



Marine & Offshore

Certificate number: 42685/B0 BV

File number: ACM 135/2639/04

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

Flexible Hoses Assembly Type MC-REDSPEED-06 with fittings for High Pressure Gas (Acetylene)

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

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

Flexible Hoses Assembly Type MC-REDSPEED-06 with fittings for High Pressure Gas (Acetylene)

Hose Design: Smooth bore hose designed for high pressure applications reinforced with two layers (braided aramid yarn and braided steel wire) and anti-abrasion polyurethane cover (red colour).

1.1 - Technical data

DN (mm)	6
Min. Hose bending radius (mm)	40
Max. Working pressure (bar)	25
Temperature range (°C)	-40 /+93

1.2 - Part List and Materials

Fitting ZS/15/0103	Stainless steel 1.4301 (AISI304)
Ferrule ZS/15/0105	Stainless steel 1.4301 (AISI304)
Hose MC-REDSPEED-06	Conductive thermoplastic elastomer / polyurethane
Antistatic spring ZS/15/0426	AISI 302
Adaptor ZS/15/0400	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

- Hose Assembly with elbow Drawing N° TU/50/15/0537 Rev. 0 Edition 1 dated 10/07/2015
- Hose specifications as provided on 10/08/2015

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 witnessed by a BV Surveyor carried out according to EN ISO 14113:2013 including :

- 6.3: resistance to acetone, 7.1.1: hydrostatic testing, 7.1.2: acetylene decomposition test, 7.3: flexibility, 7.4: low temperature flexibility, 7.5: ozone resistance, 7.6: UV resistance test, 7.7: permeability to gas, 7.8 : electrical conductivity, 7.9: end fitting integrity

3.2 - Tests reports:

- Tubes International Sp. z o.o.-Poznan dated 10/07/2015
- BAM Materials Federal Institute for Materials Research and Testing - Berlin Report N° 15028953 dated 01/07/2015
- Automotive Industry Institute -Warsaw, Report N° BZS/M.030.15B dated 2015-06-24
- BOSMAL Automotive Research and Development Institute Ltd - Bielsko Biala, Poland , Test Report No BOS/2055/BM/15 dated 25/05/2015
- Automotive Industry Institute -Warsaw, Test Report No BZS/M.031.15B dated 20/07/2015.

4. APPLICATION / LIMITATION

4.1 - Hoses Type MC-REDSPEED-06 with fittings may be used in filling/emptying of cylinders for High Pressure Gas Welding (Acetylene).

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.

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 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 :

Mac Tubi S.p.A.
Via Sacca,68
43052 Colorno (Pr) Italy

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
- 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°42685/A0 BV issued by the Society.

*** END OF CERTIFICATE ***