



Tensor

SPECTRA[®]
PAVEMENT OPTIMISATION SYSTEM

Pavement thickness reduction on firm ground conditions.

Spectra deals with the unexpected at Dock Gate 5

Tensor's Spectra pavement optimisation solution proved its flexibility when ground conditions were found to be different from predicted.

CLIENT'S CHALLENGE

Associated British Ports needed to revise the design of the access roads to its new Ocean Terminal in Southampton, when ground conditions were found to be different from predicted. The route crossed a very confined brownfield site and the road had to be built on a short timescale.

TENSAR SOLUTION

Tensor's Spectra pavement optimisation system allowed the road pavement design to be changed easily to meet actual ground conditions, without delaying construction.

The use of Tensor's independently validated design software, provided a rapid revised design, while maintaining sufficient capacity to cope with the predicted traffic loads of 30 million equivalent standard axle loads (ESALs).

Dock Gate 5 Access Road, Ocean Terminal
Pavement optimisation

📍 Southampton, UK

BENEFITS

Accelerated programme

Reduction in pavement thickness to accelerate programme

Reduced health and safety risks

£10/sq.m cost saving

by using less pavement materials

REF TEN366



The original Tensar design comprised a layer of TriAx® geogrid laid under the granular subbase to create a mechanically stabilised layer.

PROJECT BACKGROUND

Construction of an access road at the new Ocean Terminal in Southampton Docks had to be carried out to a very tight programme in a confined brownfield site, with minimum construction spoil produced.

Associated British Ports chose Tensar's Spectra Pavement Optimisation System to deliver a road pavement design that would be quick and easy to build, over the favourable ground and yet still offering thickness reduction and an accelerated programme.

The original Tensar design comprised a layer of TriAx® geogrid laid under the granular subbase to create a mechanically stabilised layer, providing sufficient support to the coaches, lorries and cars bringing passengers and goods to the cruise ships.

However, once construction began, it was found that the CBR of the underlying made ground was not 15% as first thought, but between 8% and 12%. Fortunately, the Tensar software offers a flexible approach to delivering optimal pavement design. Tensar, working with consultant AKS Ward and main contractor PT Contractors, adapted the design to cope with the actual ground conditions, without delaying construction.

The revised design was eventually based on a CBR of 5%, ensuring the road would perform over a wide a range of ground conditions, while still meeting the Client's design life.. The use of Tensar's design software allowed for a full re-assessment of the pavement section without causing any delays.

Contractor:

PT Contractors

Client:

ABP

Consultant:

AKS Ward

“The speed and flexibility of Tensar's approach was invaluable when we encountered weaker ground than expected. We were able to change the design, without affecting the construction programme.”

Matthew Roe

AKS Ward

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