



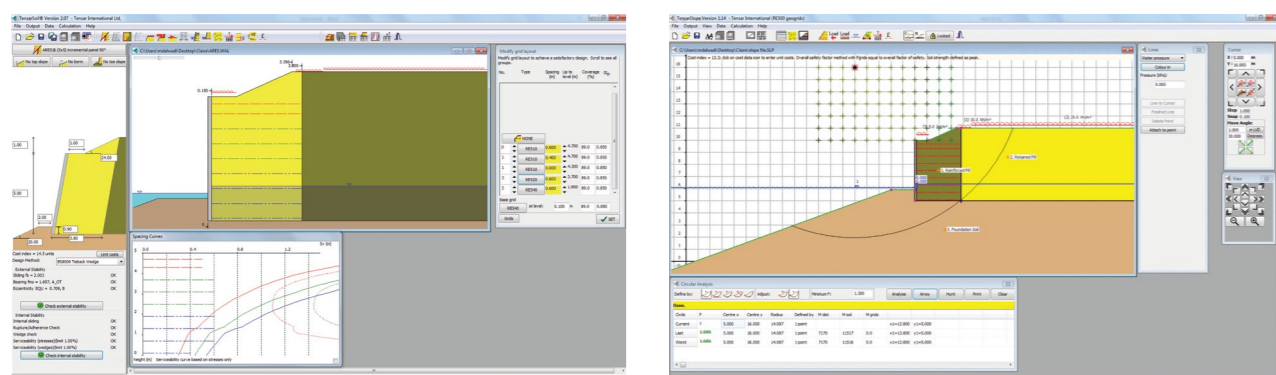
## TENSARTECH® ARES™

EARTH RETAINING SYSTEM FOR WALLS AND BRIDGE ABUTMENTS

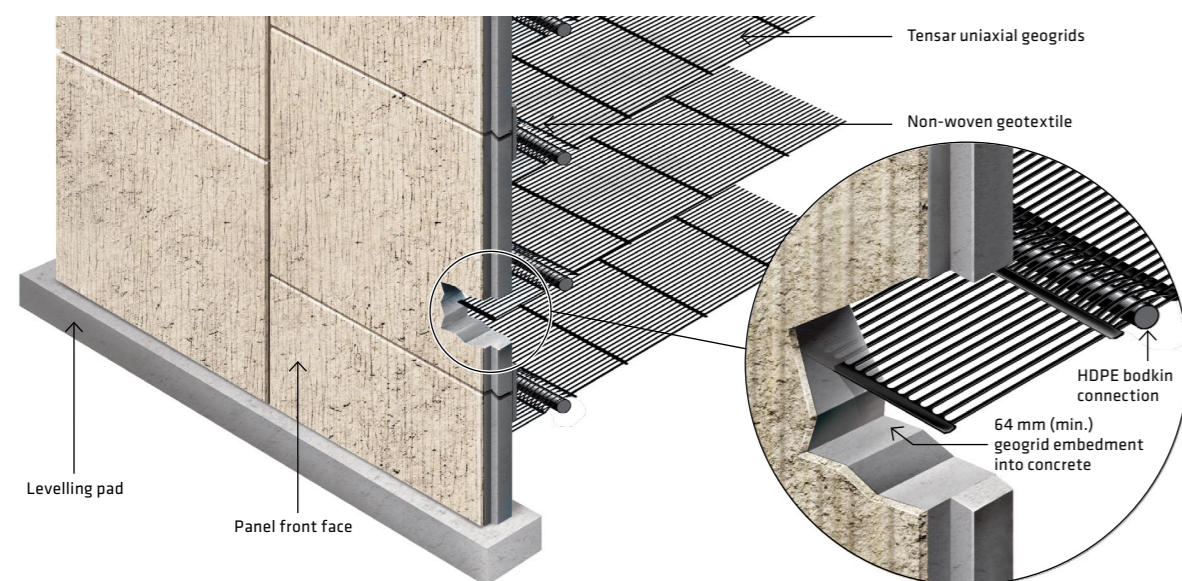
### Tensar Design Service

Tensar's experienced civil engineers are able to help take your project onto the next stage. Our Design service is on-hand to provide standard Application Suggestions to establish viability of Tensar's products and systems and enable planning costs, right through to preparing certified detailed design and construction drawings for using Tensar products

and systems on your project. Upon request, we can provide all necessary design certification and working calculations in a form ready for checking, with drawings issued for construction as well as all the crucial specification and installation details.



### TensarTech Ares Wall Systems - Panel Walls



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Contact Tensar or your local distributor to receive further literature covering Tensar products and applications. Also available on request are product specifications, installation guides and specification notes.

