



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE

Certificate No. TA21512M

This is to certify that the undernoted product(s) has/have been approved in accordance with the requirements 12.1.6, Chapt.12, Part D of “Rules for the Survey and Construction of Steel Ships” and Chapt.2, Part 6 “Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use”.

This certificate is issued to

Manufacturer:	ALFA GOMMA S.p.A., Italy
Product description:	HYDRAULIC HOSE ASSEMBLY
Type designation(s):	Alfagomma / Dunlop Hiflex Flexor 1SN HF / 122GP Flexor 1SN MINETUFF / 1SN HI-TUFF Flexor 2SN HF / 222GP Flexor 2SN MINETUFF / 2SN HI-TUFF Flexopak 2 / Super Slimline 241T&241G&241X Flexopak 2SC HF / Slimline Plus 221T&221G
Approval No.:	00FV402B
Valid until:	20 July 2025

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 6 October 2021

T. Shimada
General Manager
Machinery Department

Particulars and conditions :

Type	DN		Max. Working Pressure [bar]	Design Temperature (°C)	Material of Hose
	[inch]	[mm]			
Alfagomma Flexor 1SN HF / Dunlop Hiflex 122GP Alfagomma Flexor 1SN MINETUFF / Dunlop Hiflex 1SN HI-TUFF	1/4	6	225	-40~+100	Tube; Oil resistant Synthetic rubber Reinforcement; 1 wire braid Cover; Abrasion, Ozone and Hydrocarbon resistant synthetic rubber
	5/16	8	215		
	3/8	10	180		
	1/2	12	160		
	5/8	16	130		
	3/4	19	105		
	1	25	88		
	1 ¼	32	63		
	1 ½	38	50		
Alfagomma Flexor 2SN HF / Dunlop Hiflex 222GP Alfagomma Flexor 2SN MINETUFF / Dunlop Hiflex 2SN HI-TUFF	1/4	6	400	-40~+100	Tube; Oil resistant Synthetic rubber Reinforcement; 2 wire braid Cover; Abrasion, Ozone and Hydrocarbon resistant synthetic rubber
	5/16	8	350		
	3/8	10	330		
	1/2	12	275		
	5/8	16	250		
	3/4	19	215		
	1	25	165		
	1 ¼	32	125		
	1 ½	38	90		
3SPT/3SPG	3/8	10	500	-40~+100	Tube; Oil resistant Synthetic rubber Reinforcement; 3 wire braid Cover; Weather, Oil, Abrasion, Ozone and Hydrocarbon resistant synthetic rubber
	1/2	12	470		
	5/8	16	410		
	3/4	19	375		
	1	25	327		
	1 ¼	32	240		

Type	DN		Max. Working Pressure [bar]	Design Temperature (°C)	Material of Hose
	[inch]	[mm]			
Alfagomma Flexopak 2 / Dunlop Hiflex Super Slimline 241T&241G&241X	1/4	6	420	-40~+100	Tube; Oil resistant Synthetic rubber Reinforcement; 2 wire braid Cover; Abrasion, Ozone and Hydrocarbon resistant synthetic rubber
	5/16	8	375		
	3/8	10	350		
	1/2	12	310		
	5/8	16	280		
	3/4	19	240		
	1	25	210		
	1 ¼	32	145		
	1 ½	38	125		
	2	51	100		
Alfagomma Flexopak 2SC HF / Dunlop Hiflex Slimline Plus 221T&221G	1/4	6	400	-40~+100	Tube; Oil resistant Synthetic rubber Reinforcement; 2 wire braid Cover; Abrasion, Ozone and Hydrocarbon resistant synthetic rubber
	5/16	8	350		
	3/8	10	330		
	1/2	12	275		
	5/8	16	250		
	3/4	19	215		
	1	25	165		

Kind of Fluid: Fuel Oil, Lubricating Oil, Hydraulic Oil, Fresh Water, Sea Water, Compressed Air, CO2

• **Type approval tests carried out :**

Proof Pressure Test, Burst Pressure Test, Hydraulic Impulse Test, Fire Resistance Test

• **Connections :**

1. Threaded pipe joints are to be in accordance with 12.4.2-2, Chap.12, Part D of the Rules.
2. Pipe flanges are to be in accordance with 12.4.3-1, Chap.12, Part D of the Rules.
3. Mechanical joints are to be in accordance with a standard deemed approved by the Society or to be of NK approved type.

• **Production Test :**

The hoses used for piping belonging to Group I & II defined by the requirements 12.1.3, Chap.12, Part D of the Rules are to be subjected to hydraulic test in the presence of the Society's surveyor in accordance with the requirements 12.6.1, Chapt.12, Part D of the Rules.

• **Approved manufacturers and address :**

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• **Notice :**

Any significant changes in design or construction of the above items may render this certificate invalid.