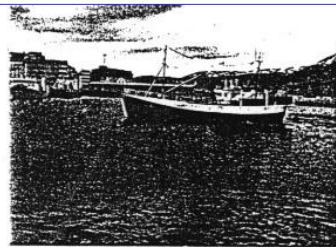


## TRAWLER "RYSTRAUM" – NORWAY

The application of **ZINGA** on the trawler Rystraum took place in 1984. This ship is a 115 feet trawler operating in the Barents Sea. At the first inspection, 9 months after the application, it appeared that some algae had appeared on the surface. These algae were removed by using high- pressure water-jetting. The **ZINGA** layer was not damaged. At an inspection in 1986 it appeared that the surface was completely free from algae. No damages were discovered, not even in the front area, although the ship was operating in arctic areas.



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### Report M/S "RYSTRAUM", Tromsø Use of ZINGA on hull.

This report is based on a phonecall with the owner Sigurd Svendsen.

M/S "RYSTRAUM" is a 115 feet trawler operating in the Barents Sea.

The application of ZINGA took place in 1984.

The total layer thickness was estimated to be 100 - 120  $\mu$  and estimated life time of the layer is 7 - 8 years.

The application was based on brush after high pressure sandwashing.

At the first inspection approx. 9 months after application it appeared that some algae had appeared on the surface. These algae were, however, removed by using water/high pressure. The ZINGA layer was not damaged.

At the inspection in 1986 it appeared that the surface was completely free of algae. No damages even in the front area was discovered, this in spite of the fact that the vessel is operating in arctic areas (ice etc.). The reason for this last inspection was electrical voltage in the hull. This reduced the zinc-anodes but not the ZINGA layer.

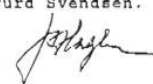
It was used normal zinc-anodes and it appeared that the lifetime of this anodes was extended.

The savings in this case are estimated as follows:

(NOK in 1984 value)

Saved material costs	NOK	12.000.-
Saved docking costs	NOK	150.000.-
Saved fuel consumption: 1 nm/h = 200 ltr/h	NOK	180.000.-

This report is translated 1996 and we can inform you that M/S "RYSTRAUM" is no longer operated by the owner Sigurd Svendsen.



This is a report of 25-01-1996 from the desk of Mr. Hagen, describing the condition of **ZINGA** after the inspection in 1986 and giving an estimation of the financial savings.

System:  
ZINGA 2 x 60  $\mu$ m DFT