

Ultra low Friction Antifouling

SEAFLO NEO



*Series*

SEAFLO NEO Z

SEAFLO NEO SLZ

**CMP CHUGOKU**



*Innovative fuel saving technology*

# SEAFLO NEO Z

Ultra low Friction Antifouling *Series*

"SEAFLO NEO Z" & "SEAFLO NEO SL Z" provide "Triple Synergy Technology\*" Providing an Ultra-smooth surface which gives a long-term sustainability of ultra low FIR.

\* when combined with BANNOH Z series (CMP's latest ultra smooth anticorrosive the best results are achieved)

## SEAFLO NEO Z

SEAFLO NEO Z utilises innovative hydrolysis polymer, contributing to fuel saving, forming a smooth surface which has extremely low friction resistance. In addition, the lowest VOC level in the industry has been achieved as an eco-friendly, antifouling paint.

**FIR 1.2%**  
**Speed loss 2.5%**  
**for 60 months**

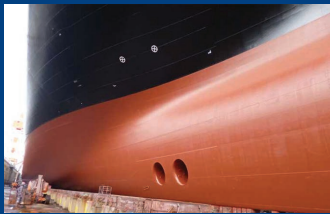
## SEAFLO NEO SL Z

SEAFLO NEO SL Z\* realizes ultra-smooth paint film surface and an excellent hydrolysis antifouling property as it is designed using advanced silyl and unique pigmentation technology.

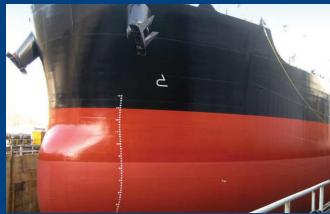
\* SEAFLO NEO SL Z is highly advanced silyl product.

**FIR 1.5%**  
**Speed loss 1.0%**  
**for 60 months**

After application\*



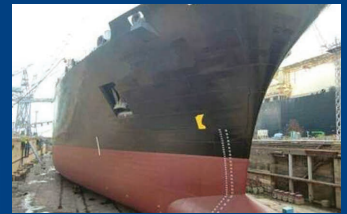
Container Carrier



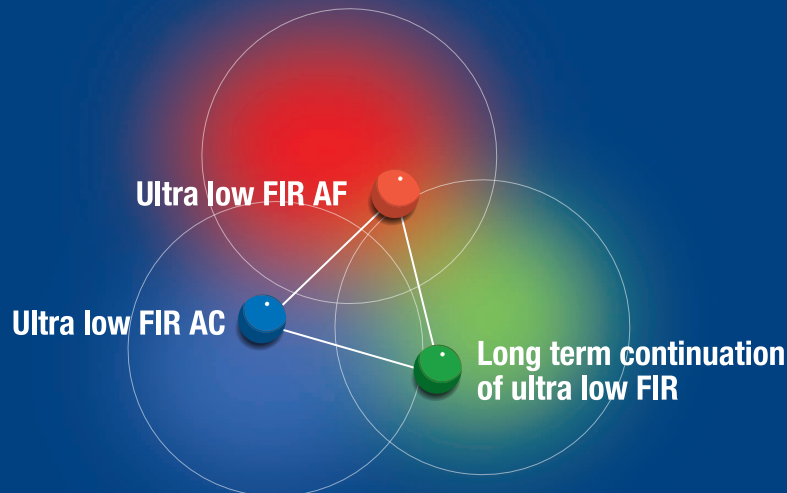
Bulk Carrier



VLCC



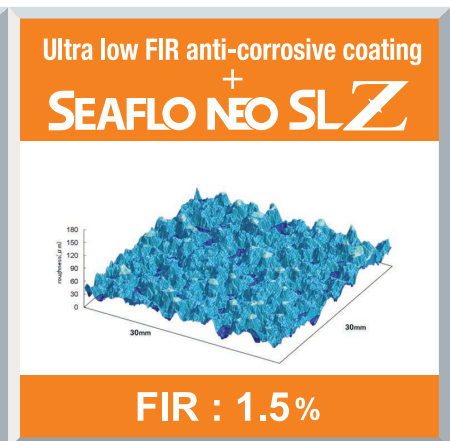
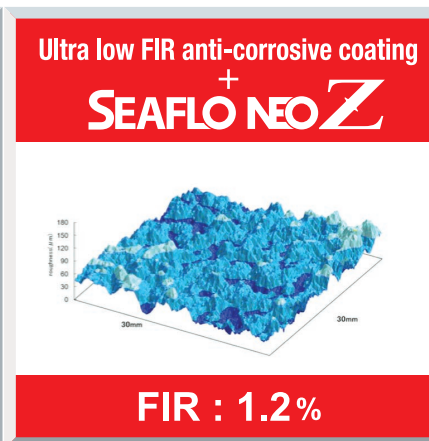
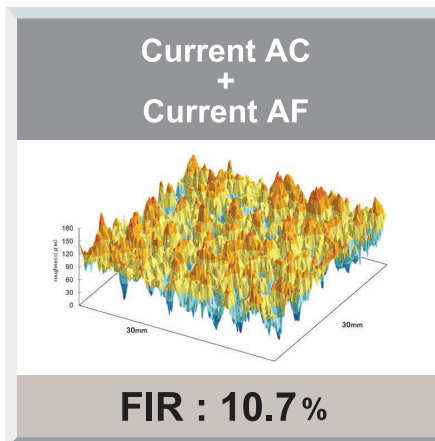
LNGC



