Certificate no.:
TAK00002G6

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Shop Primers

with type designation(s)
DWINOMARINE ZINC SHOP PRIMER

issued to
Tianjin Dowill Paints Technology Co., LTD
Tianjin, **China**

is found to comply with
DNV class programme DNV-CP-0109 – Type approval – Shop primers for corrosion protection of steel plates and sections
DNV rules for classification – Ships

Application:

The shop primer is approved for application on blast cleaned steel plates and sections.

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

Issued at **Hamburg** on **2025-03-20**
This Certificate is valid until **2030-03-13**.
DNV local unit: **Dalian NB & CMC**

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

DWINOMARINE ZINC SHOP PRIMER: a two-pack inorganic ethyl silicate based zinc shop primer for temporary protection on blast-cleaned steel.

Manufactured by

Shanghai Dowill Paints Technology Co., LTD, NO.1269 Linxian Road, Jinshan Industrial Zone, Shanghai, People's Republic of China

DNV local station: Shanghai

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

The shop primer is approved for application on blast cleaned steel plates and sections.

The approval does not include any examination of possible effects of welding with this primer on the welder's state of health.

This approval only verifies that the shop primer has no detrimental effect on the finished weld, on condition that the film thickness applied is in accordance with the manufacturer's recommendation.

Any significant changes in design and / or quality of the material will render the approval invalid.

Type Approval documentation

Tests carried out

Type Testing carried out according to **Type Approval documentation**. Please refer to testing according to DNV-CP-0109 (DNV test procedure), Test Report No. JH2509458HJ "DWINOMARINE ZINC SHOP PRIMER" from Xiamen Branch of China Shipbuilding Industry Corporation No.725 Research Institute (Ship Material Testing Center of China Shipbuilding Industry) of 2025-02-22, with result:

- Mean pore area 10% (max. allowed pore area 15%).

Marking of product

The product/package shall be marked with the *manufacturer's name*, *place of manufacture* and *type designation:* **DWINOMARINE ZINC SHOP PRIMER**, and *date of production/batch number*.

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