



CERTIFICATE NUMBER
14-HG1204538-3-PDA

DATE
04 Sep 2015

ABS TECHNICAL OFFICE
Hamburg Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
**PARKER HANNIFIN MANUFACTURING GERMANY GMBH &
CO KG**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Tube Fitting, High Pressure Surge Resistant**

Model: **EO2-Form, Series "L" (light) and Series "S" (heavy).**


This Product Design Assessment (PDA) Certificate 14-HG1204538-3-PDA, dated 04/Sep/2015 remains valid until 09/Jul/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING


Evgenij A Nevrotov
Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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Tier: 3 - Type Approved, unit certification not required

Product: Tube Fitting, High Pressure Surge Resistant

Model: EO2-Form, Series "L" (light) and Series "S" (heavy).

Intended Service:

For general application in shipboard piping systems.

Description:

Tube fitting system with end forming.

Fittings made of carbon steel or stainless steel.

For cold drawn, seamless carbon steel or stainless steel pipes.

Connection by cold formed tube end and sealing ring "DOZ" with NBR or FKM sealing material.

Rating:

Pipe OD (mm)/ Nom. Working Pressure (bar):

Series L (Carbon Steel): 6-10/ 500, 12-18/ 400, 22-42/ 250.

Series L (Stainless Steel): 6-10/ 500, 12-18/400, 22-42/ 250.

Series S (Carbon Steel): 6-10/ 800, 12-16/ 630, 20-38/ 420.

Series S (Stainless Steel): 6-10/ 800, 12-16/630,20-38/ 420.

Service Restriction:

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.

Generally, care is to be taken to prevent build-up of static electricity in piping conveying fluids having flash point of 60°C or less or being routed through hazardous areas.

Comments:

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

The pressure ratings of the fittings may be required to be reduced based on actual operating temperatures, high pressure surges etc. in order to guarantee a safety margin of four (4) against burst pressure.

Ferrous material used in piping system operating at lower than -18°C are to have adequate notch toughness properties (Section 4-6-2/3.1.6 of the Rules)

The application and installation of the pipe fittings is to be in accordance with manufacturer's specifications and instructions and is to be approved in connection with the relevant piping systems.

Duplicate PDA resides with Messrs. Parker Hannifin Fluid Connectors (Qingdao) Co., Ltd. / China.

Notes/Drawing/Documentation:

Drawing No. ABS_Statement of Fact_EO-2_EO2-Form_Fire endurance, Statement of fact, Revision: -, Pages: -

Drawing No. ABS_Statement of Fact_EO2-Form_Fire endurance_September_2015, statement, Revision: -, Pages: -

Drawing No. Burst_EO2-Form, Burst_EO2-Form, Revision: -, Pages: -

Drawing No. C14-3-III_, Impulse Vibration 3, Revision: -, Pages: -

Drawing No. C14-3-IV_, Impulse Vibration 4, Revision: -, Pages: -

Drawing No. C14-3-I_, Impulse Vibration 1, Revision: -, Pages: -

Drawing No. C21-1-II_, Vacuum, Revision: -, Pages: -

Drawing No. C21-1-I_, Pull-out, Revision: -, Pages: -

Drawing No. C84-0-IX_, Impulse Vibration 9, Revision: -, Pages: -

Drawing No. C84-0-XIX_, Impulse Vibration 19, Revision: -, Pages: -

Drawing No. C84-0-XVIII_, Impulse Vibration, Revision: -, Pages: -

Drawing No. C84-0-XVII_, Impulse Vibration 17, Revision: -, Pages: -

Drawing No. C84-0-XVI_, Impulse Vibration, Revision: -, Pages: -

Drawing No. DNV P-14924 EO-DPR_PSR, EO-2, EO2-Form, DNV, Revision: -, Pages: -

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Drawing No. EO2Form06L71 IBB 1430, EO2Form06L71 IBB 1430, Revision: -, Pages: -
Drawing No. EO2Form06S71 IBB 1432, EO2Form06S71 IBB 1432, Revision: -, Pages: -
Drawing No. EO2Form42L71 IBB 1428, EO2Form42L71 IBB 1428, Revision: -, Pages: -
Drawing No. LR_Burst witnessed by LR 290114_EO2-Form fire tested system for inert gas application, LR Burst test, Revision: -, Pages: -
Drawing No. P-11764_Burst witnessed by DNV 250203_EO2-FORM, DNV Burst, Revision: -, Pages: -
Drawing No. P-11764_Burst witnessed by DNV 260908_EO2-FORM, DNV Burst, Revision: -, Pages: -
Drawing No. P-12942_P-12961_P-12962_reviewed test 21062012_EO2_DPR_PSR_EO2form, Form, Revision: -, Pages: -
Drawing No. P-12942_P-12961_P-12962_witness test 23052012_EO2_DPR_PSR_EO2form, Form, Revision: -, Pages: -

Terms of Validity:

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STANDARDS

ABS Rules:

- Rules for Building and Classing Steel Vessels (2015) Up-date Feb 2015: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-1-1/TABLE 6; 4-3-4/9.5.2, 4-6-1/5, 4-6-2/5.5/5.9/9.15, 4-6-7/Table 1
- Steel Vessels Under 90 Meters (295 Feet) in Length (2015) Up-date Feb 2015: 1-1-4/7.7, 1-1-A 3, 1-1-A4
- Offshore Support Vessels (2015): 1-1-4/7.7, 1-1-A3, 1-1-A 4
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2015): 1-1-4/7.7, 1-1-A3, 1-1-A4
- Bulk Carriers for Service on the Great Lakes (1978) Up-date Apr 2008: 1-1-4/7.7, 1-1-A3, 1-1-A4
- Rules for Building and Classing Mobile Offshore Drilling Units (2015): 1-1-A2, 1-1-A3, 6-1-6/5

National:

DIN 3859 2005-9

International:

DIN EN ISO 8434-1: 2008-02, DIN EN 10305-4: 2011-04, DIN EN 10216-5: 2014-03, EN ISO 1127: 1997-03

Government:

NA

EUMED:

NA

OTHERS:

IACS UR P2.7.4 (Rev. 5 Nov 2003), (Rev. 6 May 2006), (Rev. 7 Sept 2007),

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IACS UR P2.11 (Nov. 2001) (Rev. 1 May 2006), (Rev. 2 Nov 2006), (Corr. 1 Apr 2007), (Rev.3 Aug 2012)