

TYPE APPROVAL CERTIFICATE

This is to certify:

That the TBT-Free Anti-Fouling Systems

with type designation(s)
ECOLOFLEX SPC 200 (Z)

Issued to

Nippon Paint Marine Coatings Co., Ltd.
Neyagawa, OSAKA OSAKA, Japan

is found to comply with

DNV GL class programme DNVGL-CP-0110 – Type approval – Anti-fouling systems

Application :

Organotin-free self-polishing hydrolysisng anti-fouling system.

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

This Certificate is valid until **2021-09-18**.

Issued at **Høvik** on **2016-09-19**

DNV GL local station: **Kobe**

Approval Engineer: **Helene Bjerke**

for **DNV GL**

Martin Strande
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.

Job Id: **262.1-023217-1**
Certificate No: **TAK00000EV**

Product description

Organotin-free self-polishing hydrolysing anti-fouling paint; **ECOLOFLEX SPC 200 (Z)**

Colours:

The products may be available in various colours. Please contact the local Nippon Paint Representative for details.

Active Ingredients:

CAS No. 1317-39-1 Cuprous oxide:
CAS No. 14915-37-8 Copper, bis (1,hydroxy-2(1H)-pyridinethionato O,S)-:

Manufactured by

Nippon Paint Co., Ltd., Okayama Plant, 33-1 Taiheidai, Shoo-cho, 409-4321 Katsuta-gun, 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

The issuance of this certificate is solely connected to the control of the Anti-Fouling System, AFS, with regard to compliance with the International Convention on the Control of Harmful Anti-Fouling Systems on Ships.

It does not cover verification of surface preparation, corrosion protection, fire, health and safety precautions, and durability of the AFS or environmental properties other than regulated by the Convention.

Type Approval documentation

1.

2.

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3.

Tests carried out

Type Testing carried out according to **Type Approval documentation**, with the following test results (ref. Test Report from FITI Testing & Research Institute, Korea of 2011-09-01):

- **ECOLOFLEX SPC 200 (Z)**: <0.0010 % tin (No TBT-compounds detected)

Marking of product

Product shall be marked with *manufacturer's name*; **Nippon Paint Marine Coatings Co., Ltd., Japan**, *production plant* and *type designation*.

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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.

Assessment to be performed after 2.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE