

Longkey Process Keeps on Delivering

The LongKey application process has once again proved its efficiency during a project in China.

A large new LNG (Liquefied Natural Gas) processing and export plant is being built on Curtis Island, Australia, and the jetty support piles were fabricated and painted in China. Jetty support piles were critical in this project; due to the inaccessible nature of Curtis Island, the jetty has to be used to bring both men and equipment onshore.

Due to various reasons, the production schedule fell almost six weeks behind, and given the critical path the jetty represents, this was a potential disaster.

Production

AkzoNobel was favoured by the jetty builder and we were initially selected on the coating specification with Interzone® 505, a high solids, high build epoxy primer/finish with a glass flake additive, excellent for corrosion protection in environments including splashzones.

The fabricator originally opted for the traditional application method, by hand and in two coats. The on-site AkzoNobel technical service team was on hand to maintain the quality and standards of application, and the customer agreed that the appearance of the product was first class. The traditional process is to hand blast the pile, clean it off, stripe coat and then spray the first coat, wait until cured, check the DFT (Dry Film Thickness) and remove any overspray, stripe coat again and then spray again, wait until cured and measure the total DFT then finally, repair if needed. Typically, for a single pile, this could take four to five days in total.

The Problem and Solution

The project fell behind schedule in other areas, and the hand application method meant that it was not going to be able to catch up during the coating process. AkzoNobel stepped in and suggested the LongKey process, and so the automatic preparation and application machine was prepared, and the specification was changed to Interzone 954XS.

Interzone 954XS is a 99% solids epoxy, with excellent performance due to the post curing process, and an outstanding environmental and health and safety profile, as it contains no solvent, does not use multiple twenty litre cans, and nobody during the entire process is exposed to wet paint.

In summary, the LongKey process is an automatic process that blasts the pile, pre-heats it to 50°C (122°F), then automatically mixes Interzone 954XS which is also at 50°C and supplied in 1000lt tanks. The piles are then sprayed automatically, before post-curing ensures the piles are fully cured in just twelve minutes. The whole pile travels at 1 metre/minute so a fifty metre pile takes just fifty minutes, as opposed to four to five days each. It is a Chinese invention, with an environmental focus.

Results

The LongKey process produced on average, twelve perfectly coated piles per day, and the whole project was brought rapidly back on track. Whilst in itself this is a good story, it is only half the picture. By using the bulk 1000 litre tanks of Interzone 954XS, we saved on disposal of over 300 cans, which would have normally been used. Also, we saved approximately 900 litres of solvent from being released, as the product is solvent free, and the large tanks don't allow solvent to be added as a thinner.

As an automatic process, thicknesses are tightly controlled, and overspray is also minimised. During traditional application, wastage associated with overspray, overconsumption and loss in the cans would represent around 50%. The LongKey process has a loss factor of only 5%.

You may think to yourself, 'surely this means you are selling less paint?' At AkzoNobel, we are committed to reducing our impact on the

environment, and the LongKey process is one way we can demonstrate this. We also believe that the process is so good that it will allow us to win a lot of new business, as customers cannot fail to be impressed by the savings it can offer.



1000lt tanks and twin-feed automatic spray machine

"a fifty metre pile takes just fifty minutes, as opposed to four to five days each"



Traditional Coating Method by Hand:

Long Key Process (actual project piles progressing):