Certificate No:
AOSS0000M6C

APPROVAL OF SERVICE SUPPLIERS

This is to certify that

Element Materials Technology Hamburg GmbH

Hamburg, Germany

is granted acceptance for

Laboratories performing corrosion testing of corrosion resistant steels , in accordance with Class Programme DNV-CP-0631.

This service supplier certificate will be accepted for use with all rule sets published by DNV.
See the following page(s) for details regarding application.

This Certificate is valid from **2024-04-15** to (inclusive) **2027-04-14**.

This Certificate is issued on **2024-04-15**.

for **DNV**

This document has been digitally signed and will therefore not have handwritten signatures

Kühne, Dennis
Surveyor

This Certificate may be withdrawn if:
1. The service provided has been improperly carried out or the results improperly reported.
2. The surveyor has found any deficiencies in the accepted operating systems of the service supplier.
3. The firm has failed to inform of any major changes having effect on the quality of the service rendered.
4. The conditions listed in the certificate are changed and/or are not fulfilled.

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LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Application:

- See Annex to the Certificate (3 pages).

Remarks:

- Material and test requirements are based on the actual valid DNV Rules and international standards accepted by DNV.
- Reference is made to the actual Accreditation Certificate acc. to EN ISO 17025:2018, No.: D-PL-11166-01-01.

- A condition for retention of the AOSS certificate in its validity period is that periodical assessments are successfully carried out (at least every 18 month alternating between apllicable agents). The objective of the periodical assessment is to verify that the conditions have not been altered. It is further to be noted that the Society shall be informed of any: Modifications to the testing facilities which are liable to affect its characteristics and functions, as originally specified and tested.

Agents:

Name	City	Country
Element Materials Technology Hamburg GmbH	Esslingen	Germany
Element Materials Technology Hamburg GmbH	Hamburg	Germany
Element Materials Technology Hamburg GmbH	Mülheim an der Ruhr	Germany

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Annex to the AOSS Certificate no. AOSS0000M6C

The test methodes are indicated with the following symbols for the locations in which they are conducted:

MH = Mülheim, ES = Esslingen-Mettingen, HH = Hamburg

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1 Corrosion testing

DIN EN ISO 3651-1 1998-08	Determination of resistance to intergranular corrosion of stainless steels - Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)	MH, ES, HH
DIN EN ISO 3651-2 1998-08	Determination of resistance to intergranular corrosion of stainless steels - Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels - Corrosion test in media containing sulfuric acid	MH, ES, HH
DIN 50915 1993-09	Testing the resistance of unalloyed and low alloy steels to intergranular stress corrosion cracking by attack of nitrate medium - Welded and unwelded materials	MH, ES
SEP 1877 1994-07	Test of the resistance of high-alloy, corrosion-proof materials against intercrystalline corrosion	MH, ES, HH
DIN EN 10229 1998-11	Evaluation of resistance of steel products to hydrogen induced cracking (HIC)	ES
ASTM A 262 Prac. A, B, C + E 2015	Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels	MH, ES, HH
ASTM G 28 2015	Standard Test Methods for Detecting Susceptibility to Intergranular Corrosion in Wrought, Nickel-Rich, Chromium-Bearing Alloys	MH, ES, HH
ASTM G 48 2015	Standard Test Methods for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by Use of Ferric Chloride Solution	MH, ES, HH

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DIN EN ISO 9400 1995-12	Nickel-based alloys - Determination of resistance to intergranular corrosion	MH, ES, HH

Abbreviations used:

ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
DIN	German Institute for Standardization
EN	European Standard
ISO	International Organization for Standardization
SEP	Steel-Iron Test Methods – publication from German Steel Institute of the Association of German Iron Works

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