



MARINE DIVISION

Certificate number: 25361/A0 BV

File number: ACM 135/2695/01

Product code: 2104I

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

VEBA Group SRL
MODENA - ITALY

for the type of product

NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES

YOKOHAMA Rubber Hoses acc. to DIN 20 022 1SN / 100R1 TYPE AT and DIN 20 022 2SN / 100R2 TYPE AT

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships

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 mentioned above.

This certificate will expire on: 16 Dec 2016

For BUREAU VERITAS,

At BV VENEZIA, on 16 Dec 2011,

Sandro BRUSEGAN



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 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 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

YOKOHAMA Rubber Hoses acc. to DIN 20 022 1SN / 100R1 TYPE AT and DIN 20 022 2SN / 100R2 TYPE AT

1.1 Ratings

- DIN 20 022 1SN / 100R1 TYPE AT

Size	04	05	06	08	10	12	16	20	24	32
Internal Diameter (mm)	6,3	7,9	9,5	12,7	15,9	19,1	25,4	31,8	38,1	50,8
Max. Working Pressure (bar)	225	215	180	160	130	105	88	45	35	25

Temperature range (°C): - 40 to +100

The maximum working pressure is not to exceed one quarter of the burst pressure at the service temperature.

- DIN 20 022 2SN / 100R2 TYPE AT

Size	04	05	06	08	10	12	16	20	24	32
Internal Diameter (mm)	6,3	7,9	9,5	12,7	15,9	19,1	25,4	31,8	38,1	50,8
Max. Working Pressure (bar)	400	350	330	275	250	215	165	115	90	80

Temperature range (°C): - 40 to +100

The maximum working pressure is not to exceed one quarter of the burst pressure at the service temperature.

1.2 Material specification

Inner tube	Oil resistant synthetic NBR rubber
Reinforcement	1 steel wire braid (1SN) 2 steel wire braids (2SN)
Cover	Abrasion and weather resistant synthetic CR rubber
End fittings (ferrules and nipples)	Free-cutting steel

2. DOCUMENTS AND DRAWINGS

- VEBA.group's hydraulic hoses and fittings Catalogue
- Users Installation Guidelines

No departure from the above documents 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

- Tests carried out: assembly test, hydraulic pressure test and burst test.
- Burst test reports N° 00000418, 419, 420, 421, 424, 425, 426, 427, 428, 429, 430, 431, 446 and 447.

4. APPLICATION / LIMITATION

4.1 May be used on the following services: Sea water*, fresh water and compressed air.

* When required by the Society's rules, approved fire resistant type in accordance with ISO 15540/15541:1999 is to be provided for.

4.2 End fittings as per manufacturer's catalogue. The hoses are to be entirely assembled in the manufacturer's workshop.

4.3 The installation of hose assemblies is to be in accordance with the manufacturer's instructions to take into consideration forces due to vibration. The hoses are not to be used on services when vibration test is required in Bureau Veritas Rules.

4.4 The hoses are to be limited to a length necessary to provide for relative movement between fixed and flexibly mounted items of machine/equipment or systems and are only to be used in lengths up to 2 m. The hoses are to be installed in clearly visible and readily accessible locations at all times.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be manufactured, examined and tested by the manufacturer in accordance with the type described in this certificate and Requirements stated on the front page of this certificate. Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when a alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure.

5.2 The certificate of approval covers the hoses completely assembled in Veba Group (Modena - Italy) approved by Bureau Veritas. This certificate may be also valid for other companies authorised by Veba Group (Modena - Italy) when same specifications, tolerances, equipment and quality control procedures are used. In all cases, the BV agreement is to be obtained.

5.3 The manufacturer has declared to Bureau Veritas that the components detailed in this certificate are produced at the following production sites: The hose bulks are made by the YOKOHAMA Rubber Companies (Japan) and the end fittings are made by VEBA group (Italy).

5.4 Each hose 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 with end fittings is to be clearly and indelibly marked with at least:

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

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 fitting and general maintenance of the products and of the conditions of this approval.

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