"Plus technology" provides excellent fuel saving performance

Silicone foul-release coating

CMP BIOCLEAN PLUS

CHUGOKU MARINE PAINTS, LTD.

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Advanced silicone elastomer coating

Excellent anti-slime performance

"Plus technology" provides excellent fuel saving performance

CMP BIOCLEAN PLUS is the advanced silicone elastomer foul release coating with "Plus technology".

Long term anti-fouling performance

Improved anti-slime and foul-release performance using “PLUS Technology”

Superior Fuel Saving

Fuel saving with “ultra smooth surface which is conducted by rheology control technology” and “improved foul-release performance”

Stable paint film property

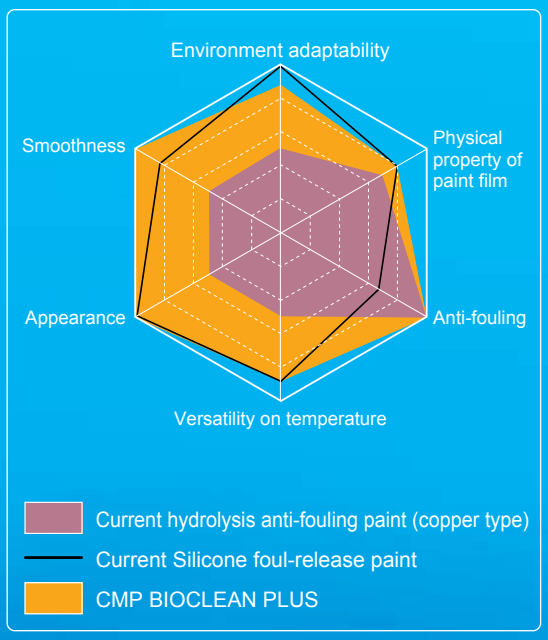
Based on stability of silicone paint film, it has stable appearance and adaptable to any sea area.

Less impact on environment

Reduce hydrocarbon level during paint application

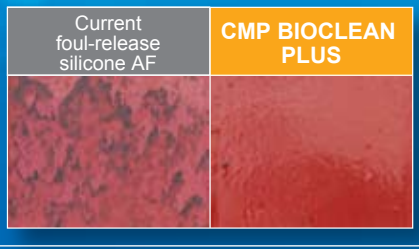
Good workability

Easy application under wide rage of painting condition (0 degrees up to 40 degrees)



Dynamic monitoring for 28 months

15knots/85%activity



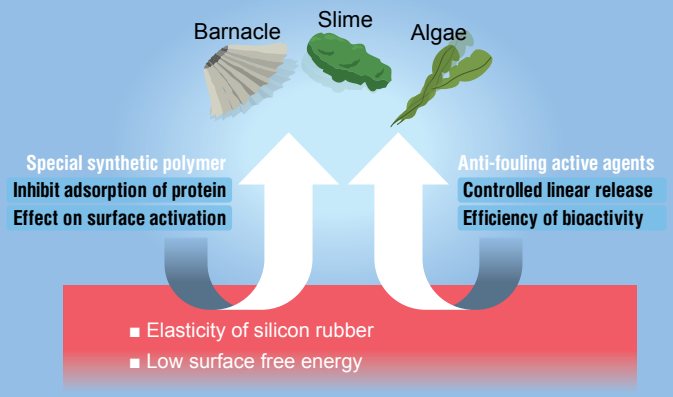
Static performance after 12 months

ISUZUGAWA VLCC 299,984DWT

CMP BIOCLEAN PLUS has adopted a new technique “PLUS Technology”.

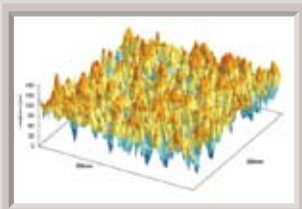
Silicone elastomer with special synthesis polymer which has an inhibition of protein absorption and an effect of surface activation, creates optimized paint film which is anti-slime and easy foul-release.

In addition, ultimate anti-fouling performance is brought out with small amount of active agent.



Efficiency of fuel saving by optimization of film surface

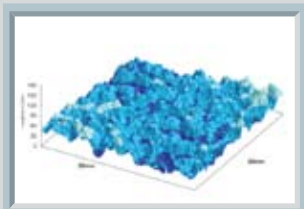
CMP BIOCLEAN PLUS can contribute to fuel savings with “smoothness from origin of silicone” and “PLUS Technology” which leads long term anti-fouling and foul-release performance.



Current hydrolysis anti-fouling paint

Rz: 111μm RSm: 3024μm

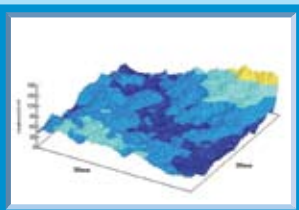
FIR : 10.7%



Latest smooth surface hydrolysis anti-fouling paint

Rz: 42μm RSm: 3980μm

FIR : 1.2%



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Rz: 45μm RSm: 5234μm

FIR : 1.0%

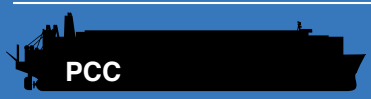
FIR Friction Increase Ratio THEORY (Patent pending)

CMP has established FIR theory which can estimate the friction resistance by measuring and evaluating roughness (Rz) and wavelength (RSm) of the paint surface, and have been carrying out evaluation of fuel saving effect with more accuracy.

Lower FIR = lower friction rate = **Higher Fuel Savings**

$$FIR_{(\%)} = 2.62 \times \underset{\text{(roughness)}}{Rz^2} \div \underset{\text{(wavelength)}}{RSm}$$

Application



*Ultra smooth anti-fouling paint is highly recommended for boottop area.

*CMP BIOCLEAN R is applicable for rudder and propeller.

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