

# Premium

# Nynas Endura Z2

HOT AND WARM APPLICATIONS

Extremely tough demands are made of asphalt that is used in ports, especially where containers are being loaded and unloaded. In Southampton they opted for a specially designed polymer-modified binder that had been proven to be able to withstand years of tough strains without any rutting or other degradation.

SITE NAME:	PORT OF SOUTHAMPTON
ASSIGNMENT:	Asphalt surface on quaysides where containers are loaded and unloaded
CLIENT NAME:	Associated British Ports
ASPHALT PRODUCER:	Aggregate Industries Ltd
DATE:	August 2010

## Background

In summer 2010, quays 34 and 35 in the eastern section of the Port of Southampton were given a new asphalt surface. The two quays cover an area of around 40 acres, where Wallenius Wilhelmsen, one of the world's leading operators of ro-ro vessels, has its operations.

The contractor Aggregate Industries opted for an asphalt solution that was different from the one originally envisaged by the port's owners. But after showing that this solution had been used with great success in the Port of Hamburg, and that the cost and time required were reduced by 8% and 18% respectively, they were given the green light to proceed. The surface included a 60 mm binder course and a 40 mm surfacing course using Nynas Endura Z2 as binder.



## Solution

An inspection was carried out in March 2013 to investigate how the asphalt had survived the first three years. There was tremendous interest in hearing the conclusions, because of the enormous stresses to which the surface is subjected - every day of the year, trucks and other special vehicles are used, each of which carries loads of 100-150 tonnes. This in turn places demands on an asphalt that is not only dense and flexible, but also durable and requiring the least possible maintenance.

The evaluation revealed that the surface had performed as well as promised, with no rutting or other degradation. The instances of damage that were noted from the so-called MAFL trailers did not affect the integrity of the material. This outcome means that

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Associated British Ports (ABP) is also planning to use the same solution in other parts of the port. The good durability is especially important bearing in mind the loss of income if the port cannot be fully utilised because of maintenance measures.

## Details

There are many benefits associated with laying asphalt on quaysides and other heavily used areas in ports. Asphalt can be laid without splices, which makes life easier for the special vehicles used for loading and unloading. Asphalt is also resistant to a number of substances and chemicals. This property explains why asphalt is also used on runways at airports.

At the same time, it is important to be aware that the requirements differ in one crucial way from a conventional road surface. In a port, the surface is subjected to high static loads, primarily from containers. The load is further increased by forklift trucks and other special vehicles that travel at very low speeds on relatively small wheels.

Nynas Endura Z2 is a polymer-modified premium binder that has been specially developed to cope with these kinds of extreme stresses, with its combination of deformation resistance, flexibility and good temperature properties.