The complete range of Tensar literature consists of:

- ▶ **Tensar® Geosynthetics in Civil Engineering**  
A guide to products, systems and services
- ▶ **Subgrade Stabilisation**  
Stabilising unbound layers in roads and trafficked areas with a Tensar MSL
- ▶ **Pavement Optimisation System**  
Improving the structural performance of whole pavements with a Tensar MSL
- ▶ **Asphalt Pavements**  
Reinforcing asphalt layers in roads and trafficked areas
- ▶ **TensarTech® Earth Retaining Systems**  
Bridge abutments, retaining walls and steep slopes
- ▶ **Railways**  
Mechanical stabilisation of track and sub-ballast
- ▶ **TensarTech® Plateau™**  
Load transfer platform system over piled foundations
- ▶ **Basal Reinforcement**  
Basotex high-strength geotextiles
- ▶ **TensarTech® Stratum™**  
Cellular foundation mattress system for foundations with controlled settlement
- ▶ **Tensar® Erosion Control**  
A guide to products and systems



► Tensar® Technology – proven, practical solutions and the know-how to get them designed and built.

Tensar Technology is widely adopted for Pavement Optimisation and Subgrade Stabilisation to improve the structural performance of paved roads and unbound roads and platforms. Tensar Technology is also adopted for Earth Retaining Systems for cost effectiveness and versatility over other traditional methods. By delivering real savings in cost and time, Tensar Technology can help you improve the bottom line on your project as well as preserving the invested capital.



## Independent Assessment and Approval

HAPAS (Highway Authorities Product Approval Scheme) was set up in 1995 to establish a nationally recognised approval scheme for innovative products and systems used in highway works. Successful HAPAS assessment results in the issue of a Certificate or Report which provides highway engineers with product performance, design and installation data invaluable to the product choice and project planning processes.

Selected Tensar geogrids have been awarded HAPAS approval allowing their design and specification in highways structures and bridge abutments with a 120 year design life and also a 120 year design life for strengthened embankments. The BBA certificates are evidence that the certified Tensar geogrids have been evaluated independently as fit for their intended use.



TENSAR RE AND RES90 GEOGRIDS FOR REINFORCED SOIL EMBANKMENTS



TENSAR RE AND RES90 GEOGRIDS FOR REINFORCED SOIL RETAINING WALL AND BRIDGE ABUTMENTS

## Building in Confidence with the TensarTech® Ares™ Wall System

The TensarTech Ares Wall System consists of concrete panels in combination with Tensar geogrids which reinforce the soil mass behind. The high efficiency connection between panel facing and geogrid is a distinctive feature of the system, creating strong and durable, maintenance free retaining wall structures.

Either pre-cast factory produced or wet-cast on-site, panels made to exacting standards and close tolerances are combined with high-density polyethylene (HDPE) geogrid reinforcement to provide resilient permanent retaining walls and bridge abutments which can have design lives up to 120 years.

### NO METAL – NO CORROSION

With soil reinforcement geogrid that is 100% polymeric, TensarTech Ares is a proven concrete panel system that eliminates corrosion concerns. Ares Wall Systems offer the cost advantages of an reinforced soil retaining wall without the long-term consequences of exposure to chlorides, sulfates, low-resistivity soils or stray electric current potential. This makes Ares Wall Systems the logical choice for use with contaminated backfill soils, transformer platform areas and electrified rail systems.

### THE ARES WALL SYSTEMS ADVANTAGE

The ability to utilise non-metallic earth reinforcement makes the Ares Wall System inert to chemical and electrical corrosion. The inert properties of Tensar geogrids permit the use of a wide range of backfills, including recycled materials, which can provide savings in cost and time and the potential for a sustainable design.

## TensarTech Ares Wall System for Proven Construction of Retaining Walls and Bridge Abutments

The cost effectiveness and versatility of the TensarTech Ares Wall System offers clients, specifiers and contractors many advantages over other traditional methods, such as reinforced concrete, for the construction of retaining walls and bridge abutments:

- Rapid and economical construction
- Attractive range of panel finishes from smooth concrete to specialist fractured fin or ribbed finishes
- Durable with little or no maintenance
- Often no specialist construction skills necessary
- Greater tolerance of differential settlement
- Can be used where seismic design is required to offer high resistance to earthquake loadings
- Optimises the use of available space
- Possibility of using site-won, marginal or recycled granular fill materials
- Low bearing pressure may avoid expensive foundation treatment
- Panels can be cast on-site or pre-cast to suit project requirements
- Construction of attractive highways structures with a 120 year design life
- HDPE bodkin connector for high connection efficiency without the concern of corrosion



Ares Wall Systems typically require propping on the first course of panels only to ensure correct installation occurs from foundation level.



Construction of demanding highways or railway structures with a 120 year design life.

## Unsurpassed Experience and Reliability, Proven in the Field

As testimony to the durability of the Ares Wall Systems, one of the first Tensar geogrid-reinforced panel walls was built as a seawall on the Gaspé Peninsula in Canada. After 20 years of North Atlantic storms and constant exposure to salt water, there are no signs of corrosion or deterioration of the soil

reinforcement. In fact, some of the first Ares installations were instrumented and carefully observed to verify the effectiveness and long-term performance of the systems.



Tanque Verde Interchange, Tucson, Arizona - Constructed in 1984-85, this was one of the first Tensar Walls ever built. This demonstrates the long-term performance of the TensarTech Ares Wall System.



TensarTech Ares panels are laid on a concrete levelling pad and subsequent lifts of panels are dry laid.



Architectural finishes are easily achieved by the use of rubber liners during panel casting.



A feature common to all TensarTech Wall Systems is the high efficiency connection between geogrid and facing system.