



Certificate number: 61630/B0 BV

File number: ACM 135/2805/1

Product code: 2104H

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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Festo SE & Co. KG

Esslingen - GERMANY

for the type of product

NON-METALLIC HOSES (FLEXIBLE PIPES)

PLASTIC HOSES Series PAN

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: 27 Feb 2031

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 27 Feb 2026,

Heiko Lange

This certificate was created electronically and is valid without signature



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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Plastic Hoses Series PAN

Technical data:

Type description	Outer diameter [mm]	Inner diameter [mm]	Min. allowable thickness [mm]	Max. permissible pressure [bar]
PAN-4X0,75-SI PAN-4X0,75-NT	4	2.9	0.52	15
PAN-6X1-SI PAN-6X1-NT	6	4	0.95	19
PAN-8X1,25-SI PAN-8X1,25-NT	8	5.9	1.0	15
PAN-10X1,5-SI PAN-10X1,5-NT	10	7	1.45	17
PAN-12X1,75-SI PAN-12X1,75-NT	12	8.4	1.75	17
PAN-14X2-SI PAN-14X2-NT	14	10	1.9	17
PAN-16X2-SI PAN-16X2-NT	16	12	1.9	14

Temperature range: -10 °C - +80 °C

Material: PA12

2. DOCUMENTS AND DRAWINGS:

2.1 Drawing:

Designation	Drawing no.	Rev. index
KST. - SCHLAUCH	00936791	M

2.2 Documents:

Designation	Document no./-Reference	Rev. index/-date
KST. - SCHLAUCH	00920456	W
PAN Material	BS-DC\Sebastian Nitsche	02/11/2020

3. TEST REPORTS:

Type test performed at TÜV SÜD Product Services GmbH on 11/03/2020. Test report no.: 713175650

- Burst pressure test
- Change in length test
- Cold flexibility test
- Oil resistance test

4. APPLICATION / LIMITATION:

- 4.1 Plastic hoses intended to be used for compressed air applications.
- 4.2 The hoses are to be installed according to BUREAU VERITAS Rules and the manufacturer's instructions and requirements.
- 4.3 These hoses are not to be used when approved fire resistant type is required according to BUREAU VERITAS Rules.
- 4.4 Flexible hoses assemblies for essential services or containing either flammable or toxic media are not to exceed 1.5 meters in length. A length greater than 1.5 meters may be accepted on a case-by-case basis by the Society, provided that the installation ensures the integrity of the hose is not compromised by any external factors, that hoses are only be used where necessary to accommodate relative movement between two moving parts, and that all hot surfaces that could be exposed in case of hose failure are appropriately heat-shielded.

- 4.5 Not to be used for flammable media or in sea water systems where failure may result in flooding, except in cases where such hoses are installed on open decks and not used for fuel oil lines as stated in NR 467, Pt C, Ch 1, Sec 10 [2.6.4].
- 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.
- 4.8 Not to be used where pressure impulses may occur.
- 4.9 Not to be used as suction hose.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 The products are to be supplied by **FESTO SE & Co. KG** in compliance with the type described in this certificate.
- 5.2 This type of product is within the category HBV of BUREAU VERITAS Rule Note NR320 and as such does not require a BUREAU VERITAS product certificate.
- 5.3 **FESTO SE & Co. KG** has to make the necessary arrangements to have its works recognised by BUREAU VERITAS in compliance with the requirements of NR320 for HBV products.
- 5.4 For information, **FESTO SE & Co. KG** has declared to BUREAU VERITAS the following production site:
Festo Production s.r.o, Ceska Lipa / CZECH REPUBLIC

6. MARKING OF PRODUCT:

Each flexible hose shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Date of manufacture
- Nominal Diameter
- Pressure rating
- Temperature rating

7. OTHERS:

- 7.1 It is **FESTO SE & Co. KG'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.
- 7.2 This certificate supersedes the Type Approval Certificate N° 61630/A0 BV issued on 30 Nov 2020 by the Society.

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