

F147-14 ARC 140 Protecting Ships and Trawlers from Corrosion

## **Metallisation Equipment Protecting Ships and Trawlers From Corrosion**

Metal or thermal spraying is a technology, which protects or extends the life of a wide variety of structures in the most hostile environments and in situations where coatings are vital for safety and performance. Thermal spraying is carried out in a wide range of anti-corrosion or engineering markets. Typical applications include the spraying of ships, trawlers and other ocean going vessels.

The anti-corrosive properties of the metal spraying process are widely recognised in the shipping and marine industry, where steel super structures and vessels are subjected to very damaging corrosion from the sea and salt laden air of the world's shipping and fishing industries.

Metallisation's Arcspray equipment is regularly used within the shipping industry to protect ships and trawlers from corrosion and has been involved in a number of recent projects. One of those saw Chorro Naval, a customer of Metallisation's Spanish distributor, Descon Quimica S.L, metal spraying a wide range of vessels using the Arcspray 140 system. Chorro Naval is a renowned shipyard based in Vigo, Spain, and has many years' experience in maintaining, repairing, restoring and building ships. The company has vast expertise in maintaining all types of ship including, fishing trawlers, merchant ships, cement carriers, supply ships, ferries and chemical carriers. The company offers a wide range of services to the shipyard industry including, hull shot blasting in dry dock, tank coating and a wide range of ship restoration and painting services.



In five separate projects, Chorro Naval has metal sprayed a variety of shipping components with pure zinc. On a Spanish tuna fishing boat they metal sprayed the inside of the tunnel and the fishing hold with a zinc aluminium alloy (85/15). On two trawlers, built in a Vigo shipyard and destined for the Faroe Islands, Chorro Naval metal sprayed all external areas of the boats with zinc. The external areas of a Danish patrol boat and an oceanographic Spanish ship were also sprayed with pure zinc. The final ship the 'Ronja Polares', a Norwegian fish carrier, was also metal sprayed at the Vigo dry dock, which is fully kitted out to accommodate restoration and metal spraying work. The external areas metal sprayed during these projects included the hull, all external decks, superstructures, the bridge, mast and chimney.

Prior to metal spraying, surfaces of the ship's components, both internal and external, were shot blasted to Standard SA 2.5 to clean and prepare the surface. The zinc and zinc aluminium alloy coatings were then applied using the Arcspray system. The Metallisation Arcspray equipment is the ultimate solution to today's demands for high performance Arcspray coatings.

In Turkey, Metallisation customer, Celiktrans Shipyard, an expert shipyard that builds specialised vessels for local and foreign ship owners, recently metal sprayed a 3,588 tonne Norwegian fishing trawler. Using the Arcspray 140 system, Celiktrans metal sprayed nearly 5000m<sup>2</sup> of zinc to the internal and external surfaces of the vessel. The long supplies pack, unique to Metallisation, enabled the operators to metal spray this large capacity vessel efficiently and safely, as the energiser could remain securely located on the ground. Celiktrans is a specialist ship builder and provides, supply vessels, fishing vessels, ferries, tugboats and offers complex tailor made building projects to its customers.



Cem Unver, Shipyard Manager at Celiktrans Shipyard, says: "We were very pleased with the two ARC 140-350 systems we bought specifically for this project. We have never had any problems with the equipment or the process. In fact, we have been

surprised by the user friendly operation of the equipment and the technical assistance provided by Metallisation. We are especially impressed with the 20m supplies pack, which also influenced our decision to buy the ARC 140 systems. The length of the supplies cables helped us a lot during the coating of interior spaces, such as the cofferdams and tanks. We have easily coated even the most difficult to reach areas because of the long cables and the easy to operate light weight pistols. We would like to say a huge thank you to all at Metallisation and hope to see them as our solution partner for the future.”



In the Arcspray process, two electrically charged wires are driven and guided so that they converge at a point and form an arc. An air nozzle atomises the molten metal produced from the wire and projects it towards the work piece using high pressure air. This spray solidifies when it hits the surface of the work piece to form a

dense coating, which protects against corrosion. The driving of the wires is typically either by air motor or electric motor and gearbox arrangement.

Major advantages of the Arcspray process are that the coatings are available for almost immediate use. There is no drying or curing time, no risk of damaging the component and the deposits possess a higher degree of bond strength than many other sprayed coatings.

For more information on the Arcspray projects, processes or equipment, please contact Stuart Milton, Sales Director on + 44 (0) 1384 252 464 or visit [www.metallisation.com](http://www.metallisation.com)