Tensar's Next Generation for Pavements in UAE

Qasr Al Jurf Development Project

Abu Dhabi, United Arab Emirates

Tensar International LLC (Tensar) was approached by the Contractor, Agility Engineering & Contracting Co. LLC. to provide a more economical and sustainable solution for flexible pavements within Qasr Al Jurf Development Project. Tensar's alternative design was implemented, incorporating a Tensar Mechanically Stabilised Layer (MSL), with reduced thickness compared to the conventional unbound layer.

CLIENT'S CHALLENGE

The Contractor was seeking cost savings from an effective and sustainable alternative solution meeting all of the client's requirements, which would accelerate the construction program while preserving the required design life of the pavement.

TENSAR SOLUTION

Tensar provided a lower cost and sustainable solution with reduced construction time by incorporating a layer of Tensar's stabilisation geogrid within the aggregate base course. Compared to the conventional pavement design over a competent subgrade, this approach allowed for a reduction in the thickness of the aggregate base layer, thereby reducing the cost of the pavement while maintaining the required performance and service life. As a result, the overall project costs were reduced, offering significant savings to the contractor.

Tensar®
A Division of CMC

PROJECT DETAILS

Application
Pavement Optimisation | No. 530

Constructed in
2025

Client
IMKAN, Abu Dhabi

Consultant
Bilfinger Tebodin Middle East

Contractor
Agility Engineering & Contracting Co LLC

Distributor
Pioneers of the Middle East (POME)

BENEFITS

- **8% savings** in overall construction cost.
- **11% reduction** in carbon emissions.
- **Reduced construction time** due to accelerated construction program.

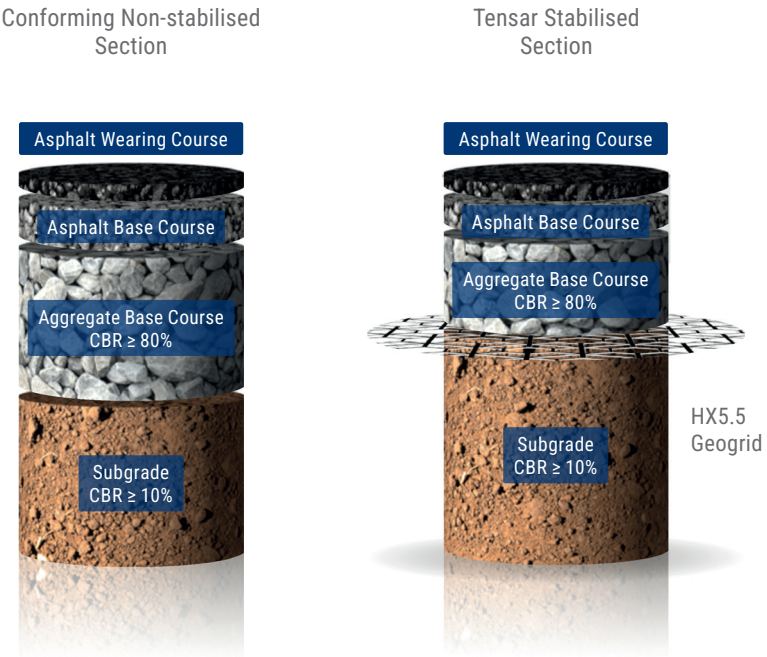
PROJECT BACKGROUND

Qasr Al-Jurf Development spans 3.7 square kilometres along the Gulf coast within the Sahel Al-Emarat development area, located in Ghantoot between Abu Dhabi and Dubai. The master-planned community comprises serviced residences and villas, two marinas with private berths, a town centre, hotels, retail spaces, a wellness resort and clinic, public and private beaches, beach clubs and restaurants, community centres, parks, mosques, clinics, and a private school. Infrastructure contractor Agility Engineering & Contracting Co. LLC was awarded the contract for the road construction.

As part of the project, Tensar provided an optimised alternative design for the pavement sections. In contrast to the conventional design over competent subgrade, the solution incorporated Tensar's stabilisation geogrid within the aggregate base course.

This allowed for a reduction in the thickness of the aggregate layer, significantly reducing the construction cost of the pavement while maintaining the required structural performance.

Comparison of cross section for non-stabilised vs Tensar MSL solution



Aggregate base course was spread over the Tensar stabilisation geogrid

"Due to the nature of our project as a Design and Build, we have adopted the Tensar HX5.5 geogrid due to the cost saving benefit of reducing the pavement section. As it was demonstrated by our specialist designer M/s Bilfinger, the use of geogrid reduced the pavement section thickness by 23%. We didn't face any challenges during the installation and during the laying of the subsequent layer on top of the geogrid."

Mohammad Waleed
Project Manager
Agility Engineering & Contracting Co LLC

let us help you with your next challenge: tensarinternational.com email: tensarinfo-ae@cmc.com