

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Protective Coating Systems - Seawater Ballast Tanks**

with type designation(s)

EPICON ZINC RICH PRIMER B-2 + CMP NOVA 2000 W QD

Issued to

**Chugoku Marine Paints, Ltd. (Hiroshima Head Office)
Otake, Hiroshima Pref., Japan**

is found to comply with

DNV GL class programme DNVGL-CP-0108 – Type approval – Protective coating systems for seawater ballast tanks and double-side skin spaces**IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC)****IACS Unified Interpretations SC223. For Application of SOLAS Regulation II-1/3-2****Performance Standard for Protective Coatings (PSPC) for Dedicated Seawater Ballast Tanks in All Types of Ships and Double-side Skin Spaces of Bulk Carriers.****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2020-09-04**This Certificate is valid until **2025-09-03**.for **DNV GL**DNV GL local station: **Kobe**Approval Engineer: **Enno Brück**

**Thorsten Lohmann
Head of Section**

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Product description

EPICON ZINC RICH PRIMER B-2 + CMP NOVA 2000 W QD; 2-component zinc epoxy anticorrosive primer, plus 2-component epoxy based, light coloured coating for corrosion protection of steel surfaces.

Manufactured by

Chugoku Marine Paints Ltd., Kyushu Factory, 2783 Tade, Yoshinogari-cho, Kanzaki-gun, Saga, Japan.

DNV GL local office: Kobe.

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

This approval is solely connected to the corrosion prevention properties of the coating material. The approval does not include any evaluation of toxicity, contamination, pollution, or fire technical properties.

EPICON ZINC RICH PRIMER B-2 + CMP NOVA 2000 W QD are approved for application on blast cleaned surfaces and on prequalified shop primed surfaces. The following shop primers are prequalified:

- | | |
|----------------------|--|
| - CERABOND 2000 | [Chugoku Marine Paints, Ltd.] |
| - Cerazinc | [Kobe Paints, Ltd.] |
| - Nippe Ceramo | [Nippon Paint Marine Coatings Co., Ltd.] |
| - SD Zinc 1000 HA(S) | [Kansai Paint Marine Co., Ltd.] |

The **EPICON ZINC RICH PRIMER B-2** is manufactured by:

- Chugoku Marine Paints Ltd., Shiga Factory, Japan

Surface preparation and coating application as per PSPC or manufacturer's recommendations, whichever is stricter.

The durability of the applied coating system will depend on the steel surface preparation, coating application and the environmental conditions.

The Type Approval Certificate is invalid if the formulation of the epoxy coatings **EPICON ZINC RICH PRIMER B-2 + CMP NOVA 2000 W QD** are changed to a degree deemed significant by DNV GL. If the formulation of any of the listed pre-qualified shop primers is changed to a degree deemed significant by DNV GL that shop primer cannot be used as part of the Protective Coating System.

Tests carried out

Type Testing carried out in accordance with DNV GL CP-0108. The tests are carried out according to the procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS UI SC 223;

- Research Institute of Marine Engineering (RIME) Report No. 08-514 (E) "Ballast Tank Coating Test of EPICON ZINC RICH PRIMER B-2 and CMP NOVA 2000 W QD on CERABOND 2000 Shop Primer" of 2009-06-10.

Job Id: **262.1-034378-1**
Certificate No: **TAK00001Y0**

- For Cerazinc: Research Institute of Marine Engineering (RIME) Report No. 08-514 (E) "Ballast Tank Coating Test of EPICON ZINC RICH PRIMER B-2 and CMP NOVA 2000 W QD on CERABOND 2000 Shop Primer" of 2009-06-10.
- Research Institute of Marine Engineering (RIME) Report No. 09-226 (E) "Ballast Tank Coating Test of EPICON ZINC RICH PRIMER B-2 and CMP NOVA 2000 W QD on Nippe Ceramo Shop Primer" of 2010-02-19
- Research Institute of Marine Engineering (RIME) Report No. 09-231 (E) "Ballast Tank Coating Test of EPICON ZINC RICH PRIMER B-2 and CMP NOVA 2000 W QD on SD Zinc 1000HA(S) Shop Primer" of 2010-01-20

Marking of product

Product/package shall be marked with *manufacturer's name and address*; **Chugoku Marine Paints, Ltd., Kyushu Factory, Japan**, and *type designation*; **EPICON ZINC RICH PRIMER B-2 +CMP NOVA 2000 W QD**, 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 GL 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 Assessment (Certificate Retention) and renewal after 5 years (Certificate Renewal) shall be performed acc. DNV GL CP-0338.

END OF CERTIFICATE