

Leading innovator of high performing coatings, while minimizing the impact on the environment.

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Hempel - Västkust

	Havstulpaner, mossdjur, blåmusslor, sjöpfung etc	Grönalger och tarmtång	Förhindrar transport av invasiva arter	Angrepp av skeppsmask på träbåtar
Biocidfria färger på båtskrov under vattenlinjen	<ul style="list-style-type: none"> • <i>Silic One</i> 	<ul style="list-style-type: none"> • <i>Silic One</i> 	<ul style="list-style-type: none"> • <i>Silic One</i> 	-
Biocidbaserade färger på båtskrov under vattenlinjen	<ul style="list-style-type: none"> • <i>Mille NCT</i> • <i>Classic</i> 	<ul style="list-style-type: none"> • <i>Mille NCT</i> • <i>Classic</i> 	<ul style="list-style-type: none"> • <i>Mille NCT</i> • <i>Classic</i> 	<ul style="list-style-type: none"> • <i>Mille NCT</i> • <i>Classic</i>
Biocidfria färger på propeller och drev	<ul style="list-style-type: none"> • <i>Silic One Propeller Kit</i> 	<ul style="list-style-type: none"> • <i>Silic One Propeller Kit</i> 	<ul style="list-style-type: none"> • <i>Silic One Propeller Kit</i> 	-
Biocidbaserade färger på propeller och drev	-	-	-	-



Hempel - Ostkust

	Havstulpaner, mossdjur, blåmusslor, etc	Grönalger och tarmtång	Förhindrar transport av invasiva arter	Angrepp av skeppsmask på träbåtar i södra Östersjön
Biocidfria färger på båtskrov under vattenlinjen	<ul style="list-style-type: none"> • <i>Silic One</i> • <i>Hempaspeed</i> • <i>Hard Racing Light</i> • <i>EcoPower Cruise</i> • <i>EcoPower Racing</i> 	<ul style="list-style-type: none"> • <i>Silic One</i> • <i>Hempaspeed</i> • <i>Hard Racing Light</i> • <i>EcoPower Cruise</i> • <i>EcoPower Racing</i> 	<ul style="list-style-type: none"> • <i>Silic One</i> • <i>Hempaspeed</i> • <i>Hard Racing Light</i> • <i>EcoPower Cruise</i> • <i>EcoPower Racing</i> 	-
Biocidbaserade färger på båtskrov under vattenlinjen	<ul style="list-style-type: none"> • <i>Mille Light Copper</i> 	<ul style="list-style-type: none"> • <i>Mille Light Copper</i> 	<ul style="list-style-type: none"> • <i>Mille Light Copper</i> 	<ul style="list-style-type: none"> • <i>Mille Light Copper</i>
Biocidfria färger på propeller och drev	<ul style="list-style-type: none"> • <i>EcoPower Prop</i> • <i>Silic One Propeller Kit</i> 	<ul style="list-style-type: none"> • <i>EcoPower Prop</i> • <i>Silic One Propeller Kit</i> 	<ul style="list-style-type: none"> • <i>EcoPower Prop</i> • <i>Silic One Propeller Kit</i> 	-
Biocidbaserade färger på propeller och drev	-	-	-	-



Hempel - Insjö

	Grönalger	Förhindrar transport av invasiva arter
Biocidfria färger på båtskrov under vattenlinjen	<ul style="list-style-type: none">• <i>Silic One</i>• <i>Hempaspeed</i>• <i>Hard Racing Light</i>• <i>EcoPower Cruise</i>• <i>EcoPower Racing</i>	<ul style="list-style-type: none">• <i>Silic One</i>• <i>Hempaspeed</i>• <i>Hard Racing Light</i>• <i>EcoPower Cruise</i>• <i>EcoPower Racing</i>
Biocidfria färger på propeller och drev	<ul style="list-style-type: none">• <i>EcoPower Prop</i>• <i>Silic One Propeller Kit</i>	<ul style="list-style-type: none">• <i>EcoPower Prop</i>• <i>Silic One Propeller Kit</i>



Framtiden för bottenbehandling...

Ökade krav på
småbåtshamnar
och varv

Hållbarhet:
Biocider
Mikroplaster

Mer
efterlevnad

Mer
lagstiftning:
Lokal, Nationell,
EU

Biologisk
mångfald:
Invasiva arter



Biocide Free Antifoulings



Ecopower

[VIEW PRODUCTS](#) 



Hempaspeed TF

[VIEW PRODUCTS](#) 



Silic One Fouling Release

[VIEW PRODUCTS](#) 



Svenska Kryssarklubben

För dig som vill få ut mer av ditt båtliv

Hempel's Silic One bottenfärgssystem



Vårt mest effektiva



Available in shades:

-  Red
-  Black
-  Blue



2
year

Beväxningsskydd



Biocid- och kopparfri



Enkel att applicera och underhålla



Fungerar på propellrar



Minskad friktion, högre toppfart och lägre bränsleförbrukning

Hydrogelteknologi:

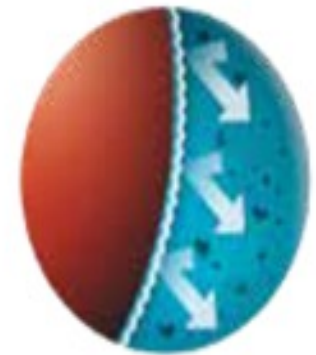
- Det är en biocidfri färg / system för att förhindra beväxning
- Det är en "non-stick-färg"
- Koppar- och zinkfri

Vad är hydrogel?

