



Marine & Offshore

Certificate number: 38923/B0 BV

File number: ACM 135/2639/03

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*

**Tubes International Sp. z o.o.**

POZNAN - POLAND

*for the type of product*

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

PTFE Hose Assembly Type HWDB/HPG/HI with fittings for High Pressure Gas (Oxygen)

### Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units
- BUREAU VERITAS Rules for the Classification of Naval Ships
- EN ISO 14113:2013 (Except UV Resistance)

*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: 02 Sep 2025**

**For Bureau Veritas Marine & Offshore,**

At BV KATOWICE, on 02 Sep 2020,

Wojciech Lubojanski



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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This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

#### **PTFE Hoses Assembly Type HWDB/HPG/HI with fittings for High Pressure Gas (Oxygen)**

**Hose Design:** PTFE Smooth bore hose designed for high pressure applications with double braid (aramid and steel) and Hytral cover in blue colour.

#### 1.1 - Rating

DN (mm)	6
Min. Hose bending radius (mm)	30
Max. Working pressure (bar)	150
Temperature range (°C)	-50/70

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

#### 1.2 - Part List and Materials

Fitting ZS/14/0390	Stainless steel 1.4301 (AISI 304)
Ferrule AF-H-04SS	Stainless steel 1.4301 (AISI304)
Hose	PTFE/Hytral/AISI304
Adaptor ZS/14/0846	Stainless steel 1.4301 (AISI 304) Stainless steel 1.4404 ( AISI 316L)
Gasket	PTFE

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

### 2. DOCUMENTS AND DRAWINGS

- Manufacturer's hose data sheet as submitted on 16/06/2015
- Hose Assembly with elbow Drawing N° TU/50/14/0588 Rev. 0 Edition 2 dated 24/06/2015
- Hose Drawing N° SK-040110-JH Rev. A dated 04/01/2010

*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 - Tests carried out according to EN ISO 14113:2013

- 7.1.1: hydrostatic testing, 7.1.3: oxygen pressure surge test, 7.3: flexibility, 7.4: low temperature flexibility, 7.5: ozone resistance, 7.7: permeability to gas, 7.9: end fitting integrity
- 7.6: UV Resistance test not performed

3.2 - Tests reports: :Tubes International Sp. z o.o.-Poznan dated on 2015-03-09, BAM Materials Federal Institute for Materials Research and Testing - Berlin Report N° 2-1543/2014 dated 2014-09-23, Automotive Industry Institute -Warsaw, Report N° BZS/M.060.14B dated 2014-08-01

### 4. APPLICATION / LIMITATION

4.1 - PTFE Hoses Type HWDB/HPG/HI with fittings may be used in filling/emptying of cylinders for High Pressure Gas Welding (Oxygen). This hose is not to be exposed to direct UV radiations.

4.2 - End fittings as per manufacturer's catalogue. The hose 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 hose assemblies are to be insatlled according to manufacturer's instructions and Bureau Veritas Rules

## **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 - The products are to be supplied by **Tubes International Sp. z o.o.** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product 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 - Leak test and cleaning procedures as per ISO 14113:2013.

5.6 - For information, **Tubes International Sp. z o.o.** has declared to Bureau Veritas the following production sites:

a) The hose bulks are produced at :

**AFLEX Hose LTD**  
**Sprong Bank Industrial**  
**Estate Sowerby Bridge**  
**HX6 3BW Halifax, England**

b) Fittings and pipes, and hose assembly made by :

**Tubes International sp z.o.o**  
**ul. Bystra 15 a**  
**61-366 POZNAN, Poland**

## **6. MARKING OF PRODUCT**

Each hose assembly shall be 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 **Tubes International Sp. z o.o.**'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.

*This certificate supersedes the Type Approval Certificate N°38923/A0 BV issued by the Society.*

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