TYPE APPROVAL CERTIFICATE
No. **MAC336926CS**

This is to certify that the product identified below is in compliance with the regulations herewith specified.

Description	**Non metallic flexible hoses**
Type	**405 LE** **455LE**
Applicant	**ALFAGOMMA INDUSTRIAL S.P.A.** **VIA ATTILIO DI SANTE, SNC** **64100 S. Atto (TE)** **ITALY**
Manufacturer *Place of manufacture*	**ALFAGOMMA INDUSTRIAL S.P.A.** **VIA ATTILIO DI SANTE, SNC** **64100 S. Atto (TE)** **ITALY**
Reference standards	**Part C, Chapter 1, Section 10 of RINA Rules**

Issued in **Genova** on **August 24, 2026**. *This Certificate is valid until* **August 27, 2030**

RINA Services S.p.A.
Rosario Pitruzzo

This certificate consists of this page and 1 enclosure

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Reference documents

Alfagomma technical data sheet 02/10/2019 and 29/06/2020.
Technical data on documents :
PPVT-51792
Dispatched with letter PPVT/2026/727/CRLVA
PPVT-52554
Dispatched with letter PPVT/2026/727/CRLVA

Test Reports:

- ALFAGOMMA No. 405LE019-1/2/3 Burst Test;
- ALFAGOMMA No. 405LE032-1/2/3 Burst Test
- ALFAGOMMA No. 405LE038-1/2/3 Burst Test;
- ALFAGOMMA No. 455LE013-1/2/5 Burst Test;
- Cerisie No. 630-A/2019 D.M. 174 del 06/04/2004 - 455LE Di 13 mm;
- Cerisie No. 630-B/2019 D.M. 174 del 06/04/2004 - 405LE Di 19 mm;
- Cerisie No. 092-A/2020 D.M. 174 del 06/04/2004 - 405LE Di 25 mm;
- Cerisie No. 092-B/2020 D.M. 174 del 06/04/2004 - 405LE Di 32 mm;
- Cerisie No. 630-C/2019 D.M. 174 del 06/04/2004 - 405LE Di 38 mm;
- TIFQLAB No 1169/1 - AISI 316 - AISI 316L (insert 455LE Di 13 mm);
- TIFQLAB No 1252/1 - AISI 316 - AISI 316L (insert 455LE Di 13 mm);
- TIFQLAB No 1169/2 - AISI 316 - AISI 316L (insert 405LE Di 19 mm);
- TIFQLAB No 1252/2 - AISI 316 - AISI 316L (insert 405LE Di 19 mm);
- TIFQLAB No 1252/3 - AISI 316 - AISI 316L (insert 405LE Di 25 mm);
- TIFQLAB No 1252/4 - AISI 316 - AISI 316L (insert 405LE Di 25 mm);
- TIFQLAB No 1252/5 - AISI 316 - AISI 316L (insert 405LE Di 32 mm);
- TIFQLAB No 1252/6 - AISI 316 - AISI 316L (insert 405LE Di 32 mm);
- TIFQLAB No 1169/3 - AISI 316 - AISI 316L (insert 405LE Di 38 mm);
- TIFQLAB No 1252/7 - AISI 316 - AISI 316L (insert 405LE Di 38 mm).
- Test reports filed with document PPVT-52369

Technical Data and Fields of application

Hose - Fitting combinations as per document PPVT-52554
Pressure rating: 10 bar

Fresh/Potable water in accordance to Italian D.M.174 dated 06/04/2004 (with Insert made of AISI 316

and
AISI 316L).

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Remarks

The installation on board is to be carried out by qualified personnel in accordance with the manufacturer's instructions.

The flexible hoses are to be installed in order to satisfy the requirements of para. 5.9.3 of Part C, Chapter 1, Section 10 of RINA Rules.

The acceptance of the a.m. products on board ship classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules.

The product (hose and fittings) is to be marked, for traceability, with the following data: nominal diameter, design conditions, Manufacturer's name or trademark, designation type reference.

This Type Approval Certificate is valid for hoses connected to the machinery/system with flange and/or threaded connection (in accordance with limitation in Pt. C, Ch. 1, Sec. 10, Tab. 15 of RINARules) only. Other fitting defined as mechanical joints (Rina Rules Pt. C, Ch. 1, Sec. 10, Para. 2.4.5 Fig. 2), could be accepted upon satisfactory result of prototype tests performed on hose/fitting assemblies.
This Certificate Replaces Certificate MAC2325625CS.
Validity of this Certificate is subject to positive outcome of periodical Audit as per Rules for Testing and Certification of Marine Materials and Equipment

Genova August 24, 2026

RINA
Approved
In compliance with RINA Rules in force
(In conformità ai vigenti Regolamenti del RINA)
PPVT/0000052554
28 Aug 2026
CARLO VALLE

455LE					
SIZE	ID			Ferrule	Insert *See letter: PPVT/2026/813/CRLVA*
	mm	in	Dash		
13x23	13	1/2"	-08	H3200TXL-080000	H32XXXXX-08XXXX
					I37XXXXX-A0013

405LE					
SIZE	ID			Ferrule	Insert
	mm	in	Dash		
19x31	19	3/4"	-12	H3200TXL-120000	H32XXXXX-12XXXX
					I37XXXXX-A00019
25x37	25	1 "	-16	H3200TX2-160000	I37XXXXX-A00025
					H32XXXXX-16XXXX
32x42	32	1 1/4"	-20	H3200TX2-200000	H32XXXXX-20XXXX
					I37XXXXX-A00032
38x50	38	1 1/2"	-24	H3200TX2-240000	H32XXXXX-24XXXX
					I37XXXXX-A00038
51x63	51	2"	-32	H3200TX2-320000	H32XXXXX-32XXXX
					I37XXXXX-A00051
76x88	76	3"	-48	H3200TX2-480000	H32XXXXX-48XXXX
					I37XXXXX-AX0076
76x88	76	3"	-48	I307U076-088102	H32XXXXX-48XXXX
					I37XXXXX-AX0076