

Tensartech™
SYSTEMS

Tensar*tech* NaturalGreen

Tensar*tech* Earth Retaining Systems
for Slopes

TENSAR technology





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

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



Building in confidence with the *Tensartech* NaturalGreen Earth Retaining System

The result of over 30 years of evolution in construction techniques, the *Tensartech* NaturalGreen Earth Retaining System is used for building soil structures with a slope face up to 45°. The system consists of Tensorar geogrids, which reinforce the soil mass providing long-term structural stability, and a high quality composite erosion protection material at the face to establish vegetation and stabilise the root system.

By specifying *Tensartech* NaturalGreen the engineer and client are selecting a system, which is both economical and attractive. The stability of the structure is provided by the horizontal layers of geogrid within the reinforced soil mass. There is no rigid or formal face on the structure up to the recommended maximum angle.

It is essential that a vegetative cover becomes well established and provides long-term stability to the slope face. The *Tensartech* NaturalGreen System incorporates an erosion protection composite in the slope face. A combination of biodegradable coir fibre and durable polypropylene mesh, this composite provides the moisture retention the vegetation needs for reliable establishment and reinforces the root system for the design life of the structure.

Typically structures such as these are considered to have a 60 year design life. However, designers may rest assured that there are Tensorar geogrids available, providing the core stability, which have been independently assessed and certified for use in structures with a design life up to 120 years in the most demanding situations.



*Always keeping one eye on the local environment, Tensar **tech** NaturalGreen Systems enable you to complete projects with minimal disruption and allow possible use of site-won fill.*

Tensar **tech** NaturalGreen System for proven construction of structures for highways, infrastructure or any building development

The cost effectiveness and versatility of Tensar **tech** NaturalGreen offers clients, specifiers and contractors many advantages over traditional methods, such as reinforced concrete. For the construction of retaining structures, Tensar **tech** NaturalGreen is generally considered more attractive than gabions or crib walling.

- A low cost earth retaining structure at a fraction of the cost of a reinforced concrete solution
- Rapid and economical construction procedure
- Often no specialist construction skills necessary
- Simple to build using established earth embankment construction techniques
- Allows possible use of site won fill including cohesive or contaminated materials
- Can be designed using BBA certified materials
- Tolerant to differential settlement
- Helps maximise land-take more economically
- High resistance to earthquake loading
- Low bearing pressure may avoid expensive foundation treatment
- Ready for immediate use upon completion



*Because Tensar **tech** NaturalGreen systems minimise off-site disposal of soil and the import of fill, the project's carbon emissions can be significantly reduced.*



Short construction times contribute to cost savings of up to 75% compared with more conventional solutions and also minimise traffic disruption.

Independent assessment and approval

Selected Tensar geogrids have been awarded British Board of Agrément (BBA) Roads and Bridges certificates 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 40RE, 55RE, 80RE, 120RE AND 160RE GEOGRIDS FOR REINFORCED SOIL EMBANKMENTS



TENSAR 40RE, 55RE, 80RE, 120RE AND 160RE GEOGRIDS FOR REINFORCED SOIL RETAINING WALL AND BRIDGE ABUTMENT SYSTEMS

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.

Independent assessment and approval offering cost effectiveness and versatility

Savings of up to 75% over conventional construction methods such as reinforced concrete can be achieved by constructing with the *Tensar^{tech} NaturalGreen* System. In addition construction time may also be significantly reduced.



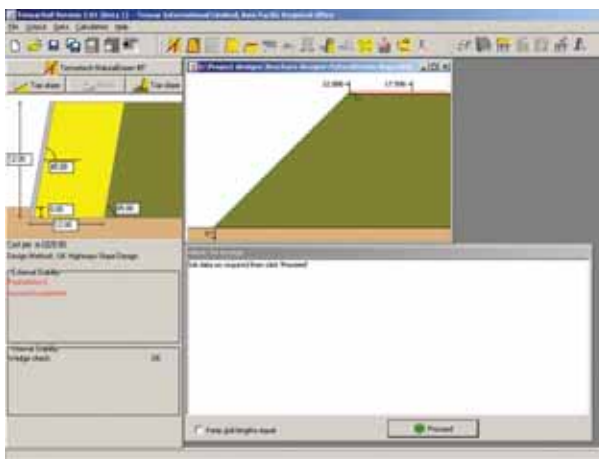
Tensar^{tech} NaturalGreen systems produce a face that is stable and steeper than an unreinforced slope, as well as being naturally attractive.

Many Tensar*tech* NaturalGreen systems are in service - a proven success.

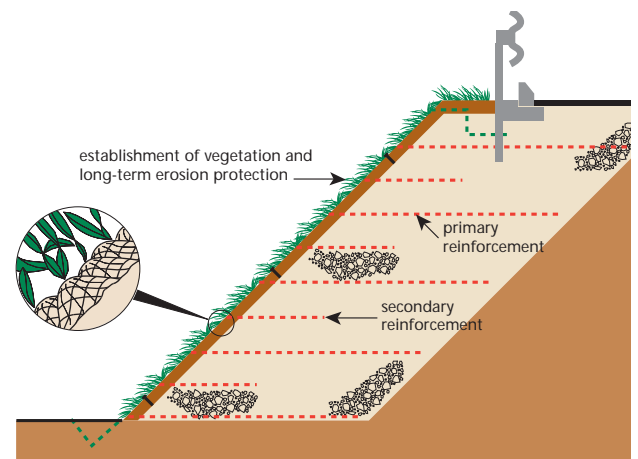


Design service

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



Tensar software delivers safe, economic design solutions.



A composite erosion control mat at the surface helps establish and maintain a vegetative cover.

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 and indemnified designs, assisting in scheme design from feasibility right through to construction.



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
- **TriAx™** A Revolution in Geogrid Technology The properties and performance advantages of Tensar TriAx™ geogrids
- **Tensartech Earth Retaining Systems**
- **Foundations over Piles** Constructing over weak ground without settlement
- **Basal Reinforcement** Constructing embankments over weak ground
- **Railways** Mechanical stabilisation of track ballast and sub-ballast
- **Asphalt Pavements** Reinforcing asphalt layers in roads and trafficked areas
- **Erosion** Controlling erosion on soil and rock slopes

Your local distributor is:

Tensar International Limited
Cunningham Court
Shadsworth Business Park
Blackburn BB1 2QX
United Kingdom

Tel: +44 (0)1254 262431
Fax: +44 (0)1254 266867
E-mail: info@tensar.co.uk
www.tensar-international.com



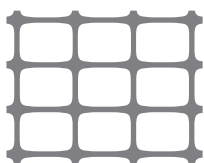
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