



## Confirmation of Product Type Approval

**Company Name:** ALFAGOMMA HYDRAULIC S.P.A.

**Address:** VIA E. MATTEI 6 CASTELNUOVO VOMANO I-64020 Italy

**Product:** Non-Metallic Flexible Hose

**Model(s):** Alfabiotech 4000 Evolution / Powerflexbio 4000 Extra Alfabiotech 5000 Evolution / Powerflexbio 5000 Extra Alfabiotech 5000 Plus Evolution / Powerflexbio 5000 Plus Extra Alfabiotech 6000 Evolution / Powerflexbio 6000 Extra

### Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	23-2463458-1-PDA	19-MAR-2024	04-DEC-2028
Manufacturing Assessment (MA)	20-4430198	08-SEP-2020	07-SEP-2025
Product Quality Assurance (PQA)	NA	NA	NA

### Tier

3 - Type Approved, unit certification not required

### Intended Service

Hydraulic fluids; for use on ships and offshore installations.

### Description

Oil resistant synthetic rubber hose reinforced with four/six high tensile steel spirals covered with ozone and abrasion resistant synthetic rubber sheath

### Ratings

Refer to attached Table of ratings

### Service Restrictions

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

### Comments

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

### Notes, Drawings and Documentation

Drawing No. ABT EVO (Alfabiotech Evolution) catalog

Drawing No. PFB EXTRA (Powerflexbio Extra) catalog

Drawing No. Technical data sheet

Drawing No. "Skive ferrule" fitting

Fire test report (skive) No. 1621.0IS0110/22 (Prato, Italy, 28-sep-2022)

Impulse test report No. 201/21 (Castelnuovo Vomano, Italy, 29-oct-2021)

Test report 2.2 (Castelnuovo Vomano, Italy, 25-nov-2022)

Test report 3.2 (Castelnuovo Vomano, Italy, 27-oct-2021)

Test reports booklet pt1 (Castelnuovo Vomano, Italy, 16-jan & 01-feb-2024)

Test reports booklet pt2 (Castelnuovo Vomano, Italy, jun-nov-2023)

Impulse test reports No. 109/23; 092/23; 104-23; 085/23; 004/23 (Castelnuovo Vomano, Italy, jun-2023 - feb-2024)

Fire test reports No.: 2023CS013349/1; 2023CS013349/2; 2023CS013349/3; 2023CS013349/5; 2023CS013349/6; 2023CS013349/7 (Castelnuovo Vomano, Italy, jun-2023 - feb-2024)

**Term of Validity**

This Product Design Assessment (PDA) Certificate remains valid until 04/Dec/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

**ABS Rules**

2024 Rules for Conditions of Classification, 1-1-4/7.7 & 1-1 Appendix 3 and 4

2024 Rules for Conditions of Classification - Mobile Offshore Units, 1-1-4/9.7 & 1-1 Appendix 2 and 3

**International Standards**

NA

**EU-MED Standards**

NA

**National Standards**

NA

**Government Standards**

NA

**Other Standards**

NA



A handwritten signature in blue ink, appearing to read "Joseph W. White".

Corporate ABS Programs  
American Bureau of Shipping  
Print Date and Time: 25-Sep-2024 9:08

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.

HOSE - FITTING COMBINATION ALFABIOTECH EVOLUTION FAMILY						
HOSE	SIZE		FERRULE		INSERT	ONE PIECE
	DN	DASH	SKIVE	INTERLOCK		
ALFABIOTECH EVOLUTION 4000	12	08	H1100404	--	H12xxxxx	C18xxxxx
	16	10	H1100404	--	H12xxxxx	C18xxxxx
	20	12	H1100404	--	H12xxxxx	C18xxxxx
	25	16	H1100404	--	H12xxxxx	C18xxxxx
	32	20	--	H1700200	H17xxxxx	C18xxxxx
	38	24	--	H1700200	H17xxxxx	C18xxxxx
	51	32	--	H1700200	H17xxxxx	C18xxxxx
ALFABIOTECH EVOLUTION 5000	16	10	H1100404	--	H12xxxxx	C18xxxxx
	20	12	--	H1700200	H17xxxxx	C18xxxxx
	25	16	--	H1700200	H17xxxxx	C18xxxxx
	32	20	--	H1700200	H17xxxxx	C18xxxxx
	38	24	--	H1700301	H17xxxxx	C18xxxxx
	51	32	--	H1700301	H17xxxxx	C18xxxxx
ALFABIOTECH EVOLUTION 5500	20	12	--	H1700200	H17xxxxx	--
	25	16	--	H1700200	H17xxxxx	--
ALFABIOTECH EVOLUTION 6000	6	04	H1100404	--	H12xxxxx	C18xxxxx
	10	06	H1100404	--	H12xxxxx	C18xxxxx
	12	08	H1100404	--	H12xxxxx	C18xxxxx
	16	10	--	H1700301	H17xxxxx	C18xxxxx
	20	12	--	H1700200	H17xxxxx	C18xxxxx
	25	16	--	H1700200	H17xxxxx	C18xxxxx
	32	20	--	H1700301	H17xxxxx	C18xxxxx
	38	24	--	H1700301	H17xxxxx	C18xxxxx
	51	32	--	--	--	--

Attachment to PDA cert No.  
23-2463458-1-PDA.

Company name: ALFAGOMMA  
HYDRAULIC S.P.A.

Models:

Alfabiotech 4000 Evolution /  
Powerflexbio 4000 Extra  
Alfabiotech 5000 Evolution /  
Powerflexbio 5000 Extra  
Alfabiotech 5000 Plus Evolution /  
Powerflexbio 5000 Plus Extra  
Alfabiotech 6000 Evolution /  
Powerflexbio 6000 Extra

Issuance date: 19-mar-2024  
Expiration date: 04-dec-2028

Table of ratings revision No.: 1

**End fittings material : Carbon Steel**

HOSE - FITTING COMBINATION ALFABIOTECH EVOLUTION FAMILY				
HOSE	SIZE		FERRULE	INSERT
	DN	DASH		
ALFABIOTECH EVOLUTION 4000	12	08	H3100404	H32xxxxx
	16	10	H3100404	H32xxxxx
	20	12	H1100404	H32xxxxx
	25	16	H1100404	H32xxxxx
	32	20	H3100404	H32xxxxx
	38	24	--	
	51	32	H3100404	H32xxxxx
ALFABIOTECH EVOLUTION 5000	16	10	H3100404	H32xxxxx
	20	12	H3100404	H32xxxxx
	25	16	H3100404	H32xxxxx
	32	20	--	--
	38	24	--	--
	51	32	--	--
ALFABIOTECH EVOLUTION 6000	6	04	H3100404	H32xxxxx
	10	06	H3100404	H32xxxxx
	12	08	H3100404	H32xxxxx
	16	10	--	--
	20	12	--	--
	25	16	--	--
	32	20	--	--
	38	24	--	--
	51	32	--	--

**End fittings material : Stainless Steel**