

# Tensor Stratum™ Cellular Foundation Mattress System

When faced with soft foundation soils where expensive piling and other deep ground improvement solutions are not viable or too costly, the Tensor 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 Tensor Stratum System creates a cellular and stiff foundation platform that reduces the potential for differential settlement and can increase bearing capacity.

With Stratum, there is usually no need for excavation and removal of the subsoil; the cellular foundation mattress is constructed directly over the weak soil and filled with granular material to create a competent mattress system. The Tensor Stratum System is a continuous cellular structure, rapidly fabricated on site using a Tensor TriAx® Geogrid base and cell walls formed with Tensor Uniaxial Geogrids. If required, the mattress can easily accommodate vertical wick drains to further accelerate consolidation.

The Stratum Cellular Foundation Mattress System is a proven foundation improvement solution supported by our team of experienced engineers. Tensor can provide preliminary or conceptual design, onsite assistance and final engineering designs stamped by a registered professional engineer.

## Tensor's Stratum System offers many practical applications for weak and difficult soils:

- ▶ Roadway embankments over weak and wet ground
- ▶ Embankments over weak sub-structures with high levels of ground water
- ▶ Buildings constructed on variable ground and waste deposits
- ▶ Crane pads and working surfaces with heavy loading

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

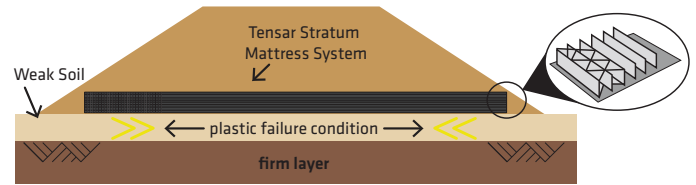
- ▶ Provide stability of the foundation without the need for piles or other ground improvement measures
- ▶ Allow safe access to the site and the forming of a working platform
- ▶ Avoid excavation and replacement of soft soil
- ▶ Prevent loss of select embankment fill into the weak foundation
- ▶ Provide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



# 3 major benefits of choosing the Tensar Stratum Cellular Foundation Mattress System:

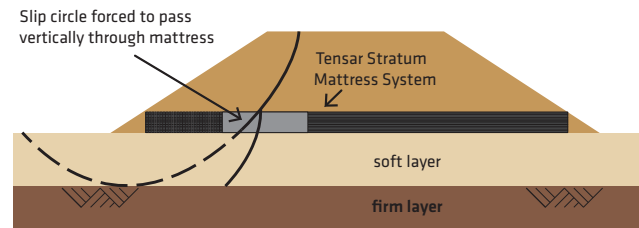
## 1. RAPID CONSTRUCTION

The Tensar 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.



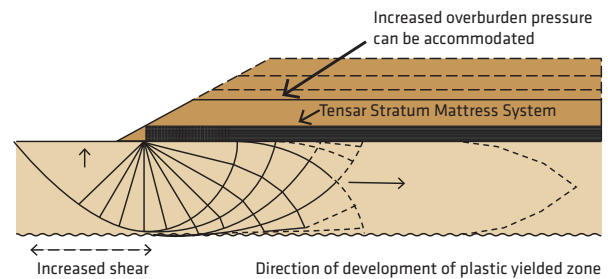
## 2. IMPROVE SLOPE STABILITY

The Tensar Stratum Cellular Foundation System intersects potential failure planes. The rigidity of the 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 a Tensar Stratum cellular foundation reduces lateral spread and ensures mobilization of the maximum shear capacity of the foundation soil further increasing stability.



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