issued to

OHRDRUFER SCHLAUCH WEBEREI Eschbach GmbH

Ohrdruf - GERMANY

for the type of product

FIRE HOSES

OSW Non-percolating Layflat Fire Hoses Syntex 2F white and Syntex 2F red

Regulations and standards :

- SOLAS 74 as amended, Regulation II 2/10.2.3.1.1 and Regulation X/3
- 2000 HSC Code, 7.7.5.5
- EN 671-2 (2001)

This certificate is issued under the French Maritime Authority to attest that BUREAU VERITAS did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Council Directive 96/98/EC of 20 December 1996 as amended



This certificate is valid until : 29 Sep 2008

At Paris la Défense, on : 11 Jul 2007

For BUREAU VERITAS, Notified Body N°0062
By order of the Secretary

Approval office

Local office : BV HAMBURG
Surveyor : A. Diene

L.COURREGELONGUE



This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.

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. BUREAU VERITAS S.A. is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. 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

OSW Fire Hoses Syntex 2F white and Syntex 2F red

1.1 Design

- > Non-percolating layflat fire hoses for fire fighting purposes
- > Size Ø 38 mm, Ø 42 mm, Ø 45 mm, Ø 52 mm, Ø 65 mm, Ø 70 mm and Ø 75 mm
- > Class 1 or 2 according to EN 671-2 (2001) - prEN 1924-2:1995

1.2 Technical data

Particulars	Syntex 2F white	Syntex 2F red
Hose class as per pr EN 1924 - 2	class 1	class 2
Mass per unit length +/- 5% (kg/m)		
Ø 38	0,195	0,210
Ø 42	0,205	0,230
Ø 45	0,240	0,270
Ø 52	0,275	0,310
Ø 65	0,360	0,395
Ø 70	0,395	0,460
Ø 75	0,420	0,500
Working pressure (MPa)	1,5	1,5
Test pressure (MPa)	2,4	2,4
Bursting pressure (Min. 4,2 MPa)	5,0	5,0

1.3 Material specification

Jacket	100 % high tenacity synthetic yarn circular woven
Inner lining	high-quality full synthetic rubber
External coating	Synthetic coating made of polyurethane (Syntex 2F red) Uncoated (Syntex 2F white)

2. DOCUMENTS AND DRAWINGS

2.1 Manufacturer's specification

2.2 Manual for installation, use and maintenance

3. TEST REPORTS

Type tested carried out in accordance with DIN 14 811 by Niedersächsische Landesfeuerweherschule (Central Test Institute for Fire Fighting Hoses), D-3100 Celle, Germany as per following test reports:

- N° 8 850 93 dated 31/03/1993 related to fire hose quality Syntex 2F, outside white plain, 42 mm diameter
- N° 8 864 93-2 dated 31/03/1993 related to fire hose quality Syntex 2F, outside red coated, 42 mm diameter
- N° 8 851 93 dated 31/03/1993 related to fire hose quality Syntex 2F, outside white plain, 52 mm diameter
- N° 8 865 93-2 dated 13/08/1993 related to fire hose quality Syntex 2F, outside red coated, 52 mm diameter
- N° 8 852 93 dated 31/03/1993 related to fire hose quality Syntex 2F, outside white plain, 75 mm diameter
- N° 8 866 93-2 dated 13/08/1993 related to fire hose quality Syntex 2F, outside red coated, 75 mm diameter

4. APPLICATION / LIMITATION

4.1 Approved as fire hose of fire fighting equipment for ships having to comply with SOLAS 74 Convention as amended and for units having to comply with MODU Code.

4.2 Intended to fit hose systems complying with EN 671-2 (2001) standard.

4.3 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 in the language required by the Ship's Flag Administration.

4.4 The fitting aboard is to be the same as used for the test.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The manufacturer shall institute quality control procedure in order to ensure that the Marpol equipment is produced to the same standard as the prototype approved one, and to keep records of any production tests carried out in accordance with Regulations stated on the front page of this certificate.

5.2 The Production Conformity Assessment Module shall be either "D Production Quality Assurance system" or "E Product Quality Assurance system" or "F Product Verification process".

5.3 The manufacturer has declared to the Notified Body that the product detailed in this certificate is manufactured at the production site stated on the front page of this certificate.

6. MARKING OF PRODUCT

Each length of hose shall be clearly and indelibly marked with the following information :

- Manufacturer's name or logo
- Fire technical rating
- EN standard: prEN 1924-2:1995 class 1 or 2 as relevant
- ☒ Conformity mark and number of the Notified Body undertaking surveillance module (where BV, 0062)
- Two last digits of year mark affixed

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

7.2 This certificate supersedes the EC Type-Examination Certificate N° 08807/A1 EC issued on 29/03/2002 by the Society.

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