

# TensarTech® Stratum®

## Cellular Mattress Foundation System

**When faced with soft foundation soils where expensive piling and other deep ground improvement solutions are not viable or too costly, the TensarTech® Stratum® Cellular Foundation Mattress System provides an alternative approach for construction, often delivering savings in cost and time.**

Used when new embankments and/or heavy loads are sited over weak and variable ground, including waste deposits and brownfield sites, the TensarTech® Stratum® System creates a stiff foundation platform that reduces the potential for differential settlement and can increase bearing capacity.

With the TensarTech® Stratum® System, there is usually no need for excavation and removal of the subsoil; the cellular foundation mattress is assembled directly over the weak soil and filled with granular material to create a competent mattress system.

The TensarTech® Stratum® System is a continuous cellular structure, rapidly fabricated on site using the TensarTech® Stratum® base geogrid and cell walls formed with Tensar uniaxial geogrids. If required, the mattress can easily accommodate vertical wick drains to further accelerate consolidation.

The TensarTech® Stratum® System is a proven foundation improvement solution supported by our team of experienced engineers. Tensar can provide preliminary or conceptual design, on-site assistance and final engineering designs.

**The TensarTech Stratum System offers many practical applications for weak and difficult soils:**

- ✓ Road and railway embankments over weak and wet ground.
- ✓ Embankments over weak substrates with high ground water levels.
- ✓ Crane pads and working surfaces with heavy loading.

**The right choice for rapid construction and faster installation:**

- ✓ Provide stability of the foundation without the need for piles or other ground improvement measures.
- ✓ Allow safe access to the site and the forming of a working platform.
- ✓ Avoid excavation and replacement of soft soil.
- ✓ Prevent loss of select embankment fill into the weak foundation.
- ✓ Enable single-stage construction to accelerate consolidation and shorten construction programme.
- ✓ Provide a settlement control system.
- ✓ Allow faster construction.
- ✓ Accommodate vertical band (wick) drain installation if consolidation needs to be further accelerated.



**SCAN THE QR CODE**  
to learn more about  
the TensarTech®  
Stratum® System.

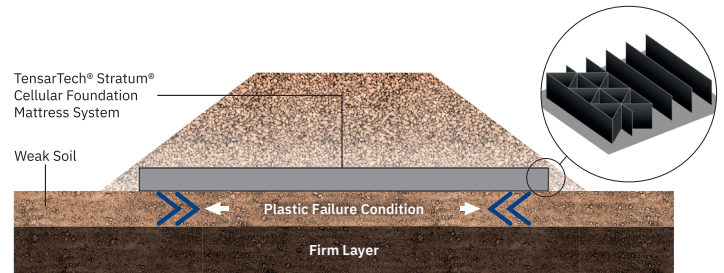




# 3 Major Benefits when using the TensarTech® Stratum® System

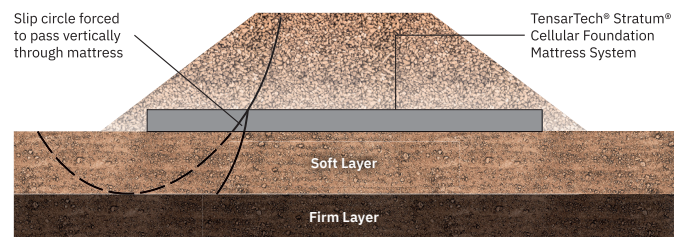
## 1. RAPID CONSTRUCTION

The TensarTech® Stratum® Cellular Foundation Mattress System can provide initial construction access onto soft sites and is rapid to assemble. Once filled with granular material, it acts as a stiff platform that provides a stiffened foundation with even and controlled settlement.



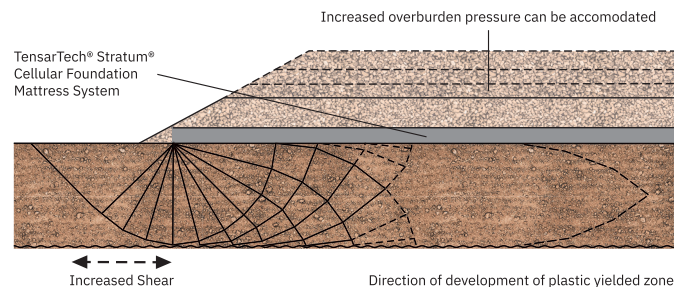
## 2. IMPROVE SLOPE STABILITY

The TensarTech® Stratum® Cellular Foundation Mattress System intersects potential failure planes. The rigidity of the TensarTech® Stratum® System forces the failure planes deeper into the firm strata below. The critical failure mechanism then becomes that of plastic failure of the soft layer and the stability can be improved.



## 3. REDUCE LATERAL SHEAR FAILURE

The rough interface at the base of the TensarTech® Stratum® Cellular Foundation Mattress System reduces lateral spread and ensures mobilisation of the maximum shear capacity of the foundation soil further increasing stability.



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