

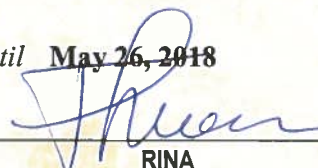


TYPE APPROVAL CERTIFICATE
No. MAC030813CS/002

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

<i>Description</i>	Non metallic flexible hoses
<i>Type</i>	FLEXOR 2A / 2AT / 2SN / 2ST; FLEXOPAK 2; GREENLINE 222T / 222G; SUPERSLIMLINE 241
<i>Applicant</i>	ALFAGOMMA HYDRAULIC SPA VIA ENRICO MATTEI 6 64020 CASTELNUOVO VOMANO (TE) ITALY
<i>Manufacturer</i>	ALFAGOMMA HYDRAULIC SPA
<i>Place of manufacture</i>	VIA ENRICO MATTEI 6 64020 CASTELNUOVO VOMANO (TE) ITALY
<i>Reference standards</i>	Part C, Chapter 1, Section 10 of RINA Rules

Issued in **Genova** on **May 27, 2013**. This Certificate is valid until **May 26, 2018**



RINA
Francesco Sciacca

This certificate consists of this page and 1 enclosure



TYPE APPROVAL CERTIFICATE

No. **MAC030813CS/002**

Enclosure - Page 1 of 3

FLEXOR 2A / 2AT / 2SN / 2ST

FLEXOPAK 2

GREENLINE 222T / 222G

SUPERSLIMLINE 241

Reference documents

Alfagomma catalogue 2011-2012

Alfagomma data sheet edition 8 and 11 dated 13/12/1999 and edition 9 dated 21/02/2000

Hose Fitting Combination dated 26/07/2000 and 24/05/2013

Hose fitting combination:

DN			Ferrule			Insert	
mm	inch	dash	Carbon steel		Stainless steel	Carb. steel	Stainl. steel
			AG branding	DH branding	AG branding	AG branding	AG branding
6	1/4	4	H1100204-04	D330000-04/0	H3100204-04	H12-04	H32-04
8	5/16	5	H1100204-05	D330000-05/0	H3100204-05	H12-05	H32-05
10	3/8	6	H1100204-06	D330000-06/0	H3100204-06	H12-06	H32-06
12	1/2	8	H1100204-08	D330000-08/0	H3100204-08	H12-08	H32-08
16	5/8	10	H1100204-10	D330000-10/0	H3100204-10	H12-10	H32-10
19	3/4	12	H1100204-12	D330000-12/0	H3100204-12	H12-12	H32-12
25	1	16	H1100204-16	D330000-16/0	H3100204-16	H12-16	H32-16
31	1 1/4	20	H1100204-20	D330000-20/0	H3100204-20	H12-20	H32-20
38	1 1/2	24	H1100204-24	D330000-24/0	H3100204-24	H12-24	H32-24
51	2	32	H1100204-32	D330000-32/0	H3100204-32	H12-32	H32-32

Applicable specifications

Alfagomma type designation:

Flexor 2ST acc. 2ST-EN 853 and 100R2A acc. SAE J517 (skive)

Flexor 2SN acc. 2SN-EN 853 and 100R2AT acc. SAE J517 (non-skive)

Flexopak 2 acc. 2SC-EN 857 and 100R16 acc. SAE J517

Dunlop Hiflex type designation:

Greenline 222T, 222G acc. 2SN-EN 853

Superslimline 241 acc. 2SC-EN 857 and 100R16 acc. SAE J517

Materials/Components

Inner tube: oil resistant synthetic nitrile rubber

Reinforcement: two braids of high tensile steel wire

Cover: chloroprene rubber, weather, oil and abrasion resistant

Couplings: Carbon steel (9SMnPb28 UNI 4838) or
Stainless steel (XCrNi1810 UNI 6901)



RINA
Via Corsica, 12 - 16128 Genova
Tel +39 010 53851
Fax +39 010 5351000



TYPE APPROVAL CERTIFICATE

No. **MAC030813CS/002**

Enclosure - Page 2 of 3

FLEXOR 2A / 2AT / 2SN / 2ST

FLEXOPAK 2

GREENLINE 222T / 222G

SUPERSLIMLINE 241

Technical characteristics

Temperatures range: -40 °C / +100 °C

Maximum working pressure according to the following table:

DN			Maximum working pressure (bar)	
mm	inch	dash	Flexor 2ST, SN, 2A, 2AT, Greenline 222T, 222G	Flexopak 2 Superslimline 241
6	1/4	4	400	400
8	5/16	5	350	350 (375)*
10	3/8	6	330	330 (350)*
12	1/2	8	275	275 (310)*
16	5/8	10	250	250 (280)*
19	3/4	12	215	215 (240)*
25	1	16	165	165 (185)*
32	1 1/4	20	125	-
38	1 1/2	24	90	-
51	2	32	80	-

* Note: the values in parenthesis are above the ones foreseen in the reference Standard - see remarks

Places of manufacture:

Hoses:

ALFAGOMMA HYDRAULIC SPA - Via E. Mattei, 6 - 64020 Castelnuovo Vomano (TE)

Manufacturing plants:

64020 Castelnuovo Vomano (TE) - Via E. Mattei, 6

87050 Figline V. (CS) - Area Industriale Piano Lago

Couplings:

ALFATECHNOLOGY SRL - Via Torri Bianche, 1 - 20059 Vimercate (MI)

Manufacturing plants:

20040 Bellusco (MI) - Via dell'Industria, 12

87050 Mangone (CS) - Area Industriale Piano Lago

Fields of application

Hydraulic systems with hydraulic fluid having a flash point higher than 150 °C (closed cup test)

Pneumatic systems

Compressed air systems

Fresh water systems

Sanitary systems



TYPE APPROVAL CERTIFICATE
No. MAC030813CS/002
Enclosure - Page 3 of 3
FLEXOR 2A / 2AT / 2SN / 2ST
FLEXOPAK 2
GREENLINE 222T / 222G
SUPERSLIMLINE 241

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.

Hoses assemblies with Carbon steel couplings are not to be used at temperatures below -10°C, unless the material is normalized.

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 certificate cancels and replaces the previous one No. MAC014207CS/002 dated 30 November 2007.

Genova May 27, 2013



RINA
Via Corsica, 12 - 16128 Genova
Tel +39 010 53851
Fax +39 010 5351000

