



Confirmation of Product Type Approval

Company Name: PARKER HANNIFIN CORP.

Address: 1501 HAYES DRIVE MANHATTAN KS 66502 United States

Product: Non-metallic Flexible Hydraulic Hose

Model(s): 487TC, 487ST (Sizes -4, -6, -8, -10, -12, -16, -20, -24 and -32) 487CP (Sizes -8, -12 & -16)

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	20-1949018-2-PDA-DUP	17-OCT-2023	09-FEB-2025
Manufacturing Assessment (MA)	24-6262608	29-FEB-2024	27-FEB-2029
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Marine and Offshore Applications - Petroleum based Hydraulic Fluids and Lubrication Oils.

Description

Non-Metallic Flexible Hydraulic Hose.

Ratings

487TC Abrasion Resistant Rubber Covered and 487ST High Abrasion Resistant Rubber Covered.

Size: -4 to -32; MAWP: 4000 psi;

Sizes -4 to -16 Parker Hannifin 43 series

Sizes -4 to -12 Parker Hannifin 48 series

Size -20 to -32 Parker Hannifin 77 series

Applications and Temperature Range:

Petroleum-base hydraulic fluids and lubricating oils, -40°F to +257°F (-40°C to +125°C);

Water, water/oil emulsion, and water/glycol hydraulic fluids, up to +185°F (+85°C);

Polyol ester fluids, up to +150°F (+65°C);

Air, up to +158°F (+70°C).

487CP Enhanced Cover

Size: -8 to -16: MAWP :4000 PSI

Applications and Temperature Range:

Standard Cover, -40°F to +212°F (-40°C to +100°C);

Tough Cover, SuperTough Cover & Critical Protection -40°F to +212°F (-40°C to +100°C)

Refer to attached Manufacturer's Catalog.

Service Restrictions

- i) Unit Certification is required for this product.
- ii) Flexible Hose assemblies are not applicable in high pressure fuel oil injection systems.
- iii) The types of end connections utilized (e.g. threaded, flanged, etc.) are to comply with the applicable requirements and limitations of the Marine Vessels Rules 4-6-2/5.7.3 b)
- iv) Flexible hoses are not applicable to hoses intended to be used in fixed fire extinguishing systems.
- v) All Flexible Hose assemblies are to be burst tested to demonstrate they are able to withstand a pressure not less than four times its design pressure in accordance with Marine Vessels Rules 4-6-2/5.7.5 b)
- vi) Fittings made of Aluminum are Not to be used on the Hose Assembly

Comments

- i) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- ii) The Flexible Hoses are to be complete with factory assembled end fittings or factory supplied ends made of steel only and installed in accordance with manufacturer's procedures in accordance with Marine Vessels Rules 4-6-2/5.7.3 b)
- iii) Hose assemblies are to be installed only when flexibility is required and are not to be subject to torsional deflection under normal conditions. In addition, the length of the hose is to be limited to that required for flexibility only as indicated in Marine Vessels Rules 4-6-2/5.7.4.
- iv) Flexible Hoses are to be permanently marked by the manufacturer with the following details: Hose manufacturer's name or trademark, date of manufacturer (month/year), designation type reference, nominal diameter, pressure and temperature rating in accordance with Marine Vessels Rules 4-6-2/5.7.6.
- v) Manufacturing location Red Oak, IA manufactures model 487TC in sizes -4 and -10, Model 487CP (-8, -12, -16)
- vi) Manufacturing location Manhattan, KS manufactures model 487TC in sizes -6, -8, and -12 and model 487ST in sizes -8 and -12, Model 487CP (-8, -12, -16)
- vii) Manufacturing location Alliance, NE manufactures model 487TC in sizes -16, -20, -24, and -32 and model 487ST in sizes -4, -6, -10, -16, -20, -24, and -32, Model 487CP (-8, -12, -16)
- viii) Manufacturing location Toluca (Mexico), model 487TC, sizes 4, 6, 8

- ix) Manufacturing location Qingdao (China), model 487TC, sizes 4, 6, 8, 10, 16
- x) Manufacturing location Shenyang (China), model 487TC, size 6, 8, 12,
- xi) Manufacturing location Yangsan (Korea), model 487TC, sizes 4,6, 8, 10, 12, 16
- xii) Manufacturing location Nagpuri (India) model 487TC, sizes 6, 8, 16
- xiii) Manufacturing location Hyderabad (India) model 487TC, size 4

Notes, Drawings and Documentation

Drawing No. CP Hose, CP Hose Bulletin, Revision: -,

Drawing No. Catalog 4000, Catalog 4000, Revision: -,

Drawing No. T-969 CP Report, CP Hose Report, Revision: -, dated 01 Sept 2023

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 09/Feb/2025 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

2020 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3 and A4, which covers the following:

2020 Rules for Building and Classing Marine Vessels: 4-6-2/5.7

2020 Rules for Conditions of Classification- Offshore Units and Structures, 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2020 Rules for Building and Classing Mobile Offshore Units: 4-2-1/11.29

2020 ABS Rules for Facilities on Offshore Installations 3-4/5.11.5, A2/Table 1 (Marine Support only)

2019 ABS Guide for the Classification of Drilling Systems 4-2/7

International Standards

ISO 1402:2009 Rubber and plastics hoses and hose assemblies - Hydrostatic testing

ISO 6605:2017 Hydraulic fluid power - Hoses and hose assemblies - Test methods

ISO 6803:2017 Rubber or plastics hoses and hose assemblies - Hydraulic-pressure impulse test without flexing

ISO 6945:1991 Rubber hoses - Determination of abrasion resistance of the outer cover

ISO 7233:2006 Rubber and plastics hoses and hose assemblies - Determination of resistance to vacuum

ISO 7326:2006 Rubber and plastics hoses - Assessment of ozone resistance under static conditions

ISO 15540:1999 Ships and marine technology - Fire resistance of hose assemblies - Test methods

ISO 18752:2014 Rubber hoses and hose assemblies - Wire- or textile-reinforced single-pressure types for hydraulic applications - Specification

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in black ink, appearing to read "James J. White".

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 12-Jul-2024 12:46

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.