



Marine & Offshore

Certificate number: 65291/A0 BV

File number: .

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*

**COBALT BLUE LTD.**

Piraeus, - GREECE

*for the type of product*

**NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES**

Type FLEXI 1RB & 2RB

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

*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: 26 May 2026**

**For Bureau Veritas Marine & Offshore,**

At BV PIRAEUS, on 26 May 2021,

Spyros KONTOULIS



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

#### **Non-metallic flexible hoses type FLEXI 1RB & 2RB**

##### 1.1 Ratings

Designed according to EN 853 1SN

Model	Type 1RB	Type 2RB
DN (mm)	12	6
Max. Working Pressure (Mpa)	16	22.5

Temperature range: -40/+100°C

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

##### 1.2 Materials

Part	Material
Tube	oil resistant synthetic rubber
Reinforcement	high tensile steel braid
Cover	Abrasion, ozone and hydrocarbon resistant synthetic rubber
Fittings	Carbon steel 11SMnPb37

*When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.*

### 2. DOCUMENTS AND DRAWINGS

- Manual of installation, use and maintenance N° WI.02 Rev. 01 dated 03/2020
- Drawing N° CB-FH01 dated 26/04/2019
- Drawing N° CB-FER01 dated 26/04/2019
- Drawing N° CB-FIT01 dated 26/04/2019
- Drawing N° CB-FIT02 dated 26/04/2019
- Drawing N° CB-FIT03 dated 26/04/2019
- Drawing N° CB-FIT04 dated 26/04/2019

*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

3.1 - Type tests including visual inspection & dimensional check, cold flexibility test and vacuum test

- Test report N° 818-(eng)/2019 dated 06/12/2019
- Test report N° 689-(eng)/2019 dated 26/11/2019

3.2 - Type tests including dimensional check, hydrostatic test at 2 times the design pressure, cold flexibility test, cover adhesion test, fluid resistance test, ozone resistance test, vacuum test and impulse test.

- Test report N° 201911 dated 06/12/2019
- Test report N° 201912 dated 06/12/2019

3.3 - Burst pressure test at 4 times the design pressure

- Test report dated 29/09/2020

3.4 - Pressure test at 2 times the design pressure after cold flexibility test.

- Test report dated 29/09/2020

3.5 - Fire resistance test report N° 1159/19/AC dated 29/08/2019 performed according to ISO 15540: 2016.

3.6 - Vibration test not performed.

#### **4. APPLICATION / LIMITATION**

4.1 - May be used on the following services on board:

- Fuel-oil and lubricating oil transfer - Hydraulic oil - Sea water and fresh water - Compressed air - CO2

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

4.3 - 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 length up to 2 m. The hoses are to be installed in clearly visible and readily accessible locations at all times.

4.4 - The hoses assemblies are to be installed according to manufacturer's instructions and Bureau Veritas Rules

4.5 - Not to be used in case of high level of vibrations where fitted to engines, pumps, compressors and other sources of high vibrations.

#### **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 - The products are to be supplied by **COBALT BLUE LTD.** in compliance with the type and the requirements described in this certificate.

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

5.3 - BV product certificate is required.

5.4 - Each hose assembly is to be hydraulically pressure tested to 1.5 times the maximum working pressure and provided with the manufacturer's pressure test report and conformity of production.

5.5 - For information, **COBALT BLUE LTD.** has declared to Bureau Veritas the following production site:

**COBALT BLUE LTD.**

**98B, Filonos street**

**185 36 Piraeus, Greece**

#### **6. MARKING OF PRODUCT**

Each flexible hose shall at least clearly and indelibly marked with:

- Manufacturer name or logo
- Date of manufacture (month/year)
- Type designation
- Nominal Diameter
- Pressure rating
- Temperature rating
- Society's brand as relevant

#### **7. OTHERS**

It is **COBALT BLUE LTD.**'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.

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