



CERTIFICATE NUMBER

DATE

02-LD281251/2-PDA

27 November 2012

ABS TECHNICAL OFFICE

London Engineering Department

CERTIFICATE OF

DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
SERTO AG. - AADORF

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: **SERTO Stainless Steel Pipe Compression Fitting**

MODEL: **Type SO51121, SO51021 and SO50002**

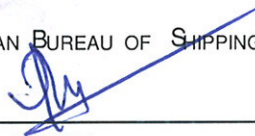
This Product Design Assessment (PDA) Certificate 02-LD281251/2-PDA, dated 27/Nov/2012 remains valid until 26/Nov/2017 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

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


Mohammed K.M. Abbas
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).

SERTO AG.

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Product: SERTO Stainless Steel Pipe Compression Fitting

Model: Type SO51121, SO51021 and SO50002

Intended Service:

Marine, Transport (Railways), General Engineering, Off-shore (except drilling)

Description:

Material: X6 CrNiMoTi 17122 according to DIN 17440 Material number 1.4571 (316 Ti)

Ratings:

From size 6mm (1/8") to 8mm (1/4" incl.) 200 BAR; From size 8mm (1/4") to 12mm (1/2" incl.) 160 BAR; From size 12.7mm (1/2") to 18mm (3/4" incl.) 100 BAR; (Max. working pressure depends on the service temperature and is to be calculated by the manufacturers coefficient)

Service Restrictions:

- 1) The subject pipe fittings may be used for flammable fluid systems provided that the tubing system is of steel or nickel copper or copper nickel alloys as per 4-6-2/5.5.6 of the Rules.
- 2) The subject pipe fitting may be used in piping systems where the conveyed fluids are compatible with the material specified above.
- 3) Maximum service temperature over 300 degrees C as per manufacturer's specification.
- 4) Unit Certification is not required for this product. If the manufacturer or purchaser's 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:

Not Applicable

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

This Product Design Assessment (PDA) Certificate 02-LD281251/2-PDA, dated 27/Nov/2012 remains valid until 26/Nov/2017 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.

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STANDARDS**ABS Rules:**

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. The Rules applicable to this assessment are: 2012 Steel Vessel Rules 1-1-4/7.7, 4-6-2/5.9

National:

BS 4368:PT4 1984, (DVGW/SVGW)

SERTO AG.

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International:

NA

Government Authority:

NA

EUMED:

NA

Others:

NA