



CERTIFICATE NUMBER 17-HG1676586-PDA

EFFECTIVE DATE 02-Nov-2017

EXPIRATION DATE 01-Nov-2022

ABS TECHNICAL OFFICE Hamburg Engineering Department

CERTIFICATE OF

Product Design Assessment

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

WIELAND EUCARO GMBH

located at

SENATOR-HELMKEN-STR. 3, D-28197 BREMEN, Germany

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 Tubing, CuNi

Model Seamless and Seamwelded Tubes, EUCARO®10.

This Product Design Assessment (PDA) Certificate remains valid until expiration date 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

Dimitrios Nikolakis
Engineer/Consulta

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)

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Tier: 2 - PDA Issued

Product: Tubing, CuNi

Model: Seamless and Seamwelded Tubes, EUCARO®10.

Intended Service:

Seawater carrying systems like fire fighting or cooling systems on offshore units (drilling rigs, workboats, semisubmersibles, FSO and FPSO).

Description:

Seamless and seamwelded tubes of corrosion resistant alloy CuNi 90/10.

Seamless Sizes: 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2" 3", 4", 6", 8", 10", 12", 14", 16".

Seamwelded Sizes: 14", 16", 18", 20", 24", 28", 32", 36".

Rating:

Working Pressure/ Temperature Range: 16 bar/ - 29° C to 75° C,
20 bar/ - 29° C to 38° C (in accordance with EEMUA specifications).

Service Restriction:

Unit Certification in accordance with Section 4-6-1/Table 2 of the ABS Steel Vessel Rules is required for those of the pipes with pressure rating class above 16 bar. For the other pipes and 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.

External pressure is to be considered for systems inside deep tanks which may be subject to head of liquid on the outside of the pipe.

Comments:

Each particular application of the tubes is to be approved in conjunction with the relevant system in which they are used.

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

All piping fittings are to bear permanent identification, such as manufacturer's name or trademark, standard of compliance, material identity, pressure rating, etc., as required by the standard of compliance or the manufacturer's specification. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the component, and are to serve as a permanent means of identification of the component throughout its service life in accordance with 4-6-1/7.1.4 & Table 2 of the Steel Vessel Rules.

Notes/Drawing/Documentation:

SeeAttachedFile

Terms of Validity:

This Product Design Assessment (PDA) Certificate 17-HG1676586-PDA, dated 02/Nov/2017 remains valid until 01/Nov/2022 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.

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STANDARDS

ABS Rules:

- Rules for Building and Classing Steel Vessels (2017): 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, 4-6-1/7.5.2, 4-6-2/3.3/5.5/5.9, 4-6-7/Table 1
- Steel Vessels Under 90 Meters (295 Feet) in Length (2017): 1-1-4/7.7, 1-1-A 3, 1-1-A4
- Offshore Support Vessels (2017): 1-1-4/7.7, 1-1-A3, 1-1-A 4, 4-6-2/5.5.1 and 4-6-2/5.5.2.
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2017): 1-1-4/7.7, 1-1-A3, 1-1-A4
- Bulk Carriers for Service on the Great Lakes (2017): 1-1-4/7.7, 1-1-A3, 1-1-A4
- Rules for Building and Classing Mobile Offshore Drilling Units (2017): 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-2/11, 6-1-6/5

National:
NA

International:
N.A.

Government:
NA

EUMED:
NA

OTHERS:
EEMUA 234 (2015, 1st. Edition)