Certificate no.:
TAS00004XY

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Sacrificial Anode Material for Corrosion Protection

with type designation(s)
Zn-Anode (High Temperature)

issued to
Taicang Kaide Anti-Corrosion Technology Co., Ltd.
Taicang, **China**

is found to comply with
DNV class programme DNV-CP-0107 – Type approval – Sacrificial anode materials
DNV recommended practice DNV-RP-B401 – Cathodic protection design, May 2021

Application:

The mean current capacity of the sacrificial anode material after 12 months galvanostatic control testing is 745 Ah/kg. The mean closed circuit potential is -1003 mV vs. Ag/AgCl seawater. Intended for use in sea water at temperatures up to 80°C.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2025-07-22**
This Certificate is valid until **2030-07-21**.
DNV local unit: **Shanghai**

for **DNV**

Approval Engineer: **Gisle Hersvik**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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 USD 300 000.

Product description

Zn-Anode: Zinc alloy sacrificial anode material intended for use in hot sea water (up to 80°C).

Chemical Composition (%):

Al	Cd	Fe	Cu	Pb	Mg	Zn
0.1-0.25	0.001 max	0.002 max	0.001 max	0.006 max	0.05-0.15	Remainder

Other elements : 0.10% each

Place of manufacture

Taicang Kaide Anti-Corrosion Technology Co., Ltd., Wulu Road, Xinming Village, Huangjing Town, Taicang City, China

Application/Limitation

The mean current capacity of the sacrificial anode material after 12 months galvanostatic control testing is **745** Ah/kg. The mean closed circuit potential is –1003 mV vs. $Ag/AgCl_{(seawater)}$.

The anode material is intended for use in hot sea water applications and testing has justified 745 Ah/kg as design electrochemical capacity for seawater temperature up to 80ºC.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance **Type Approval documentation**. Ref. Test Report No. JQ2537165XY “Zn Sacrificial Anode” from Qingdao Ship Materials Testing Station for Corrosion and Protection of China Shipbuilding Industry of 2025-07-07.

Testing has been performed with basis in DNV-RP-B401 (May 2021).

Marking of product

Product shall be marked with *manufacturer’s name* or *logo*: **Taicang Kaide Anti-Corrosion Technology Co., Ltd.** and *type designation*, *heat number*, *weight* etc.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV Type Approval Certificate.

Periodical Assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical assessments (for Certificate Retention / Certificate Renewal) shall be performed according to DNV-CP-0338.

This certificate is only valid if required Periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com.

END OF CERTIFICATE