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ShipBuilding industry

HONDARRA
BUILT FOR PURPOSE DREDGER

FENDER INNOVATIONS
TAILOR MADE FOR PERFECTION

Cathelco
ICCP SYSTEMS TO COMBAT CORROSION

Hydrex diver/ technician securing one of the cofferdams.

UNDERWATER TECHNOLOGY

Hydrex

HYDREX OFFERS TURNKEY UNDERWATER REPAIR AND MAINTENANCE SOLUTIONS TO SHIPOWNERS WHEREVER AND WHENEVER THEY ARE NEEDED. They have a large and multidisciplinary team of experts to help find the best solution for any problem encountered below the water line.

Hyrex provides comprehensive on-site repair services for any kind of underwater structure. Projects are planned and managed by Hydrex in close cooperation with the customer. Services provided include the formulation of safety guidelines, drawing up of working procedures, design and construction of the cofferdam and any other necessary equipment all the way through to the repair or replacement.

Dry Dock not Required

Hydrex has a technical department capable of executing the required planning, an in-house R&D department that can take care of the engineering aspect of an operation, and a team of experienced diver-technicians qualified to perform a full range of repair procedures in the harshest of conditions. The technical department and diving teams at Hydrex are trained to carry out exact procedures and deliver a professional product in a short time frame. Hydrex diver-technicians can be mobilised to any location around the globe to carry out necessary repair work without the need to dry-dock. Two recent examples showcase this.

Case Study I: Alternative Actions

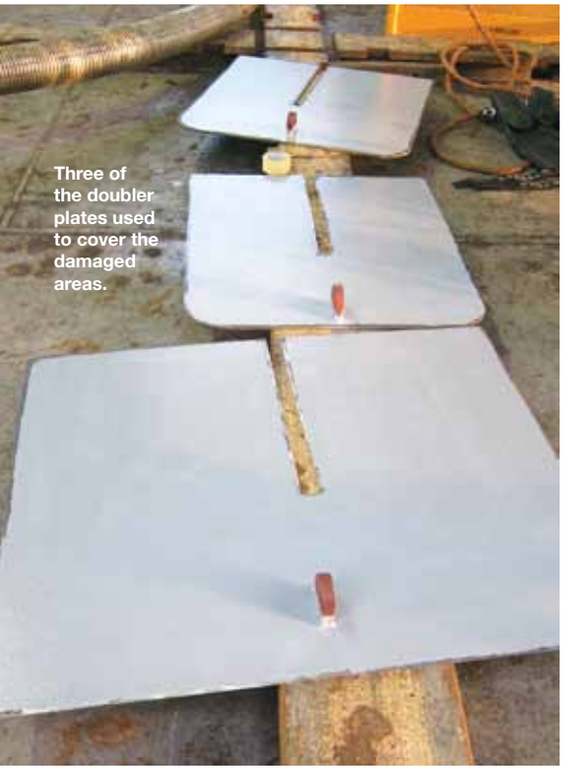
When a 162m pipe-laying vessel suffered an oil leak, going to dry dock seemed to be the only option for bow thruster repairs. Dry docking would take the vessel off project, so the vessel owner contacted Hydrex to see if there was any alternative. A Hydrex technician was sent to meet with the owner in Mobile, Alabama to discuss the repair plan suggested by their technical department. The proposal included the installation of two open top cofferdams to close off the thruster tunnel. Both cofferdams were designed by the in-house R&D department at Hydrex and were built in Mobile at a local workshop. Construction started almost immediately after the operation was approved to ensure the cofferdams were ready as soon as the vessel arrived in Mobile.

