



Tensor®

SPECTRA®
PAVEMENT OPTIMISATION SYSTEM

Covering a total area of 88,000m², Tensor's Spectra Pavement Optimisation solution delivered significant savings on construction.

Home delivery

Tensor's Spectra Pavement Optimisation solution delivered significant savings on construction of a road for an Abu Dhabi housing scheme.

CLIENT'S CHALLENGE

KEO International Consultants wanted to reduce the pavement thickness of a road on the Baniyas residential development in Abu Dhabi, as part of a value-engineering exercise, without a loss in trafficking performance.

TENSAR SOLUTION

Tensor's Spectra Pavement Optimisation solution comprised TriAx geogrid incorporated in the road's granular sub-base to create a mechanically-stabilised layer.

The resulting additional capacity meant both the granular layer and the asphalt base course above could be thinner, without affecting overall pavement performance.

Baniyas Residential Development

Pavement optimisation

📍 Abu Dhabi, UAE

BENEFITS

19%

reduction in road pavement thickness

Cost savings

through using fewer materials

Sustainable construction

reducing the project's carbon footprint

REF TEN377



Tensar's Spectra Pavement Optimisation system delivered a pavement that was nearly 19% thinner than the original design.

PROJECT BACKGROUND

The Ministry of Presidential Affairs' Baniyas Residential Development in Abu Dhabi is a housing scheme of 411 villas, built for UAE citizens.

As part of a value engineering exercise, scheme consultant KEO International Consultants approached Tensar to develop an alternative design for the development's roads (covering a total area of 88,000m²) that would save materials and reduce construction costs.

Tensar's Spectra Pavement Optimisation system delivered a pavement that was nearly 19% thinner than the original design, by installing TriAx TX-5 geogrid within the granular sub-base to create a mechanically stabilised layer. This increased support to the asphalt layer and reduced the thickness of both the granular layer (by 25%) and the asphalt base course (by 12.5%), while maintaining pavement performance and working life.

This alternative approach used far fewer pavement materials than the original design, saving on materials costs, resulting in fewer construction vehicle movements (mitigating construction risk), reduced CO₂ emissions and cut overall construction costs.

Contractor:

Hilalco

Client:

**The Ministry of
Presidential Affairs
Abu Dhabi**

Consultant:

**KEO International
Consultants**

"Tensar's alternative approach delivered a cost-effective road pavement design that saved money, while meeting the project performance criteria."

Mahesh Nair

Area Sales Engineer

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