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Fast-drying Avantguard® 860 reduces project time for offshore substations

When a leading engineering, procurement and construction (EPC) company was asked to construct two substations for a new wind farm in the China Sea, it had no idea how important a quick-drying coating system would be. The COVID-19 pandemic broke out at the start of the project, paralysing business across the globe. As a result, when the project restarted, the EPC had to work fast to get it back on track.

Due to the highly corrosive offshore environment, we specified a three-coat system based on our Avantguard 860 activated zinc primer. Our Avantguard coatings deliver superior anti-corrosion protection compared to other zinc-rich epoxy primers. They are also significantly easier to apply, even in high humidity - an important consideration for the project, as the coatings were applied in Singapore where humidity is high all year round.

Another key benefit of Avantguard primers - they have the shortest recoating interval of any zinc-rich primer and dry up to four times faster than the best-performing inorganic zinc coating. This meant the application team could increase productivity, helping get the project back on schedule.

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Avantguard 860 goes on fast in humid conditions

At a glance	
Project	Substations for offshore wind farm in the China Sea, East Asia
Coating system	Hempadur Avantguard 860 Hempaprime Multi 500 Hempathane TS 55610
No. of litres	14,170

Offshore wind energy installations are exposed to some of the most severe operational and environmental conditions of any industrial asset. As a result, they require a very high durability anti-corrosion protection system. The choice of system can have a significant impact on both construction and operating costs. Therefore, when an experienced engineering, procurement and construction (EPC) company began constructing two substations for an offshore wind farm in the China Sea, it asked us to supply the coatings.

The challenge

The customer had two very specific requirements for the coating system used on its substations. A fingerprint test report had to be delivered with every batch and the zinc content of the primer had to be 85 per cent or higher. In addition, the EPC faced another challenge. The coatings would be applied in Singapore, where humidity is high all year round. Even with de-humidifiers running in the workshop, the best the application team could achieve was a humidity level of around 75 per cent, so the coatings had to be easy to apply in humid conditions.

The solution

Having worked with the EPC for more than 15 years, it was important for us to come up with a solution that addressed all key challenges. Our three-coat system was based on Avantguard 860, a high-performance primer from our award-winning Avantguard range with 86 per cent zinc.

Based on activated zinc technology, our Avantguard zinc epoxy primers utilise three methods of corrosion protection; the barrier, inhibitor and galvanic effects. As a result, Avantguard coatings can provide better corrosion protection than other zinc-rich coatings. This helps extend coating lifetime and reduce maintenance. Avantguard primers also dry significantly faster than other zinc-rich coatings and remain easy to apply, even in high humidity and at different temperatures.

Avantguard 860 can be applied in relative humidity levels up to 95 per cent. This meant the application team could apply the coatings in Singapore, without any compromise on application efficiency or quality, and we are confident that the system will protect the substations for at least 25 years, despite the tough offshore conditions.

And what about the fingerprint test report? Our factories regularly perform fingerprint tests on coating batches for quality assurance purposes. It was therefore no problem to deliver a fingerprint test report for every batch used in the project.

Triple Activation with patented Avantguard® technology

In order to achieve full zinc utilisation, we combine zinc, our proprietary activator and hollow glass spheres. Avantguard is also the only zinc-rich primer to use all three methods of corrosion protection:

Barrier effect | Inhibitor effect | Galvanic effect

Triple Activation with patented Avantguard technology provides superior protection, durability and sustainability compared to standard zinc-rich primers. So you save on application and maintenance costs, while your assets last longer.

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