The cofferdams were positioned and secured with the rigging points. All water >>

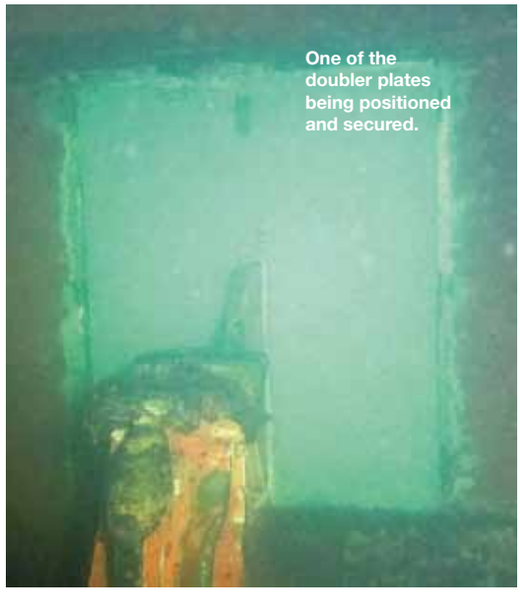
Final touches being made to the cofferdams.

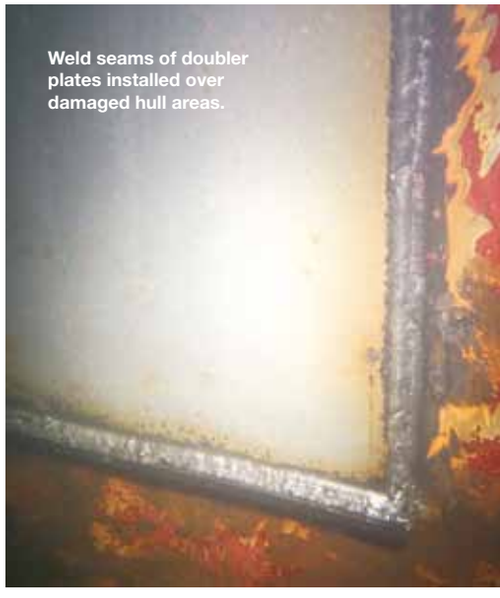
Hydrex divers getting ready for underwater operation on drill ship.

Diver inspecting one of the doubler plates.


Three of the doubler plates used to cover the damaged areas.


Damage to the hull of drill ship, caused by loose transit flap.


One of the doubler plates being positioned and secured.


Weld seams of doubler plates installed over damaged hull areas.

was then removed from the thruster tunnel, creating a dry environment inside the tunnel. The required inspection and repair work could then be performed in conditions similar to those in dry-dock. Hydrex technicians removed the tunnel grid to gain access to the bow thruster unit, which was then inspected by original equipment manufacturer specialist who carried out necessary repairs. The Hydrex technicians then removed all the equipment from the tunnel and repositioned the grid. All that remained to be done was re-flood the bow thruster tunnel and detach the cofferdam.

Case Study II: Hull Repair

The transit flap of a 225m drill ship came loose and started swinging, causing damage in the aft bulkhead and a leak in the ballast tank. The vessel was located in Trinidad but was about to start a contract in Grand Idles, Gulf of Mexico. A fast solution was needed to prevent further damage and allow the ship to arrive in Grand Isles on time.

Hydrex mobilised a team to Trinidad to perform an inspection of the situation. After the inspection they disconnected the transit flap taking care to maintain safety due to the instable condition of the flap. It was then lowered to the ocean bottom and towed away. The divers also took all the measurements needed to design a repair plan for the second phase. A temporary solution was proposed and accepted to allow the drill ship to sail to the Gulf of Mexico. This part of the operation consisted of the installation of five doubler plates over the damaged areas in the aft bulkhead. Constructed with the exact measurements taken during the detailed inspection, they were positioned and secured underwater by Hydrex certified diver-technician. All water was then emptied from the damaged ballast tank. The crew of the drill ship performed an inspection of the tank and confirmed that the compromised hull was once again fully sealed.

Experienced

Hydrex have had to adapt to individual project conditions and operate efficiently to help vessels avoid extended downtime. The schedule of the pipe-laying vessel offered only a window of two weeks to develop an underwater solution and two weeks to carry out the operation, including the building of both cofferdams. The limited time frames in addition to the extra requirements of individual jobs is something Hydrex knows how to deal with. They have fast response centres designed for a swift mobilisation to anywhere in the world. With over 40 years of experience, Hydrex is able develop best solutions to keep the vessel afloat while at the same time delivering quality and speed of service.

i. www.hydrex.be