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17th MFN Asian Workshop & Trade Show in Singapore 5-7 December 2017 (see page 45)

MFN Shot Peening Workshop in Holland 23-25 October, 2017 (see page 61)

Cobranding & Local Manufacture To Improve Product Competitiveness

page 26-27

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Separate Print: Vol. 18 July Issue, Year 2017

W Abrasives

Eider Barrage Refurbishment Project With Phenics (p. 18-19)

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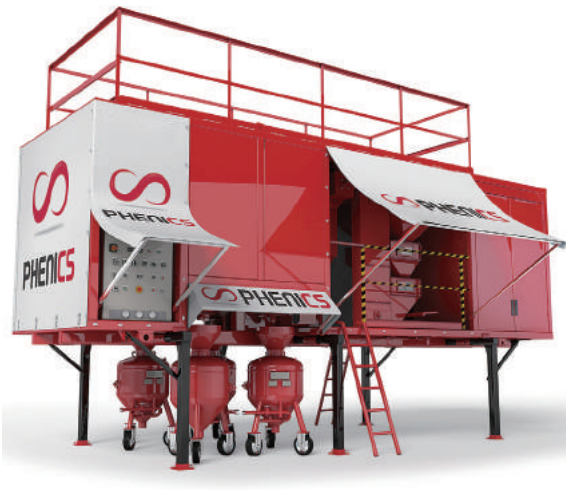
Eider Barrage Refurbishment Project With Phenics



The Project

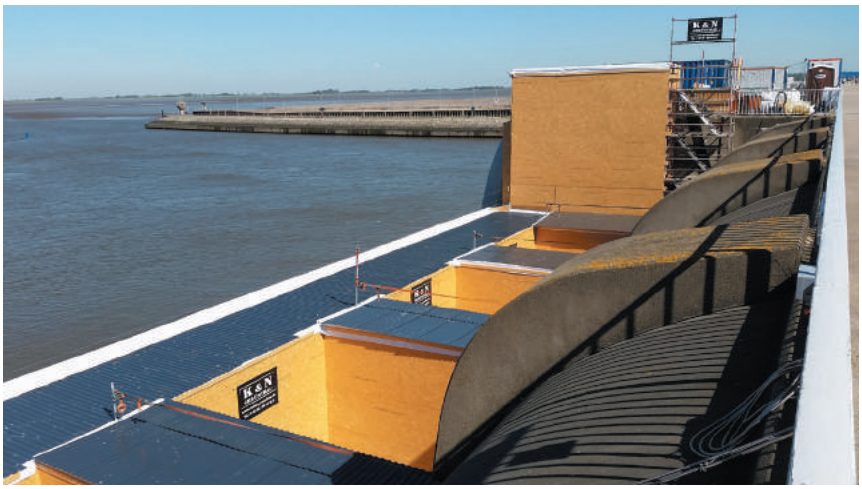
Nietiedt Oberflächentechnik Hamburg is one of the leading specialists in heavy corrosion protection in Germany. In addition to the marine corrosion protection of ships of all types and sizes, they are also specialized in industrial preservation of steel surfaces, such as tankers, refineries, bridges and structures in steel and hydraulic engineering. Recently, 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 removal 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. First they tried the induction process. It turned out, that not only different thickness of the paint layers delayed the operation, but also low efficiency and heavy handling of the manually operated equipment proved to be disadvantageous.

Moreover an additional operation was needed to create the required surface profile, and this 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 the blasting operation and then evacuate the contaminated waste rapidly. The complicated access to the site was rendering it difficult to deliver abrasives and transfer back the accumulated waste, so 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 involved asbestos remediation, therefore the equipment was required to meet specifications of

asbestos works. The transportation and handling of the machines were done according to the specific norms. After the installation, PHENICS equipment was checked by an external asbestos controller following TRGS 519 No. 8.2(2). Phenics proved to be in conformity with the rules, thus fulfilling requirements of the Emission Control Act TRGS 519 No. 8.2(2). The approval given by the controller was valid for 3 years.

The Benefits

The main advantage of using recycled grit in Eider Barrage was to reduce the waste generation, which was all the more important due to the contaminated nature of the waste. Compared to the previous processes (inductive/ expendable abrasive), waste quantity was reduced by approximately 1/20 in weight. Nietiedt decided to invest in a Phenics unit following the success of their project, and remarkable waste reduction.

Customer Voice

Project Manager, Mr. Eiler Rehmeier says: Over the years, we have used different methods for the removal of coating of contaminated surfaces. Using recyclable steel grits in our blasting operation and Phenics equipment 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) was reduced to a minimum.
- In comparison to slags, very little waste was 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.

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