

DNV

# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. K-3785**  
This Certificate consists of 3 pages

*This is to certify that the*  
**TBT-Free Anti-Fouling Systems**


*with type designation(s)*  
**Supermarine ABC 095**

*Manufactured by*  
**RENNER HERRMANN S.A**  
CURITIBA, Brazil

*is found to comply with*  
Det Norske Veritas' Type Approval Programme for Anti-Fouling Systems

*Application*  
Organotin-free self-polishing anti-fouling system.

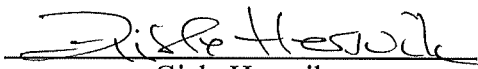
*Place and date*  
Høvik, 2009-06-11  
for DET NORSKE VERITAS AS

  
Helge Drange  
*Head of Section*



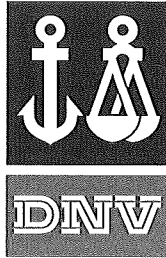
*Local Office*  
DNV Rio de Janeiro

*This Certificate is valid until*  
2013-06-30

  
Gisle Hersvik  
*Surveyor*

**Notice: 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.**

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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## Product description

Organotin-free self-polishing anti-fouling paint: **Supermarine ABC 095**.

### Colours:

The product is available in various colours. Please contact the Renner Herrmann representative for details.

### Active ingredients:

Copper(1)oxide (CAS No. 1317-39-1)  
Ziram (CAS No. 137-30-4)

## 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, durability of the AFS or environmental properties other than regulated by the Convention.

## Type Approval documentation

Email from DNV Rio de Janeiro of 2009-06-09, incl. Survey Report from DNV Rio de Janeiro of 2009-06-09, TECPAR Test Report No. 09003796 of 2009-05-29, Technical and Material Safety Data Sheets and Renner Herrmann S/A document "Initial Type Approval of Anti-Fouling Systems. Product: Supermarine ABC 095"

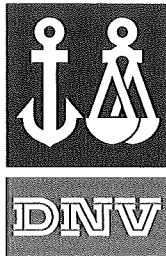
## Tests carried out

Type Testing carried out according to **Type Approval documentation**, with the following result (ref. Test Report from TECPAR of 2009-05-29):

- Supermarine ABC 095: 0.023 % tin (No TBT-compounds detected)

## Marking of product

Product shall be marked with *manufacturer's name*; **Renner Herrmann S/A, Brazil** and *type designation*; **Supermarine ABC 095**.



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### **Certificate Retention/Renewal Survey**

The scope of the Retention/Renewal Survey 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.

Survey to be performed after two (2) years (Certificate Retention Survey) and at renewal after four (4) years (Certificate Renewal Survey).

The main elements of the survey 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 Type Approval Certificate.

END OF CERTIFICATE