



CERTIFICATE NUMBER 19-LD1929172-PDA

EFFECTIVE DATE 04-Dec-2019

EXPIRATION DATE 03-Dec-2024

ABS TECHNICAL OFFICE London Ship Eng - Materials

## CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

### **PJSC CENTRAVIS PRODUCTION UKRAINE**

located at

**56 TRUBNIKOV AVENUE, NIKOPOL, DNEPROPETROVSK REGION,  
Ukraine, 53201**

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 Steel Pipe and Tubes**

**Model Seamless Stainless Steel Pipes**

**ASTM A213/ASME SA-213, ASTM A312/ASME SA-312, ASTM 376/ASME SA-376:TP304, TP304H, TP304L, TP316, TP316H, TP316L, TP316Ti, TP317, TP317L, TP321, TP321H, TP347, TP347H, TP347HFG**

**ASTM A790/ASME SA-790, ASTM A789/ASME SA-789: S31803, S32205, S32304, S32750, S32760.**

**DIN EN 10216-5, DIN EN 10297-2: 1: 1.4301, 1.4306, 1.4307, 1.4362, 1.4401, 1.4404, 1.4410, 1.4462, 1.4501, 1.4539, 1.4541, 1.4550, 1.4571, 1.4910, 1.4912, 1.4941, 1.4952, 1.4961, 1.4878, 1.4908.**

This Product Design Assessment (PDA) Certificate remains valid until 03/Dec/2024 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.

American Bureau of Shipping

Nikolaos (Nikos Vrellos) Vrellos, Engineer/Consultant

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 ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

## PJSC CENTRAVIS PRODUCTION UKRAINE

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### Tier: 5 - Unit Certification Required

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**Product:** Steel Pipe and Tubes

**Model:** Seamless Stainless Steel Pipes

ASTM A213/ASME SA-213, ASTM A312/ASME SA-312, ASTM 376/ASME SA-376:  
TP304, TP304H, TP304L, TP316, TP316H, TP316L, TP316Ti, TP317, TP317L, TP321,  
TP321H, TP347, TP347H, TP347HFG.

ASTM A790/ASME SA-790, ASTM A789/ASME SA-789: S31803, S32205, S32304, S32750,  
S32760.

DIN EN 10216-5, DIN EN 10297-2: 1.4301, 1.4306, 1.4307, 1.4362, 1.4401, 1.4404, 1.4410,  
1.4462, 1.4501, 1.4539, 1.4541, 1.4550, 1.4571, 1.4910, 1.4912, 1.4941, 1.4952, 1.4961, 1.4878,  
1.4908.

**Intended Service:**

Process Piping for Marine and Offshore Application (Oil, Steam, Gas, etc.).

**Description:**

Seamless Hot Formed and Cold Deformed stainless steel pipes as per below and attached table.

Austenitic Grades: TP304, TP304H, TP304L, TP316, TP316H, TP316L, TP316Ti, TP317, TP317L, TP321, TP321H,  
TP347, TP347H, TP347HFG.

1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4410, 1.4462, 1.4501, 1.4539, 1.4541, 1.4550, 1.4571, 1.4910, 1.4912,  
1.4941, 1.4952, 1.4961, 1.4878, 1.4908.

OD: 6 mm - 250 mm; WT 0.5 mm - 43 mm.

Austenitic/ Ferritic: S 31803, S 32205, S 32304, S 32750, S 32760; 1.4362, 1.4462, 1.4410, 1.4501.

OD: 12 mm - 219.1 mm; WT 0.7 mm x 23,01 mm.

**Rating:**

Pressure/ temperature ratings as per relevant standard, applicable rules and approved design, as applicable, at the time of production.

**Service Restriction:**

Unit Certification is required for this product when used in Pressure Vessels Group I & II and Piping Class I & II, except for hydraulic piping. Otherwise, Unit Certification is not required for these products.

The pipes are not to be used for temperatures above 400 degrees Celsius unless their metallurgical behavior and time dependent strengths are in accordance with national or international codes or standards and that such behavior and strengths are guaranteed by the steel manufacturer.

These pipes are not to be used on Gas Carriers cargo piping without prior notice to ABS.

These pipes are not to be used for structural applications without prior notice to ABS.

The installation of mechanical joints, if applicable, is to be in accordance with applicable ABS Rules and the manufacturer's assembly instructions.

If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

**Comments:**

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

When compliance with specific ABS Rules is required, i.e. unit certification, the pipes are to be fabricated and tested in accordance with the applicable ABS Rules under ABS survey and marked accordingly.

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### **Tier: 5 - Unit Certification Required**

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#### **Notes/Drawing/Documentation:**

Drawing No. Pipes to be Approved by ABS, Pipe Types

Drawing No. Certificates, Certification Granted

Drawing No. Manufacturing process description, Manufacturing Info

Drawing No. Testing Protocols, Material Tests

Drawing No. Pipe Grades - PJSC CENTRAVIS, Pipe grades produced

#### **Terms of Validity:**

This Product Design Assessment (PDA) Certificate remains valid until 03/Dec/2024 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.

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#### **STANDARDS**

##### **ABS Rules:**

2019 Rules for Conditions of Classification, Part 1 - 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2019 Rules for Building and Classing Steel Vessels, 4-6

2019 Rules for Building and Classing Marine Vessels, 4-6

2019 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2019 Rules for Building and Classing Mobile Offshore Drilling Units, 6-1-1/9, 4-2-2/5

2019 Rules for Building and Classing Mobile Offshore Units, 6-1-1/9, 4-2-2/5

2019 Rules for Building and Classing Facilities on Offshore Installations, 3-3

2019 Guide for Classification of Drilling Systems, 3-2/3.1, 5-3

##### **National:**

NA

##### **International:**

2019 ASTM A213/ASME SA213, Standard Specification for Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes

2019 ASTM A312/ASME, Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless

2019 ASTM 376/ASME SA-376, Standard Specification for Seamless Austenitic Steel Pipe for High-Temperature Service

2019 ASTM A790/ASME SA-790, Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel Pipe

2018 ASTM A789/ASME SA-789, Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service

2013 DIN EN 10216-5, Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes

2005 DIN EN 10297-2, Seamless steel tubes for mechanical and general engineering purposes - Technical delivery

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conditions - Part 2: Stainless steel

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

NA