PHENICS

EIDER BARRAGE REFURBISHMENT PROJECT WITH PHENICS

> Over the years, we have used different methods for the removing of coating of the contaminated surfaces. Using recyclable steel grits in our blasting operation and Phenics equipments of suction and recycling "under asbestos conditions" helped us improve our process significantly in 2016. Thanks to Phenics:
> - The burden on employees working in the black area (number / time / physical load) reduced to a minimum.
> - In comparison to slags, very little waste has been generated.
> - The construction period was very much optimized which satisfied our end-customer
> The commercial evaluation of the project was very positive and led to the decision to acquire Phenics units for future projects.
>
> **Project Manager, Mr. Eiler Rehmeier**

THE PROJECT

Nietiedt Oberflächentechnik Hamburg is one of the leading specialists in heavy corrosion protection in Germany. In addition to the marine corrosion protection of ships of all types and sizes, they are also specialized in industrial preservation of steel surfaces, such as tankers, refineries, bridges and structures in steel and hydraulic engineering. Lately Nietiedt Oberflächentechnik Hamburg was awarded the refurbishment project of Eider Barrage, located in the mouth of the river Eider near Tönning on Germany's North Sea coast. Built in the early 70s Eider Barrage is known as the biggest coastal protection structure in Germany. Eider Barrage, exposed to high saline contamination of seawaters needed to be completely renewed and repaired.

THE CHALLENGES

The old coating on the structure was contaminated with pollutants such as asbestos and PAH and required to be removed under reduced pressure within an enclosure to avoid any emission.

Nietiedt's main challenge was to find the right surface cleaning method to accomplish this task while being very efficient. In order to determine the right solution, Nietiedt tested various methods and abrasives. They tried RPR induction method first but observed that the different thicknesses of the painting layered on the structure slowed down the process. Moreover an additional operation was needed to create the required surface profile which was air blasting with slags.

Since slags were only usable one time, the customer needed to bring hundreds of tons of abrasives to the site for blasting operation and then evacuate rapidly the contaminated waste. The complicated access to the site was rendering it difficult to deliver abrasives and transfer back the cumulated waste. There was an urgent need to find a solution to minimize the waste and to reduce the quantity of the abrasives to be used on-site.

THE SOLUTION

Committed to environmental protection, Nietiedt decided to try recyclable abrasives with adapted suction and recycling equipments. However they were not quite sure if such a solution was compatible with their project requirements. After meeting Phenics expert and visiting worksites where Phenics units were being used, they decided to work with Winoa and use Phenics service offer which consisted of rental suction & recycling equipments, recyclable steel abrasives and technical assistance.

Nietiedt's project was involving asbestos remediation, therefore the equipments rented needed to meet specifications of asbestos works. The transportation and handling of the machines had to be done according to the specific norms. Therefore the machine was delivered accordingly to the customer site, encapsulated and at the end of the job decontaminated by a specialist asbestos remediation company.

THE BENEFITS

The main advantage of using recycled grit in Eider Barrage was reducing the waste generation, which was all the more important due to the contaminated nature of the waste. If Nietiedt had opted for slags, the approximate contaminated waste to be generated was around 180 tons. This would have been very costly due to difficult access to site. Nietiedt decreased abrasive usage considerably thanks to recycling.

Nietiedt decided to invest on a Phenics unit following the success of their project.