

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Protective Coating Systems - Seawater Ballast Tanks

with type designation(s)

NIPPON E-MARINE 2000 / NIPPON E-MARINE 2000 LT

Issued to

Nippon Paint Marine Coatings Co., Ltd.
Osaka-city, Osaka, 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.

Issued at **Hamburg** on **2021-03-31**

This Certificate is valid until **2026-03-30**.

DNV local station: **Kobe**

for **DNV**

Approval Engineer: **Enno Brück**

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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 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.



Product description

NIPPON E-MARINE 2000 / NIPPON E-MARINE 2000 LT, is a universal primer which can be used as a ballast tank coating.

Manufactured by

SG Chemicals Co., Ltd., 1, Gosei-machi, Omuta-shi, Fukuoka, Japan

DNV GL local office: Kobe

Responsibility

The holder of 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.

NIPPON E-MARINE 2000 / NIPPON E-MARINE 2000 LT, is approved for application on blast cleaned surfaces and on prequalified shop primed surfaces. The following shop primer has been prequalified:

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| - NIPPON CERAMO | [Nippon Paint Marine Coatings Co., Ltd.] |
| - NIPPON CERAMO LZ | [Nippon Paint Marine Coatings Co., Ltd.] |
| - CERABOND 2000 (only NIPPON E-MARINE 2000 LT) | [Chugoku Marine Paints, Ltd.] |
| - CERAZINC (ID-N.M2-10000A) (only NIPPON E-MARINE 2000 LT) | [Kobe Paints Ltd.] |
| - SD Zinc 1000 HA(S) | [Kansai Paint Marine Co., Ltd.] |
| - Hempel's Shopprimer ZS 15890 | [Hempel A/S] |
| - Sigmaweld 199 | [PPG Coatings Europe B.V. Protective & Marine Coatings] |
| - Sigmaweld 165 | [PPG Coatings Europe B.V. Protective & Marine Coatings] |
| - KCI Zinc 1000 | [Kangnam Jevisco Co., Ltd.] |
| - Galvany Shopprimer IZ182 (J) | [KCC Corporation] |
| - Galvany Shopprimer IZ182 (S) (only NIPPON E-MARINE 2000) | [KCC Corporation] |
| - Galvany Shopprimer IZ182 (K) | [KCC Corporation] |
| - TH-2 | [Yejian New Material Co., Ltd.] |
| - CD-SG906 | [Ningbo Haidun Coating Co., Ltd.] |
| - SP-09 (only NIPPON E-MARINE 2000) | [Yung Chi Paint & Varnish Mfg. Co., Ltd.] |

Surface preparation and coating application according to 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 coating **NIPPON E-MARINE 2000 / NIPPON E-MARINE 2000 LT**, is changed to a degree deemed significant by DNV. If the formulation of the listed pre-qualified shop primer is changed to a degree deemed significant by DNV the 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 SC223:

- DNV GL Report No.: 2019-5376, Rev.01 "Ballast tank coating test of NIPPON E-Marine 2000 on NIPPON CERAMO shop primer", dated 2020-01-06.
- DNV GL Report No.: 2019-5377, Rev.00 "Ballast tank coating test of NIPPON E-Marine 2000 LT on NIPPON CERAMO shop primer", dated 2019-11-29.
- DNV GL Report No.: 2019-5380, Rev.01 "Ballast tank coating test of NIPPON E-Marine 2000 on NIPPON CERAMO LZ shop primer", dated 2020-07-17.
- DNV GL Report No.: 2019-5381, Rev.01 "Ballast tank coating test of NIPPON E-Marine 2000 LT on NIPPON CERAMO LZ shop primer", dated 2020-07-17.

- DNV GL Report No.: 2019-5387, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on Cerabond 2000", dated 2019-12-06.
- CERAZINC; see Confirmation letter AP-0354, dated 2013-01 09.
- DNV GL Report No.: 2019-5382, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on SD Zinc 1000 HA(S)", dated 2019-12-06.
- DNV GL Report No.: 2019-5383, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on SD Zinc 1000 HA(S)", dated 2019-12-06.
- DNV GL Report No.: 2019-5390, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on Hempel's Shopprimer ZS 15890", dated 2019-12-06.
- DNV GL Report No.: 2019-5391, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on Hempel's Shopprimer ZS 15890", dated 2019-12-06.
- DNV GL Report No.: 2019-5392, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on Sigmaweld 199", dated 2019-12-06.
- DNV GL Report No.: 2019-5393, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on Sigmaweld 199", dated 2019-12-06.
- DNV GL Report No.: 2019-5394, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on Sigmaweld 165", dated 2019-12-06.
- DNV GL Report No.: 2019-5395, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on Sigmaweld 165", dated 2019-12-06.
- DNV GL Report No.: 2019-5396, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on KCI Zinc 1000", dated 2019-12-06.
- DNV GL Report No.: 2019-5397, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on KCI Zinc 1000", dated 2019-12-06.
- DNV GL Report No.: 2019-5398, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on Galvany Shopprimer IZ 182(J)", dated 2019-12-06.
- DNV GL Report No.: 2019-5399, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on Galvany Shopprimer IZ 182(J)", dated 2019-12-06.
- DNV GL Report No.: 2019-5400, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on Galvany Shopprimer IZ 182(S)", dated 2019-12-06.
- DNV GL Report No.: 2020-5318, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on Galvany Shopprimer IZ 182(K)", dated 2020-04-21.
- DNV GL Report No.: 2020-5319, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on Galvany Shopprimer IZ 182(K)", dated 2020-04-21.
- DNV GL Report No.: 2019-5402, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on TH-2", dated 2019-12-06.
- DNV GL Report No.: 2019-5403, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on TH-2", dated 2019-12-06.
- DNV GL Report No.: 2019-5404, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on CD-SG906", dated 2019-12-06.
- DNV GL Report No.: 2019-5405, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 LT on CD-SG906", dated 2019-12-06.
- DNV GL Report No.: 2019-5408, Rev.00 "Crossover coating test of NIPPON E-Marine 2000 on SP-09", dated 2019-12-06.

Marking of product

Product/package shall be marked with *manufacturer's name and address*; **Nippon Paint Marine Coatings Co., Ltd.**, Japan, *type designation* **NIPPON E-MARINE 2000 / NIPPON E-MARINE 2000 LT.**, 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 Assessment (Certificate Retention) and renewal after 5 years (Certificate Renewal) shall be performed acc. DNV GL CP-0338.

END OF CERTIFICATE