



Reinforced Soil Retaining Walls & Slopes



PROVEN
Technology



PROVEN
Savings



PROVEN
Success



Why use Tensar reinforced soil structures?

Benefits

- ✓ BBA HAPAS Certified
- ✓ Full Design Service
- ✓ Use of site won or waste fill materials
- ✓ Service life of up to 120 years
- ✓ Rapid construction possible
- ✓ Reduced carbon emissions on-site
- ✓ Range of systems and finishes
- ✓ Environmental Product Declaration (EPD) for RE500 geogrids certifies whole-life environmental impacts



Time Savings



Cost Savings



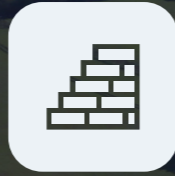
Carbon Savings



*Positive
Community
Impact*



Reinforced Soil Structures Applications



BRIDGE ABUTMENTS AND WING WALLS

SLOPES AND STEEP SLOPES

TEMPORARY REINFORCED SOIL STRUCTURES



PERMANENT REINFORCED SOIL STRUCTURES

Retaining walls support a mass of earth to form a vertical or near-vertical face. They may be required on a sloping site to create terraces, to support elevated roads, railways and bridge decks, or to relieve lateral earth pressure from adjacent structures. Reinforced soil retaining walls are increasingly adopted as the lower cost option and most environmentally attractive retaining wall solution. They are durable and robust but also flexible in design, able to accommodate moderate ground movements during and after construction.

Tensar offers a range of reinforced soil retaining wall systems with design lives of up to 120 years. They have low environmental impact, and are quick and easy to build – cutting construction costs by up to 75% and halving build times compared with other retaining wall solutions. A variety of durable facing options are available.

TEMPORARY REINFORCED SOIL STRUCTURES

Temporary retaining walls are often required to support embankments during staged construction, for temporary road and rail crossings, or to support crane platforms. Driven pile systems may have been the preferred option for many years, but reinforced soil wall systems are now often adopted for their speed of construction and lower cost, without the need for cranes or piling rigs.

Tensar's temporary retaining wall systems are simple and quick to construct, requiring no heavy lifting equipment, and usually no foundations. They offer durable, low cost solutions for staged embankment construction, temporary bridge abutments, and support for haul roads and crane platforms.

STEEP SLOPES

The stability of a slope is dependent upon the soil type and strength, the presence of water within or behind the slope, and any surcharge loading. These factors define the safe slope geometry. Slope stability can be increased by incorporating geogrid soil reinforcement. This allows steepening of the slope face without compromising stability.

Tensar's slope reinforcement systems offers proven long-term design stability. Their simple construction reduces cost and build times. They can use site-won or recycled materials for structural fill and often require no foundations. Attractive 'green' facing options are normally adopted, using selected planting to suit local conditions. Aesthetics can be further enhanced by the use of curved geometry, easily formed using Tensar systems.

BRIDGE ABUTMENTS AND WING WALLS

Bridge abutments and wing walls can be straight forward earth retaining structures supporting the embankment fill only, with vertical bridge loading carried separately on columns and piles. Alternatively, it has become more common to support the bank seat directly on the bridge abutment, transferring all bridge loading into the reinforced soil structure.

Tensar's retaining wall systems have proven to be efficient and cost effective for bridge abutment structures. Tensar have developed design solutions suitable for simply supported, semi-integral, and fully integral bridge decks - where all vertical and lateral loads from the bridge deck are transferred to the bank seat supported directly on the reinforced soil abutment.



Rail, Roads and Highways Reinforced Soil Solutions



Rail Solutions



Almost all rail projects involve the construction of retaining walls, road and rail embankments, bridge abutments, and other features.

Tensar has a range of **TensarTech®** Reinforced Soil Systems for retaining walls, steep embankments and bridge abutments. These solutions have been used globally for many years and offer major cost and construction programme advantages over alternative methods. They also enable use of recycled or site-won fill materials to keep down costs and minimise local impact.

[Learn more >](#)



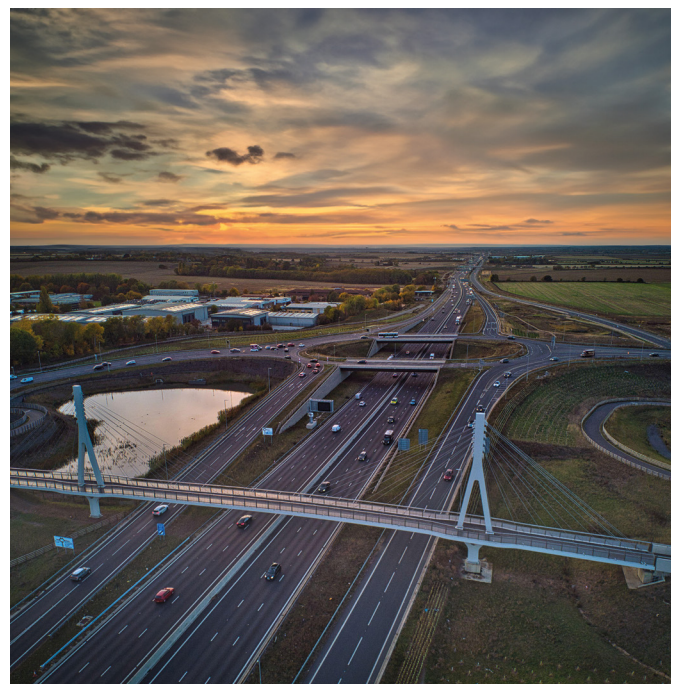
Road Solutions



Reinforced soil structures have become a standard construction approach for earth retaining walls and bridge abutments on highway projects.

