Reinforcing Mainland Infrastructure Works

Construction of Miscellaneous Areas in the Mainland (Pckg 1, 2&3)

Abu Dhabi, UAE

CLIENT'S CHALLENGE

The project required upgrading multiple miscellaneous areas across the Abu Dhabi mainland, each exhibiting varied pavement distress patterns, and the potential for reflective cracking in existing asphalt overlays. Ensuring long-term pavement performance while maintaining construction schedules across three separate packages presented a significant engineering challenge. The client needed a durable, fast to install solution that would minimise future maintenance and ensure uniform quality.

TENSAR SOLUTION

To mitigate reflective cracking and enhance pavement fatigue resistance, Tensar® Glasstex® R60N+C was installed as an interlayer between the existing surface and the new asphalt overlay. Supplied by Tensar distributor, Pioneers of the Middle East (POME), the system provided tensile strength, improved bonding, and long-term crack control. This enabled the contractor to extend pavement life, reduce overlay thickness, and optimise construction time, meeting all durability, cost, and schedule targets set by the municipality.

BENEFITS

- **Enhanced pavement** durability through R60N+C asphalt interlayer reinforcement.
- **Reduced reflective cracking,** improving long-term asphalt performance.
- **Lower maintenance requirements** across all project packages.
- **Faster construction** and material savings.

Tensar®
A Division of CMC

PROJECT DETAILS

Application
Asphalt Reinforcement | No. 554

Constructed in
2024

Client
Department of Municipalities & Transport, Abu Dhabi City Municipality

Consultant
Dorsch Gruppe Abu Dhabi

Contractor
Al Fahjan Construction LLC

Product
Tensar® Glasstex® R60N+C

Asphalt paving in progress following R60N+C installation

PROJECT BACKGROUND

The Construction of Miscellaneous Areas in the Mainland (Packages 1, 2, and 3) is a key development initiative undertaken by the Department of Municipalities & Transport (DMT), Abu Dhabi City Municipality, aimed at improving essential municipal infrastructure. Executed in 2024, the project encompassed a range of functional zones, including access routes, parking areas, service corridors, and public use pavements situated across different mainland locations.

The project sites exhibited a diversity of existing pavement conditions, many of which showed early signs of cracking and distress. Traditional overlay methods would have been insufficient to ensure longterm performance due to the risk of reflective cracking propagating through the new asphalt layers. This risk threatened both asset longevity and future maintenance budgets.

To address these challenges, Tensar proposed integrating Glasstex® R60N+C asphalt interlayer across all applicable pavement areas. The product's high tensile modulus and crack mitigation properties provided a robust reinforcement layer, enabling the pavement system to better withstand repeated loading and temperature related stresses. This approach reduced the need for thicker overlays and improved long-term pavement serviceability.

Collaboration between Dorsch Gruppe Abu Dhabi as the consultant and Al Fahjan Construction LLC as the contractor ensured precise installation and adherence to DMT quality requirements. The successful application of Tensar® Glasstex® R60N+C across all three packages delivered a consistent, durable, and cost-effective pavement rehabilitation strategy for the Abu Dhabi mainland.

Asphalt overlay undergoes final compaction works over the R60N+C reinforced section.