*3 innovative technology for Ultra Smooth Surface*

# Triple Synergy Technology

## ● Ultra low FIR AF

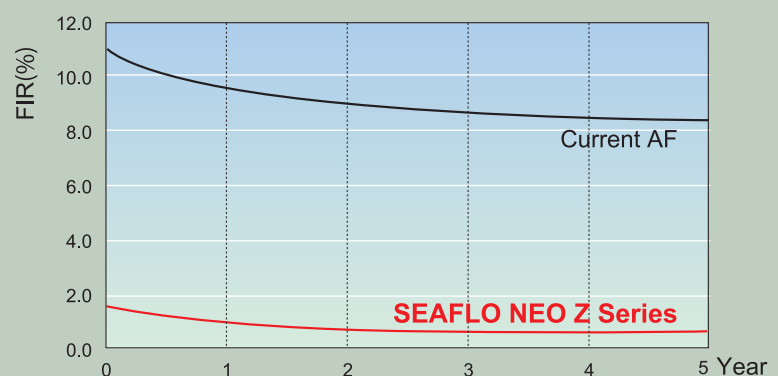


## ● Sustainable ultra low FIR



Ageing simulation test

FIR (%) estimation (by Ageing simulation test)



## Performance\*



LNGC / 25 Months



Bulk Carrier / 30 months



High Speed Ferry / 10 months

## Application

### SEAFLO NEO SLZ



### SEAFLO NEO Z (SEAFLO NEO SLZ)

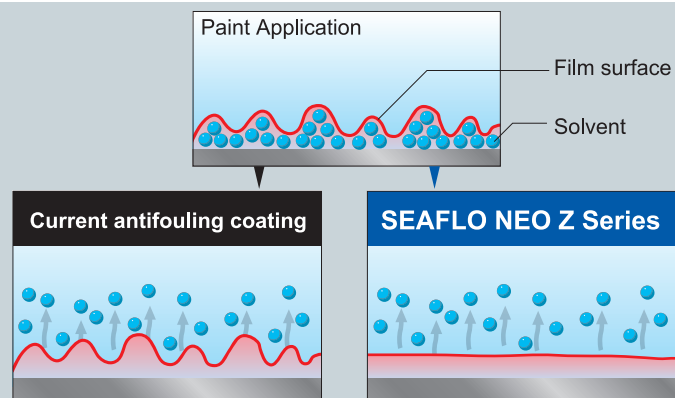


## Result from SEAFLO NEO

		drop rate of horse power	type of vessels
sea trial	ship yard 1	4.0%	Bulk Carrier
	ship yard 2	0.5 ~ 3.5%	PCC
	ship yard 3	3.5%	Bulk Carrier
	ship yard 4	2.0 ~ 2.8%	Bulk Carrier
in-service ship	ship owner A	17.1%	PCC
	ship owner B	14.3%	PCC
	ship owner C	4.4%	RORO
	ship owner D	5.0%	Container
	ship owner E	3.0%	Bulk Carrier

\* The data derives from SEAFLO NEO and SEAFLO NEO SL.

