

TENSARTECH® TW1WALL

EARTH RETAINING SYSTEM FOR WALLS



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

Tensor Technology is widely adopted for Pavement Optimisation and Subgrade Stabilisation to improve the structural performance of paved roads and unbound roads and platforms. Tensor 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, Tensor Technology can help you improve the bottom line on your project as well as preserving the invested capital.



Building in Confidence with the TensorTech® TW1 Wall System

The TensorTech TW1 Wall System consists of pre-cast concrete modular facing blocks in combination with Tensor geogrids which reinforce the soil mass behind. The high efficiency connection between facing unit and geogrid is a distinctive feature of the system, creating strong and durable, maintenance free retaining wall structures.

Factory produced concrete blocks made to exacting standards and close tolerances together with the high-density polyethylene (HDPE) geogrid reinforcement provide resilient permanent retaining walls and bridge abutments which can have design lives of up to 120 years.

Continual research in the laboratory and monitoring in the field has provided a detailed understanding of the behaviour of this type of structure. The strength of the connection between the geogrid reinforcement and the block facing has proved to be critically important.

The distinctive geometry of the concrete facing blocks allows the creation of both internal and external curves. Corners, stairs and other features are easily detailed.

The high pH associated with concrete blocks does not affect the durability and functionality of HDPE geogrid reinforcement during the life of the structure.



TensorTech TW1 concrete blocks are dry laid, without mortar.



External corner blocks and copings allow neat detailing.



A feature common to all TensorTech Wall Systems is the high efficiency connection between geogrid and facing unit, which is quick and easy to install.



TensarTech TW1 Wall System for Proven Construction of Retaining Walls and Bridge Abutments

The cost effectiveness and versatility of the TensarTech TW1 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 modular block, finishes and colours
- ▶ Durable with little or no maintenance
- ▶ Often no specialist construction skills necessary
- ▶ Greater tolerance of differential settlement
- ▶ Adaptable to provide aesthetic architectural effect
- ▶ Optimises the use of available space
- ▶ High resistance to earthquake loading
- ▶ Possibility of using site-won or recycled granular fill materials
- ▶ Low bearing pressure may avoid expensive foundation treatment
- ▶ The Tensar TW1 link system gives the option to build an architectural finish using a masonry of brick skin which is connected to the Tensar block face using stainless steel ties



This project in the UAE demonstrates that the TensarTech TW1 Wall System can be built without cranes or propping.



Construction of attractive highways structures with a 120 year design life.

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 RE500 GEOGRIDS FOR REINFORCED SOIL EMBANKMENTS



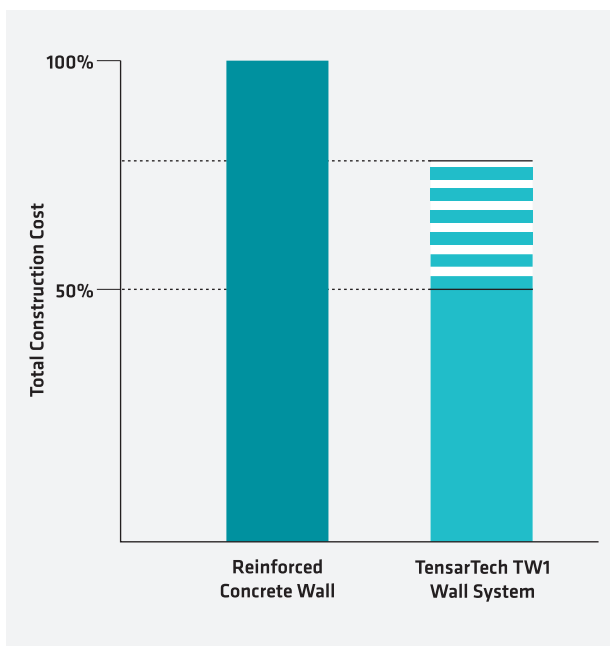
TENSAR RE AND RE500 GEOGRIDS FOR REINFORCED SOIL RETAINING WALL AND BRIDGE ABUTMENTS

Unsurpassed Experience and Reliability

Tensar International is a world leader in geogrid technology and the provision of high performance reinforced soil solutions, with over 30 years experience. Many thousands of reinforced soil structures, in many varied geotechnical and climatic conditions, have been designed and built using Tensar Technology around the world.

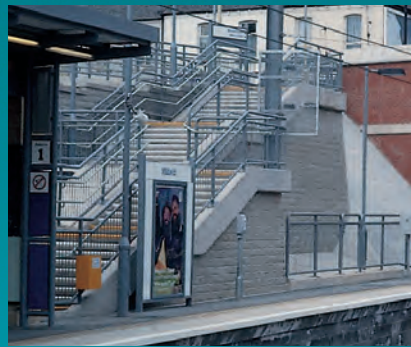
Offering Cost Effectiveness and Versatility

Savings of up to 50% over conventional construction methods such as reinforced concrete can be achieved by constructing with the TensarTech TW1 Wall System. In addition construction time may also be significantly reduced.



TW1 blocks are delivered on pallets to the point of installation and can easily accommodate tight concave or convex horizontal curves.

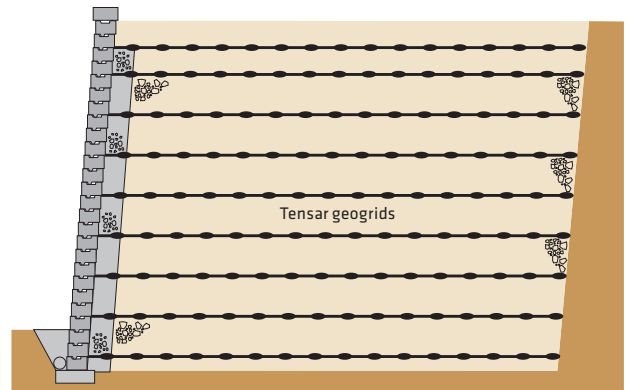
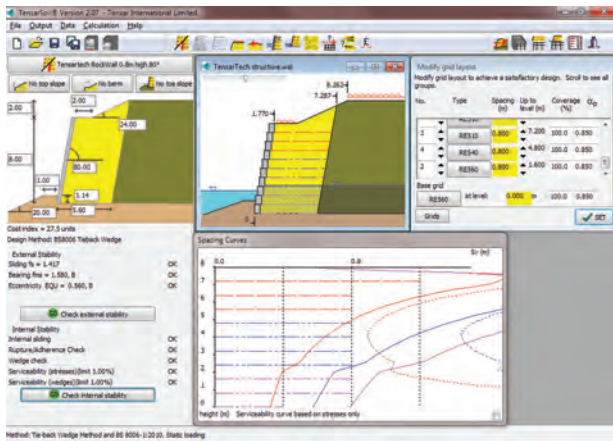
Many TensarTech TW1 Structures are in Service - A Proven Success



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.



Reinforced Soil Wall Design Software

For more than twenty five years Tensar has developed some of the most sophisticated reinforced soil design software in the world. This is used to provide clients with economically

efficient, accurate and timely Application Suggestions, assisting in scheme design from feasibility right through to construction.



Construction is straightforward and often requires no specialist skills or construction equipment.



TensarTech TW1 System requires no temporary propping or crane lifts.

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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
- ▶ **Spectra[®] 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**
Basetex high-strength geotextiles
- ▶ **TensarTech[®] Stratum[™]**
Cellular foundation mattress system for foundations with controlled settlement
- ▶ **Tensar[®] Erosion Control**
A guide to products and systems