Hydrogel är baserat på unika, icke-reaktiva polymerer som läggs till färgen, vilket skapar en osynlig barriär mellan skrov och vattnet. Fouling-organismer uppfattar skrovet som en vätska och fäster följaktligen i mycket lägre utsträckning.



Unique, non-reactive polymers form a hydrogel layer between the substrate and water.



Fouling organisms perceive the hull as a liquid and consequently have difficulty in attaching.



Oberoende testfakta Hempel's biocidfria färgsystem



Svenska Kryssarklubben

För dig som vill få ut mer av ditt båtliv

- Practical Boat Owner magazine UK⁽²⁰²²⁾, UK

- ✓ Stort oberoende test av 8 st bottenfärger
- ✓ Syftet med testet var att jämföra prestandan i traditionella kopparbaserade bottenfärger med innovativa och hållbara alternativ
- ✓ Hempel's Silic One utsågs till **testvinnare!**

Hempel Silic One

TYPE Biocide-free medium term antifoul
PREPARATION Hempel Light Primer 4 coats, Silic One Tie-Coat 1 coat
INITIAL COST £1,045
ANNUALISED COST £233

Silic One had the most stringent set of application instructions of our group. It's strongly advised to apply it on to a stripped hull but, if the existing coating is in good order, a barrier coat of Hempel's Silic Seal will enable the switch. Commencing with Hempel's two-component Light Primer, the bare surface must be built up with a minimum of four thin layers. Next, a tie-coat must be applied while the last coat of primer is still tacky. After two hours the first of two coats of Silic One can be applied with a minimum of eight hours in between, the last of which has a 16-hour minimum drying time before immersion.

If it sounds like an involved process that's because it is, taking nearly three days from start to finish once drying intervals have been factored in. However,

the results speak for themselves. After seven months, Silic One has performed the best of all our group, with no signs of weed or shell growth and the least amount of surface slime. It also wiped off exceptionally easily. An impressive result for a

biocide-free antifouling. Because it has a recommended lifespan of two years before topping up with one fresh coat of Silic One, the high initial application cost is offset over time. Its six-year annualised cost comes in lower than all other products on test except Hempel Tiger Xtra 7100 and Coppercoat if you exclude the cost of shotblasting.

BEFORE
Smooth rubbery surface makes it hard for fouling to grip

AFTER
Impressive result - no weed, barnacles or even slime

Best on test



- BÅD Magasinet (2020), DK

TEXT & PHOTO TORSTEN RASMUSSEN



With focus on the environment

The vulnerability of the marine environment cannot be ignored. It needs to be cared for in order for plants and species to survive. Action needs to be taken now by shifting to environmentally friendly systems as regards to antifouling. With the focus on the environment, we will show you the results from tests done throughout season 2019 of the most environmental friendly antifouling.

Spring is the busiest time for treating the hull of the boat. Through force of habit, one will choose the same antifouling as previous years.

This antifouling test is made once a year. The test helps us navigate the market of antifouling and in which direction the paint producers are heading in their research. Demands and regulations from the Ministry of Environment and EU need to be followed. They especially address type and amount of pollutants. At the same time, the paint producers and environmental engineering institutions are collaborating to meet their demands and approval procedures.

This close collaboration is important for the development of new biocides. The long-term effect of these biocides is tested in several environmental conditions. All this research and development is being done to prepare for May 1st 2021, when the EU's biocidal product regulation comes into full force.

PURPOSE

The Danish magazine BÅD has throughout season 2019 monitored the most environmental friendly antifouling and treatment products. The products have been rated with respect to the level of fouling over the sailing season of seven months. The test boat has sailed approx. 200 nautical miles and anchored in stream-filled waters over 30 days. The test boat has also been into harbour and used for weekend trips and activities which represent the main sailing behaviour of a Danish sailor.

CONCLUSION

For the test period, 12 test areas on the boat have been exposed to the environment of the marina. Several of the polishing products had similar fouling results as previous seasons tests have shown. The product Aero G showed in test season 2018 a heavy fouling, which according to the producer was due to a manufacturing defect. The product has in the test 2019 shown to have an antifouling effect similar to the other tested biocidal products. The more environmental friendly treatments consisted primarily of biocide free foil and biocide free paint based on hydrogel. As a result of new foil technology, silicone based foil can be an alternative to biocidal antifouling paint. Although the new blue Silic One coating should be emphasised as a product with the same antifouling effect as the test's biocidal products.



BÅD 166 | 2020



- ✓ Oberoende test av bottenfärgsalternativ
- ✓ 12 områden, 7 månader
- ✓ Testet bevisar att biocidfria bottenfärger kan vara ett alternativ till biocidbaserad färg
- ✓ Silic One uppnår samma bevåxningshindrande prestanda som testets traditionella bottenfärger



- Vene magazine (2023), FI

- ✓ Oberoende test av biocidfria bottenfärger
- ✓ Hempel's Silic One placerade sig bäst, Hempel's Hempaspeed TF kom på andra plats och de presterade bättre än testets kopparbaserade referensfärger



Chalmers University research (2022)



- ✓ Studien visar att miljövänlig bottenfärg är mer effektiv än traditionell kopparbaserad bottenfärg.
- ✓ Studien utfördes på tre platser i Östersjön och i Skagerrak. Resultaten är publicerade i den vetenskapliga tidskriften *Marine Pollution Bulletin*.

Studien är utförd av Maria Lagerström från Chalmers tekniska högskola tillsammans med kollegor från Göteborgs universitet och Svenska Miljöinstitutet IVL



Photo taken after 2 years of sea exposure:

- **black** surfaces coated with biocide-free silicone-based paint
- **red** surfaces coated with copper-based paint
- white surfaces (full of fouling) have no antifouling treatment

