



Marine & Offshore

Certificate number: 18886/D0 BV

File number: ACM 135/2647/02

Product code: 2104I

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

PARKER HANNIFIN MANUFACTURING S.r.l. Polymer Hose Division Europe
Veniano (CO) - ITALY

for the type of product

NON-METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES
301SN and 421SN

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

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: 28 Apr 2027

For Bureau Veritas Marine & Offshore,

At BV VENEZIA, on 28 Apr 2022,

Sandro BRUSEGAN

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

Hoses 301SN and 421SN - No-skive type

1.1 Hose 301SN according to EN 853 Type 2SN

Hose 301SN	-4	-5	-6	-8	-10	-12	-16	-20	-24	-32
Size (mm)	6.3	7.9	9.5	12.7	15.9	19.1	25.4	31.8	38.1	50.8
Maximum working pressure (MPa)	40	35	33	27.5	25	21.5	16.5	12.5	9	8

Fitting Series: asper the datasheet Parker 48 of the catalogue catalogue 4400.1/UK

Temperature range: - 40 °C to + 100 °C

The maximum working pressure is not to exceed one quarter of the burst pressure at the service temperature

1.2 Hose 421SN according to EN 853 Type 1SN

Hose 421SN	-4	-5	-6	-8	-10	-12	-16	-20	-24	-32
Size (mm)	6.3	7.9	9.5	12.7	15.9	19.1	25.4	31.8	38.1	50.8
Maximum working pressure (MPa)	22.5	21.5	18	16	13	10.5	8.8	6.3	5	4

Fitting Series: asper the datasheet Parker 48 of the catalogue catalogue 4400.1/UK

Temperature range: - 40 °C to + 100 °C

The maximum working pressure is not to exceed one quarter of the burst pressure at the service temperature

1.3 Material specification

Tube	Oil resistant Nitrile based synthetic rubber NBR
Reinforcement	SS 302, SS 304
Cover	NBR/PVC
Fittings	Carbon steel / 1.4571, 1.4401

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS

- Datasheets Hs-301SN and Hs-421SN of Parker catalogue CAT/4400/UK dated 01/2021
- Hose specification N°GHS-301SN Rev.C dated 02/11/2020
- Hose specification N°GHS-421SN Rev.A dated 12/08/1997

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

- Test sheets N°3293 to N°3296 Rev.0 dated 24/07/2017 including the Burst test (301SN) witnessed by an IACS Member.
- Test sheets N°3289 to N°3292 Rev.0 dated 24/07/2017 including the Burst test (421SN) witnessed by an IACS Member.
- Test specification N°1972 to N°1981 (301SN) dated 16/03/2022
- Test specification N°1982 to N°1991 (421SN) dated 16/03/2022
- The fire resistance tests according to ISO 15540: 1999 and ISO 15541: 1999 were carried out at LAPI laboratory (Italy) and found in order as per the following test reports:

Test reports N° 449.0IS0110/04 (301SN-4), N° 450.0IS0110/04 (301SN-12), N° 486.0IS0110/04 (301SN-32), N° 451.0IS0110/04 (421SN-4), N° 452.0IS0110/04 (421SN-12) and N° 487.0IS0110/04 (421SN-32) dated 01/06/2004.

4. APPLICATION / LIMITATION

4.1 May be used on the following services:

- Sea water and fresh water, compressed air, fuel oil, lub oil, hydraulic oil

4.2 End fittings as per manufacturer's catalogue. The hoses are to be entirely assembled in the manufacturer's workshop.

4.3 The installation of hose assemblies is to be in accordance with the manufacturer's instructions and the Society's Rules requirements to take into consideration forces due to vibration. The hoses are not to be used on services when vibration test is required in Bureau Veritas Rules.

4.4 The hoses are to be limited to a length necessary to provide for relative movement between fixed and flexibly mounted items of machine/equipment or systems and are only to be used in lengths up to 2 m. The hoses are to be installed in clearly visible and readily accessible locations at all times.

4.5 The use of stainless steel is restricted as per BUREAU VERITAS rules.

4.6 Taper threaded end connections are not to be used for oil circuits in engine rooms nor any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **PARKER HANNIFIN MANUFACTURING S.r.l. Polymer Hose Division Europe** in compliance with the type and the requirements described in this certificate.

5.2 This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 BV product certificate is required.

5.4 Each hose with end fittings is to be hydraulically pressure tested to 1.5 the maximum working pressure and provided with the manufacturer's pressure test report and conformity of production.

5.5 For information, **PARKER HANNIFIN MANUFACTURING S.r.l. Polymer Hose Division Europe** has declared to Bureau Veritas the following production site :

PARKER HANNIFIN MANUFACTURING S.r.l. Polymer Hose Division Europe
Via G.B. Pirelli,6
22070 Veniano (CO)
ITALY

6. MARKING OF PRODUCT

Each hose with end fittings shall be clearly and indelibly marked with at least:

- Manufacturer name or logo
- Type designation
- Date of manufacture
- Nominal Diameter
- Pressure Rating
- Temperature Rating
- Society's brand as relevant

7. OTHERS

It is **PARKER HANNIFIN MANUFACTURING S.r.l. Polymer Hose Division Europe** '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.

This certificate supersedes Type Approval Certificate N° 18886/C0 BV issued by the Society.

*** END OF CERTIFICATE ***