



Marine & Offshore

Certificate number: 61379/A1 BV

File number: .

Product code: 2103I

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

*This certificate is issued to***OLEODINAMICA TOSCANA srl**
SERRAVALLE PISTOIESE - ITALY*for the type of product***METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES**
METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES / Model D12**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: 30 Jun 2025****For Bureau Veritas Marine & Offshore,**

At BV GENOA, on 08 Oct 2020,

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 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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Metallic hoses (flexible pipes) assemblies / Model D12

1.1 Ratings

Flexible hoses

DN (in)	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
Max. Working Pressure (bar)	180	180	125	100	100	80	62	50	40	30

Temperature range : -20°C / +350°C

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

Fittings as per the Technical specification D12-Rev.02 dated 25/06/2020

1.2 Materials

Part	Material
Tube / Hose	AISI321 / AISI316
Cover / Braiding	AISI304L
Fittings	AISI304/AISI316/AISI321/ASTM B179-75/ Carbon steel

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

2. DOCUMENTS AND DRAWINGS

- Technical specification D12-Rev.02 dated 25/06/2020.

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 including pressure and elongation test :

- Hydraulic and Elongation Test report N°200617D12 dated 17/06/2020 for DN3/8", DN1"1/4 and DN4"

3.2 - Type tests witnessed by an IACS member surveyor including Burst test at 4 times the design pressure and Bend test :

- Burst Test report N° 190722B1 dated 24/07/2019 for DN1/2", DN1"1/4, DN2"1/2 and DN5", Burst test report N° 190722B1 dated 24/10/2019 for DN1"1/2 and DN2".

- Bend Test report N° 160301B dated 01/04/2016 for DN3/8", DN1"1/4 and DN4".

3.3 - Test report N°20200909, Rev.0 dated 09/09/2020 including impulse test for DN1"1/4

3.4 - Vibration test not performed.

4. APPLICATION / LIMITATION

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

- Fuel oil, lubricating oil, hydraulic oil, thermal oil, fresh water, sea water, compressed air systems, bilge, ballast water, Class III steam systems

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 2m. 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 - The use of stainless steel is to be restricted as per the requirements of the Bureau Veritas Rules.

4.6 - Tapered threaded end fittings are not to be used in engine rooms, nor in any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

4.7 - 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 **OLEODINAMICA TOSCANA srl** 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, **OLEODINAMICA TOSCANA srl** has declared to Bureau Veritas the following production site :

OLEODINAMICA TOSCANA srl
VIA REDOLONE, 53
51030 SERRAVALLE PISTOIESE
(PT)
ITALY

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 **OLEODINAMICA TOSCANA srl**'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° 61379/A0 BV issued by the Society.

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