Tensar has a range of **TensarTech®** Reinforced Soil Systems for retaining walls, steep embankments and bridge abutments. These roads and highways structures have been used extensively across the world and offer major cost and construction programme advantages over alternative methods. They also enable use of recycled or site-won fill materials to further reduce costs and minimise local impact.

[Learn more >](#)





Soil Retaining Wall & Slope Systems

TENSARTECH® TW1® WALL SYSTEM

This attractive and versatile system is BBA HAPAS certified for use as earth retaining walls and bridge abutments for up to 120 years design life. The system comprises a modular block facing with Tensar geogrid soil reinforcement and high strength connectors. The pre-cast concrete blocks are available in several colours, with the option of a textured (split) finish. A 'link' version is available that enables a natural stone or brick façade to be connected in-situ. The dry laid blocks interlock to provide stability and aid alignment, and to lock-in the geogrid connectors. The factory produced blocks are manufactured to a close dimensional tolerance that produces a nominal finished wall face angle of 86°.

[Learn more >](#)

TENSARTECH® TW3® WALL SYSTEM

Another attractive wall solution. The system comprises modular block facing with Tensar geogrid reinforcement, high strength connectors, and GRP alignment dowels. The high-tolerance factory made concrete blocks are 200mm high. Successive courses are dry-laid and connected by dowel pins to produce a near vertical finished wall face angle of 89.6° (1:128). BBA HAPAS certified for use as earth retaining walls and bridge abutments for up to 120 year design life.

The pre-cast concrete blocks are available in several colours, with the option of a textured (split) finish.

[Learn more >](#)





Soil Retaining Wall & Slope Systems

TENSARTECH® TR2 SYSTEM

The TensarTech® TR2 System is mainly suited to temporary structures where practicality and economy are more important than aesthetics. Designed principally for contractor's temporary works situations, these simple to build, low cost structures have also been successfully adapted as permanent thrust relief structures.

[Learn more >](#)



TENSARTECH® ECOCRIB™

TensarTech® EcoCrib™ goes beyond traditional crib wall solutions, offering a range of benefits that simplify your project and ensure long-lasting performance. EcoCrib™ boasts lightweight interlocking components that enables a quick and easy on-site assembly process. This reduces construction time and labour costs compared to conventional crib wall materials. Unlike timber crib walls susceptible to rot and degradation, EcoCrib™ is also built to last. Boasting a design life expectancy of up to 120 years, EcoCrib is highly resistant to ultraviolet light, water damage, and fungal infestation, minimising the need for replacements and ensuring lasting value.

[Learn more >](#)



TENSARTECH® ROCKWALL® SYSTEM

TensarTech® RockWall® system has the appearance of a traditional rock filled gabion structure. However as it requires less imported rock fill, it offers lower cost and faster construction. The system comprises pre-fabricated Galfan® coated, welded steel mesh facing units, Tensar geogrid reinforcement, and polymer bodkins for a high strength joint between geogrid and steel units. The finished face angle can be varied from 70° to 84°. Selected rock fill can be used to create an attractive architectural finish.

[Learn more >](#)





Soil Retaining Wall & Slope Systems

TENSARTECH® NATURALGREEN® SYSTEM

TensarTech® NaturalGreen® is a versatile solution for the construction of stable steepened slopes with a face angle up to 45° and natural vegetation. Typically used to reduce the footprint of earth embankments by steepening the side slope, or for the reinstatement of failed soil slopes, the system has no engineered facing.

Tensar geogrid reinforcement is used to provide internal slope stability, while an erosion mat may be incorporated to protect the soil face while vegetation establishes. Construction is essentially an earthworks operation with no specialist skills needed.

[Learn more >](#)



TENSARTECH® GREENSLOPE SYSTEM

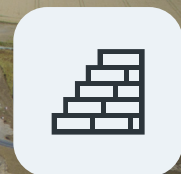
The TensarTech® GreenSlope system allows construction of steep vegetated slopes with a face angle up to 70°. The system comprises durable welded steel mesh facing units, Tensar geogrid reinforcement, polymer bodkin connectors, plus an erosion protection liner.

Site-won or recycled material can be used as structural fill, with a topsoil layer encapsulated at the face. Vegetation cover will be chosen to suit the site location and slope orientation to create an attractive natural looking structure that will enhance the local environment.

[Learn more >](#)



Soil Retaining Wall & Slope Success Stories



Tensar have been involved in thousands of walls and slopes projects across the globe, helping engineers, contractors and owners to deliver successful projects which have saved time, cost and carbon on site.

[See projects >](#)



Save time, cost and carbon

and have a more positive impact on the Community with Tensar.

A partner beside you every step of the way.

A project is about more than a simple product choice – it's about a design that meets the owner's needs, lowers costs, improves design life, and protects your reputation. In other words, it's about the total value you receive from a partner committed to making your project a success.

Tensar is an industry leader in Reinforced Soil Structures. We can provide project specific advice, full engineering and construction support, including design, construction drawings, and site assistance, for our TensarTech® Systems.

If you are looking for a free design assessment on your next project then just submit the details here and we will get in touch. Alternatively, contact us by visiting our website:

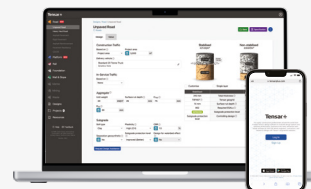
[Design support >](#)

[tensar.co.uk >](https://tensar.co.uk)

Free CPD Seminars are available from our team covering **Tensar Wall & Slope Systems** or other topics.

[Request a CPD >](#)

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