## Rheology control



## Combination

### Excellent balance of pigments and the polymer

The excellent balance of pigments, polymer and the technique of dispersion results in proper release of biocides

Ultra low FIR antifouling coating

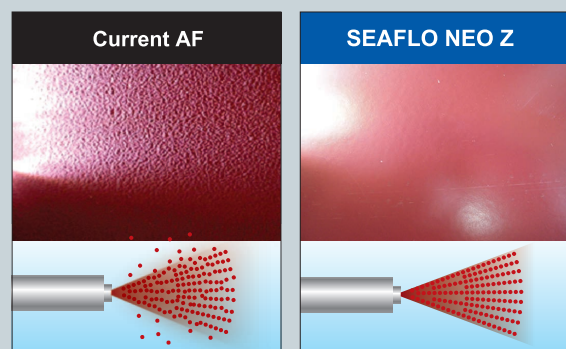
**SEAFLO NEO Z**  
Series

Ultra low FIR anti-corrosive coating

**BANNOH Z** series

## Unique spray characteristics

- High solid / Less Solvent
- Less dust/overspray
- Attainment of smoothness of the applied film
- Less impact on humans and the environment



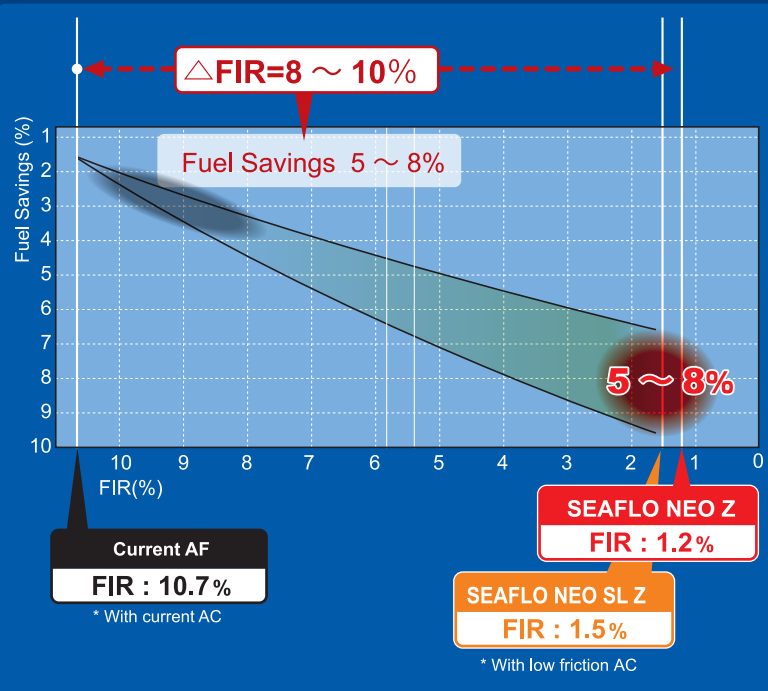
# SEAFLO NEO Z Series

## Fuel Savings

# 5~8%

\*Compared with current products

It is known that the Frictional resistance is about 60-80% of the total hull resistance that greatly affects the vessels' fuel consumption. SEAFLO NEO Z series contributes to give a remarkable fuel saving with the ultra smooth surface technology.



## FIR THEORY

Friction Increase Ratio

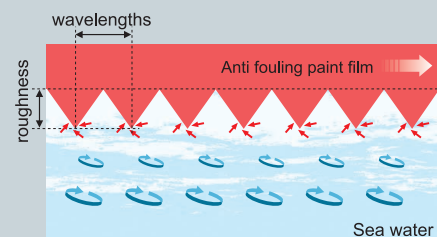
(Patent Pending)

FIR theory is our indicator which is established by collaborating with Tokyo University of Science, Tokyo university of Agriculture and Technology and National Maritime Research Institute, that can be verified the fuel saving rate.

Low FIR = Higher Fuel Savings

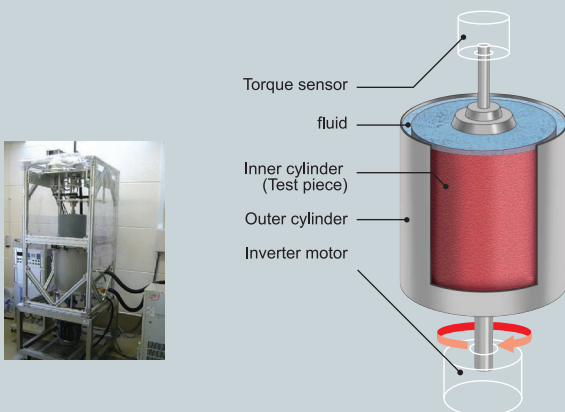
FIR can be estimated from the roughness(Rc) & wavelength (RSm) of the surface, through the above mathematic formula.

### Surface roughness and turbulent flow



Friction Resistance Turbulent flow

### Double Cylinder Friction Resistance Equipment



Ultra low Friction Antifouling

**SEAFLO NEO Z**  
*Series*

"Fuel Saving, Low VOC and Carbon Reduction"

**CMP CHUGOKU**

[www.cmp-chugoku.com](http://www.cmp-chugoku.com)

**CHUGOKU MARINE PAINTS, LTD.**

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