



The TensarTech Stratum Cellular Foundation Mattress was assembled on site by hand, enabling it to be built quickly and easily on the soft ground, in all weathers.

## Accelerating construction, delivering long term performance

Tensar's TensarTech® Stratum™ Cellular Foundation Mattress System enabled fast construction of a road embankment on weak ground and mitigated long-term settlement of the road.

### CLIENT'S CHALLENGE

Main contractor Eurocogen Filiala Aninoasa needed a way of building the final section of the Tecuci Ring Road over an area of marshland. The solution needed to enable fast construction of the road embankment over the weak, saturated soils, with minimal settlement, and also had to ensure the road's long term performance.

### TENSAR SOLUTION

Tensar's TensarTech Stratum Cellular Foundation Mattress System created a 1m thick stiff foundation for the new road embankment. This reduced both short term and long term settlement and lateral spread and increased the ground's bearing capacity, enabling construction to be carried out quickly and safely.

## Tecuci Ring Road

Ground stabilisation and subgrade improvement

📍 Galati County, Romania

### BENEFITS

**Mitigating** settlement on weak, saturated ground

**Providing** a safe working platform

**Accelerating** construction to meet programme deadlines



The cells were filled with granular fill, which was compacted to create a stiff raft foundation providing improved stability, increased bearing capacity and minimising overall settlement.

## PROJECT BACKGROUND

The Tecuci Ring Road will relieve congestion in the city in the south east of Romania, providing an alternative north-south route for traffic travelling along the E581 and DN25. Construction of the 7km bypass began in 2016 and is due to open in 2018.

Part of the ring road crosses an area of marshland, characterised by weak, saturated soils, which presented a significant challenge for main contractor Eurocogen Filiala Aninoasa.

There was a need for construction to proceed quickly to enable the road to open on time. Eurocogen Filiala Aninoasa needed an alternative to expensive ground treatment of the weak soils and there was not enough time to pre-consolidate the ground before placing the embankment fill. It also needed a safe working platform for the heavy construction equipment being used.

Tensar's TensarTech Stratum Cellular Foundation Mattress System was the ideal solution. It formed a stiff foundation layer covering the embankment's entire 10,000m<sup>2</sup> footprint.

The 1m thick cellular mattress was placed directly on the weak ground, without the need for pre-consolidation or treatment, speeding up construction. It was assembled on site by hand, enabling it to be built quickly and easily on the soft ground, regardless of weather conditions.

The cellular mattress, designed to BS8006-1:2010, comprised a Tensar TriAx TX160 geogrid base with Tensar Stratum Grid cell walls. The cells were filled with granular fill, which was compacted, to create a stiff raft foundation providing improved stability, increasing the ground's bearing capacity and minimising overall settlement. Additionally, the granular fill acted as a drainage layer.

Main Contractor:

**Eurocogen Filiala Aninoasa**

Client:

**CNAIR**

Consultant:

**Luca Way**

Distributor:

**Iridex Group Plastic**

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*“The TensarTech Stratum Cellular Foundation Mattress System reduced settlement and lateral spread, as well as increasing the ground's bearing capacity, providing a safe working platform, speeding up embankment construction and mitigating long-term settlement.”*

**Ionel Davidescu**

**Technical Manager**

Iridex Group Plastic

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