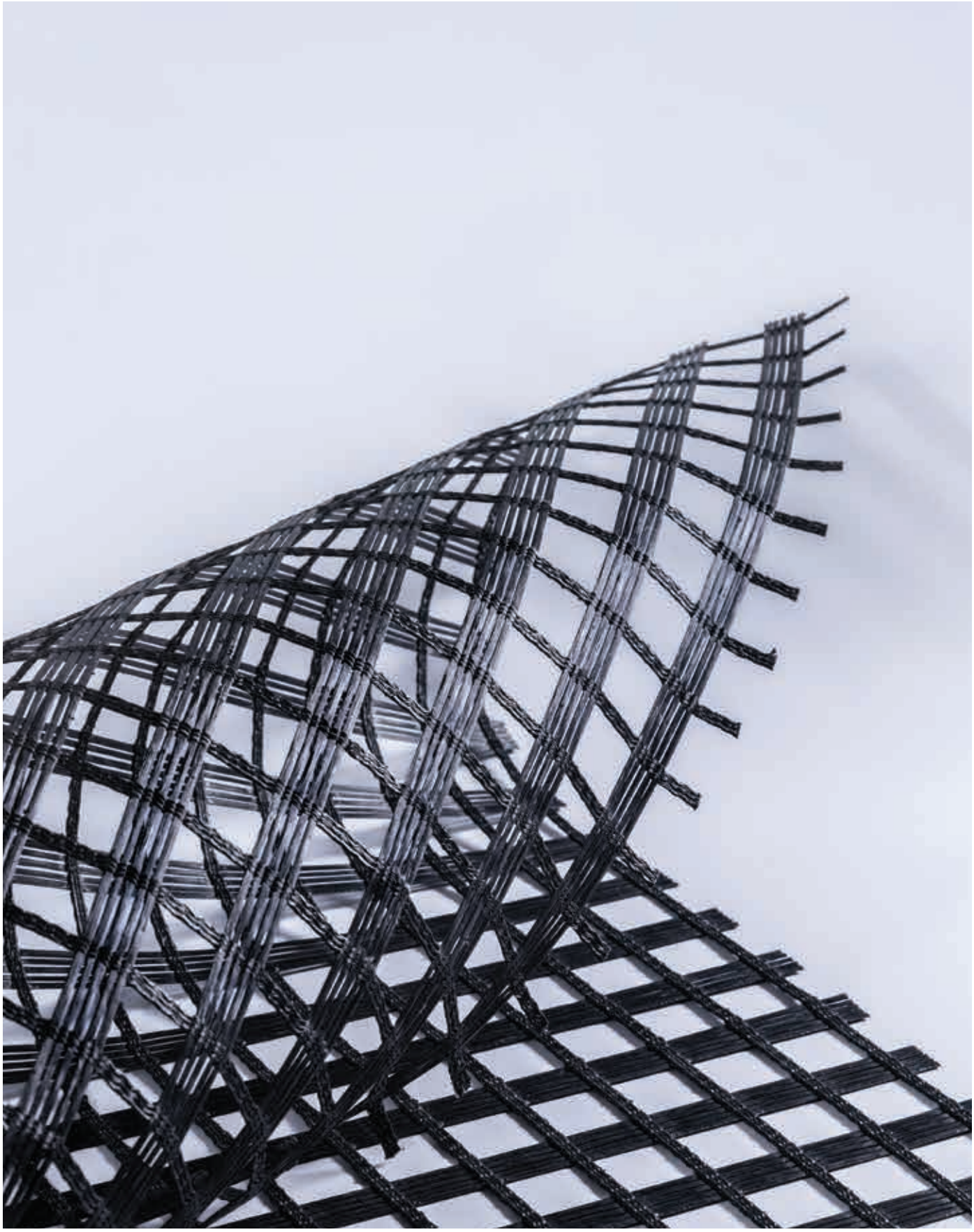
STRATA

StrataGrid™ Biaxial (SGB Grid)

Perfecting pavements through innovation

Understanding SGB Grid



StrataGrid™ Biaxial (SGB Grid) is a high-performance reinforcement geogrid, engineered specifically for improving the modulus values of the pavement base layers. The SGB Grid series has undergone substantial testing for performance and quality control. It is manufactured with high tenacity polyester yarns with industry-leading stress-strain values to provide the highest tensile resistance at lower elongations.

Coupled with a high degree of interaction with the fill material, SGB Grid provides the best value for pavement reinforcement as compared to any other solution. With a wide range of strengths ranging from 20 kN/m to 150 kN/m, it has a width of 5 m providing low overlaps and reducing wastage.

Why SGB Grid?

SGB Grid is an economical and effective solution to optimize pavement cost and improve pavement life. Saves up to 15 - 20% of the cost compared to conventional methods.

Increased speed in construction due to less material handling compared to conventional material requirements.

Easy to install and handle on-site owing to its flexible nature.

Reduces pavement crust thickness providing substantial savings in carbon emissions.

With a width of 5 m, it allows for fewer overlaps and lower wastage.

Engineered specifically for improving the modulus values of the base layers.

SGB Grid solutions are designed and adhere to MoRTH, IRC, AASHTO and other international guidelines. And are fully certified and tested by the Indian Institute of Technology (IIT).

Manufacturing

SGB Grid is manufactured in a state-of-the-art plant in India.

