

**Tensar**tech<sup>™</sup>  
SYSTEMS



# Tensar*tech* Keystone<sup>®</sup> Wall System

TENSAR technology

Tensar*tech* solutions  
for earth retaining walls



## Tensar Technology - proven practical solutions and the know-how to get them built

*Tensar*tech systems are based on Tensar Technology and the proven performance of Tensar geogrids. Tensar Technology is widely adopted for ground stabilisation problems and reinforced soil structures, delivering real savings in cost and time. We can help you apply Tensar Technology to deliver the best value on your project.



## Building in confidence with the *Tensar*tech Keystone® Wall System

The *Tensar*tech Keystone® Wall System consists of pre-cast concrete modular facing blocks in combination with Tensar 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 will perform for design lives of up to 120 years.

Continual research in the laboratory and in the field has provided a detailed understanding of the behavior 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.



*The Keystone® concrete blocks and Tensar geogrids are simple to install.*



*Attention to detail such as corners and copings produces attractive structures.*



*A feature common to the *Tensar*tech Keystone® Wall System is the high efficiency connection between geogrid and facing unit, which is quick and easy to secure.*



## Tensar<sup>tech</sup> Keystone<sup>®</sup> Wall System for proven construction of retaining walls and bridge abutments

The cost effectiveness and versatility of the Tensar<sup>tech</sup> Keystone<sup>®</sup> 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 and low maintenance
- Often no specialist construction skills necessary
- 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



*This project demonstrates that the Tensar<sup>tech</sup> Keystone<sup>®</sup> Wall System can be built without cranes or propping.*



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



## Independent assessment and approval

Both the Keystone® Wall System and Tensar geogrids have been awarded British Board of Agrément (BBA) Roads and Bridges certificates allowing their design and specification in to highways structures and bridge abutments with a 120 year design life. The BBA certificates are evidence that both the Keystone® System and Tensar geogrids have been evaluated independently for fitness for intended use.



*Forticrete Keystone® Systems for Reinforced Soil Retaining Walls and Bridge Abutments*



*Tensar RE Geogrids for Reinforced Soil Retaining Wall and Bridge Abutment Systems*

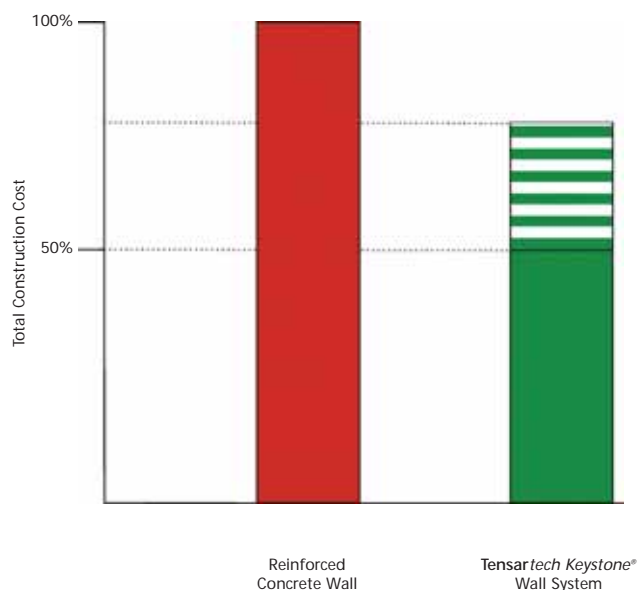
## Unsurpassed experience and reliability

Tensar International is the world leader in geogrid technology and the provision of high performance reinforced soil solutions, with over 25 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 **Tensar**tech Keystone® Wall System. In addition construction time will also be significantly reduced.

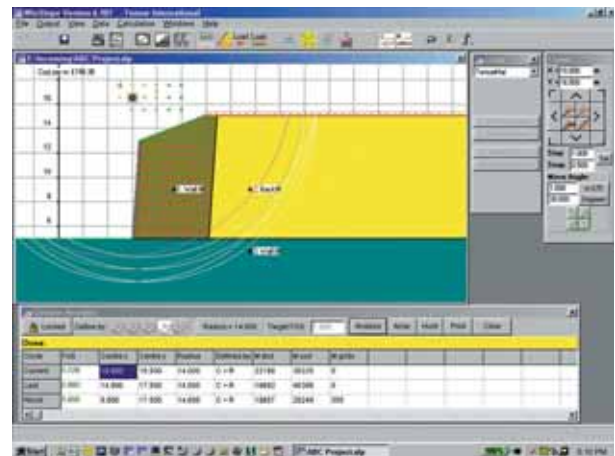
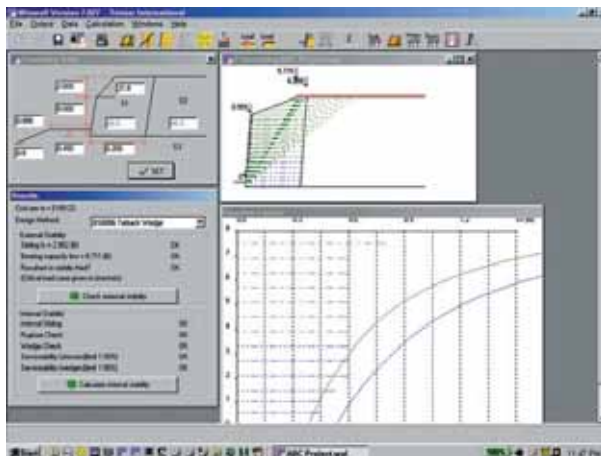


*Keystone® blocks are delivered on pallets to the point of installation.*



## Design service

Tensar's experienced local distributors are available to help take your project to the next stage. They are able to provide an Application Suggestion to prove viability and help with planning costings. Tensar can provide all necessary certification, as well as all the crucial specification and installation details. Certification by Tensar is backed up by our full Professional Indemnity Insurance cover, providing you with confidence in the reliability of both our products and design support.



## Reinforced soil wall design software

Over the last 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 straight forward and requires no specialist skills or construction equipment.



Keystone® Facing units are simple to install and can easily accommodate tight concave or convex horizontal curves.



Attractive looking structures are completed more quickly and economically than conventional methods

Contact Tensar International 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 the products and their applications
- **Ground Stabilisation** Reinforcing unbound layers in roads and trafficked areas
- **Tensar Structural Solutions** Bridge Abutments - Retaining Walls - Steep Slopes
- **Foundations over Piles** Constructing over weak ground without settlement
- **Basal Reinforcement** Constructing embankments over weak ground
- **Railways** Reinforcing ballast and sub-base layers under railway track
- **Asphalt Pavements** Reinforcing asphalt layers in roads and trafficked areas
- **Erosion** Controlling erosion on soil and rock slopes

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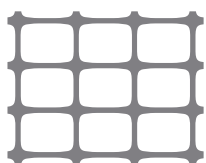
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