

Ecospeed to both shipowner and shipyard is ease and flexibility of application. The entire system is applied in only two homogeneous coats and the overcoating time can be as short as three or four hours, all the way up to weeks or even months if needed. Therefore, an Ecospeed application can easily be adapted to a shipyard's schedule or to unpredictable weather conditions.

The ship's rudder and nozzle were also protected with Subsea Industries' coating systems. First corrosion damage on the nozzle was repaired with Ecofix. This restored the surface back to its original shape with a smooth surface prior to recoating with Ecoshield.

Experience has shown that Ecospeed stays on the hull longer and resists the ice far better than

the most generally used specialised ice coatings. The coating remains bonded to the ship's plates even as they flex and bend under ice pressure and impact.

Ecospeed has been recognised by Lloyd's Register as an abrasion resistant ice coating for ships. Its correct use on the ice belt specifically permits a reduction of the ice belt's steel plating by up to 1mm.

Due to its unique composition, Ecospeed is not only the best protection available for underwater hulls of icebreakers and ice going vessels, the coating also provides the best hull performance and is the easiest ice going paint to apply and maintain.



**You will never influence  
the world if your only  
wish is to fit in**

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## UNDERWATER REPAIRS

### HYDREX:

Hydrex diver/technicians replaced the seals of both stern tube assemblies of a pipe-laying vessel berthed in Rotterdam. Using a Hydrex flexible mobdock the team was able to carry out the entire operation on-site and underwater, saving the

owner an expensive and time-consuming trip to drydock.

The team travelled to the vessel's location on one of company's workboats. These workboats are fully equipped as dive support stations with hydraulic

A Hydrex technician working in the mobdock



cranes, winches, nautical and communication equipment, and a dive control room. They are stationed in Rotterdam and Antwerp which allows for a fast mobilisation throughout both ports.

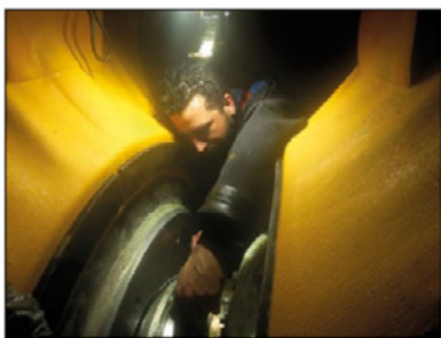
Once the operation was confirmed all preparations were handled swiftly and the lightweight equipment was mobilised. The operation then started with the removal of the rope guard and a thorough underwater inspection of the first stern tube seal assembly. After the inspection the divers cleaned the assembly and installed the flexible mobdock. By doing this they created a dry underwater environment so that they could work in drydock-like conditions.

The split ring was then removed and brought to the surface to be cleaned. After cleaning the entire assembly, the divers removed the first seal and replaced it with a new one which was bonded. They then did the same for the other seals.

A successful operation was concluded with leakage tests, the removal of the flexible mobdock and the reinstallation of the rope guard. The procedure was repeated to remove the seals of the second stern tube assembly.

Working together with the OEM allowed Hydrex to provide the customer with original spare parts which guarantees the best quality material. A technician of the seal manufacturer was also present during the operation.

By organising everything from start to finish the owner did not have to worry about making any arrangements for the repair. After the seals had been successfully replaced he could sail his vessel to its next stop free of oil leaks.



## Underwater stern tube seal repairs

**D**amaged stern tube seals may cause severe oil leaks. By replacing the seals on-site and underwater, Hydrex avoids down time as seal repairs can be performed during cargo operations.

We do this by creating a dry working environment around the shaft with our flexible mobdocks. They fit all sizes of seal assembly and can be mobilized quickly to locations around the world.

**HYDREX**  
EXPERTISE IN WATER

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