

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Protective Coating Systems - Seawater Ballast Tanks**with type designation(s)  
**UNIPRIME 100 HS-N and UNIPRIME 100 HS-LTQD**

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 :****For use in ballast tanks, double-skin spaces, cofferdams and similar areas. Surface preparation and coating application as per PSPC or manufacturer's recommendations, whichever is stricter.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2019-05-22**This Certificate is valid until **2023-12-31**.DNV GL local station: **Kobe**for **DNV GL**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.



## Product description

**UNIPRIME 100 HS-N** and **UNIPRIME 100 HS-LTQD**; 2-component epoxy based, light coloured coating for corrosion protection of steel surfaces.

## Manufactured by

Dong Nam Chemical Co., Ltd., 92 Jwagong-ri, Jinyeong-eup, Gimhae-si, Gyeongsangnam, 621-802, Korea

DNV GL local station: Gimhae.

## 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.

**UNIPRIME 100 HS-N** and **UNIPRIME 100 HS-LTQD** are approved for application on blast cleaned surfaces and on prequalified shop primed surfaces. The following shop primers have been prequalified:

- |                                                               |                               |
|---------------------------------------------------------------|-------------------------------|
| - NIPPON CERAMO coatings]                                     | [Nippon Paint Marine          |
| - Cerabond 2000 [ID No.: M2-10000A, M2-10000B]                | [Chugoku Marine Paints]       |
| - CERAZINC [ID No.: M2-10000A]                                | [Kobe Paints, Ltd.]           |
| - SD Zinc 1000HA(S)                                           | [NKM Coatings]                |
| - Hempel's Shopprimer ZS 15890 [on UNIPRIME 100 HS-LTQD only] | [Hempel A/S]                  |
| - Galvany Shopprimer IZ182(J)                                 | [KCC Corp.]                   |
| - KCI Zinc 1000                                               | [Kunsul Chemical Ind.]        |
| - SigmaWeld 165 (Sigma Proferral MC)                          | [PPG / Sigma Coatings]        |
| - Interplate 937 [on UNIPRIME 100 HS-LTQD only]               | [International Paint Limited] |
| - Muki Z 2008 [on UNIPRIME 100 HS-LTQD only]                  | [Jotun A/S]                   |

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 **UNIPRIME 100 HS-N** and **UNIPRIME 100 HS-LTQD** 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;

- DNV Technical Report No. 2012-5398, Rev. 02 "Ballast Tank Coating Test of UNIPRIME 100 HS-N epoxy paint on NIPPON CERAMO shop primer" of 2013-02-11.

- GL GLP-Report No. 912133 HH, Part 2/2 "Ballast Tank Coating Test of UNIPRIME 100 HS-LTQD epoxy paint on NIPPON CERAMO shop primer" of 2010-02-19.
- DNV Technical Report No. 2012-5082, Rev. 00 "Crossover Test of UNIPRIME 100 HS-N epoxy paint on CERABOND 2000 Shop Primer" of 2012-12-12.
- DNV Technical Report No. 2009-5595, Rev. 00 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on CERABOND 2000 Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2012-5084, Rev. 00 "Crossover Test of UNIPRIME 100 HS-N epoxy paint on SD ZINC 1000HA(S) Shop Primer" of 2012-12-12.
- DNV Technical Report No. 2009-5598, Rev. 00 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on SD ZINC 1000HA(S) Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2013-5053, Rev. 00 "Crossover Test of UNIPRIME 100 HS-N epoxy paint on KCI ZINC 1000 Shop Primer" of 2013-01-25.
- DNV Technical Report No. 2009-5607, Rev. 00 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on KCI ZINC 1000 Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2009-5610, Rev. 00 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on HEMPEL ZS 15890 Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2009-5601, Rev. 00 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on MUKI Z 2008 Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2013-5052, Rev. 00 "Crossover Test of UNIPRIME 100 HS-N epoxy paint on SIGMAWELD 165 Shop Primer" of 2013-01-25.
- DNV Technical Report No. 2009-5604 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on SIGMAWELD 165 Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2009-5616, Rev. 00 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on INTERPLATE 937 Shop Primer" of 2010-01-25.
- DNV Technical Report No. 2013-5054, Rev. 00 "Crossover Test of UNIPRIME 100 HS-N epoxy paint on GALVANY SHOP PRIMER IZ 182(J) Shop Primer" of 2013-01-25.
- DNV Technical Report No. 2009-5613 "Crossover Test of UNIPRIME 100 HS-LTQD epoxy paint on GALVANY SHOP PRIMER IZ 182(J) Shop Primer" of 2010-01-25.

## Marking of product

Product/package shall be marked with *manufacturer's name and address*; **Nippon Paint Marine (Korea) Co., Ltd., Korea**, and *type designation*; **UNIPRIME 100 HS-N** and **UNIPRIME 100 HS-LTQD**, 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