Certificate No:
TAK000026Y

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Anti-Fouling Systems

with type designation(s)
HEMPAGUARD X5 89700

Issued to
Hempel A/S
Kgs. Lyngby, Hovedstaden, **Denmark**

is found to comply with
DNV class programme DNV-CP-0110 – Type approval – Anti-fouling systems

Application :

Organotin-free and Cybutryne-free foul release anti-fouling system.

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

Issued at **Høvik** on **2023-01-17**
This Certificate is valid until **2028-01-16**.
DNV local station: **Denmark CMC**

Approval Engineer: **Gisle Hersvik**

for **DNV**

Gustav Heiberg
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

Organotin-free and Cybutryne-free fouling release anti-fouling paint: **HEMPAGUARD X5 89700**

Colours:
The products may be available in various colours. Please contact the local Hempel representative for details.

Active ingredients:
CAS No. 14915-37-8 Copper Pyrithione

Manufactured by

HEMPEL (PORTUGAL) Lda, Vale de Catadores, 2954-002 Palmela, Portugal

DNV local station: Lisbon

HEMPEL Manufacturing (Malaysia) Sdn. Bhd., Batu 6, Jalan Batu Pahat, 86000 Kluang, Malaysia

DNV local station: Singapore

Hempel (Guangzhou) Coatings Ltd., No.3 Canghai 4th Road, Yonghe District, Guangzhou Economic Technology Development District, Guangzhou, The People's Republic of China

DNV local station: Guangzhou

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 product complies with the International Convention on the Control of Harmful Antifouling Systems on Ships as adopted by IMO October 2001 (IMO document AFS/CONF/26), amended June 2021.

The issuance of this certificate is solely connected to the control of the Anti-Fouling System, AFS, with regard to compliance with the Convention. It does not cover verification of surface preparation, corrosion protection, fire, health and safety precautions, durability of the AFS or environmental properties other than regulated by the Convention.

Type Approval documentation

Tests carried out

Type Testing carried out according to **Type Approval documentation**, with the following test result (Test Certificate from PRA, UK of 2013-08-05):

- **HEMPAGUARD X5 89700**-59161: 0.1070 % tin

Marking of product

Product/package shall be marked with *manufacturer's name, place of manufacture* and *type designation* 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