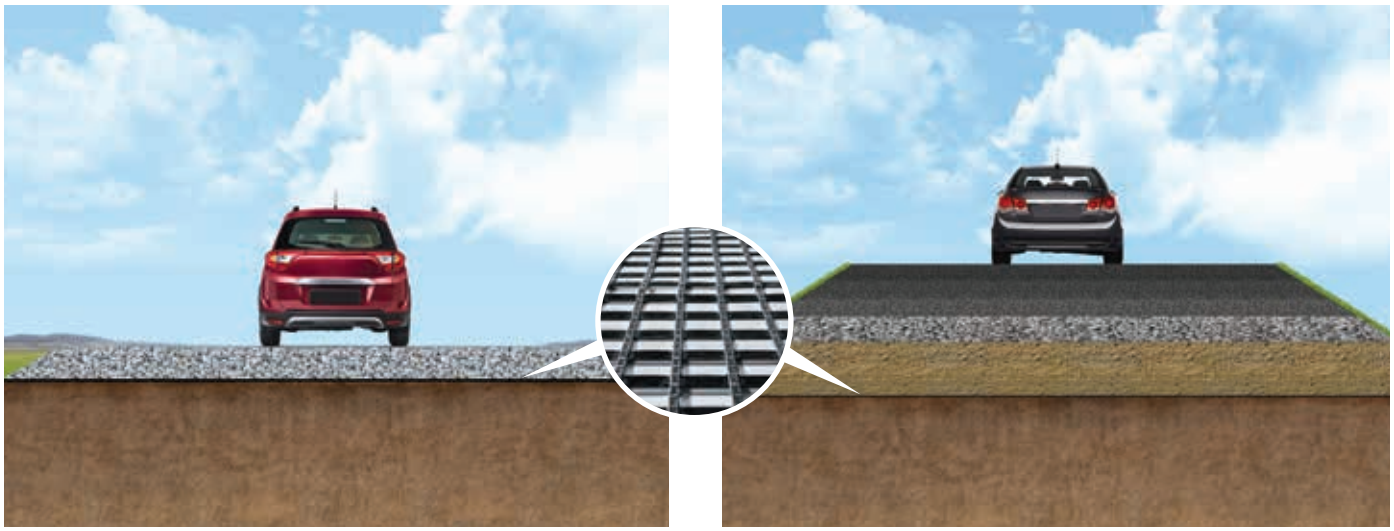
The process involves 3 phases:

Beaming - A predetermined number of yarn ends are pulled from a creel and wound onto a large cylindrical beam. The beaming machines are fully automated which ensures uniformity in yarn tension, take up and unwinding stability.

Knitting - High tenacity polyester yarn is precision knitted into a dimensionally stable network of apertures that serves as a highly stable, high modulus precursor to the coating process.

Coating - The greige fabric obtained from the processes described above is taken onto a one-of-a-kind, ultramodern coating machine where it is coated with a proprietary SBR based coating compound, which lends it durability, dimensional stability, and resistance to installation damage.

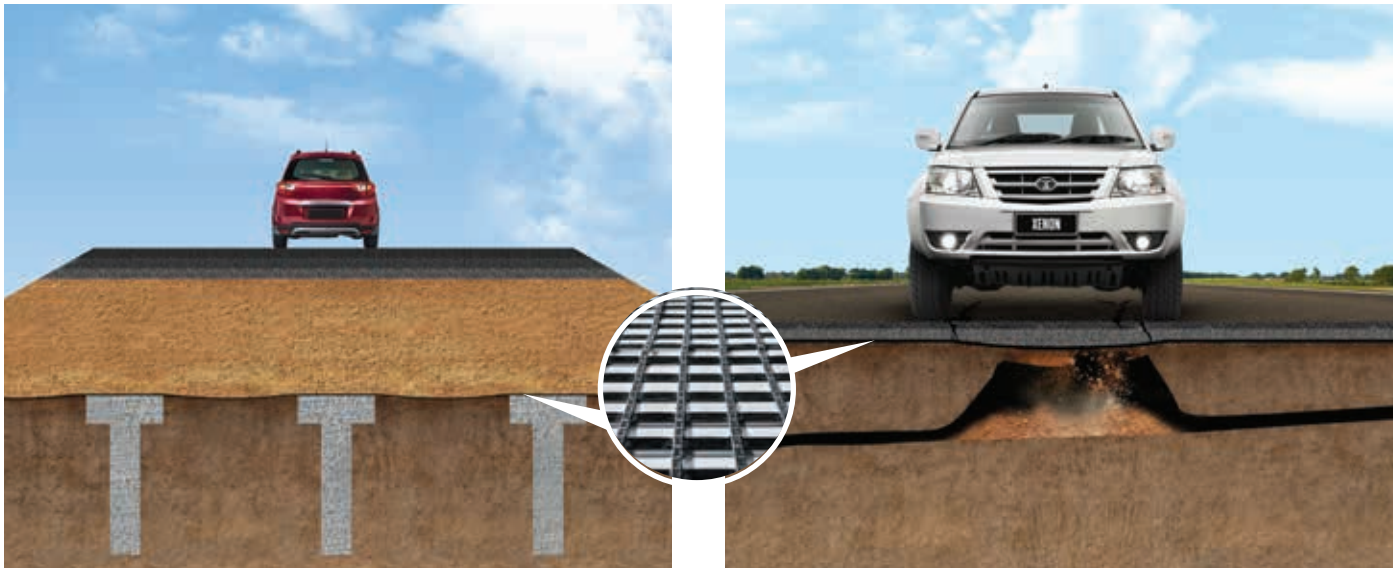
Applications



Pavement reinforcement and optimization

SGB Grid is a durable solution for the construction of pavements. Its flexibility and strength not only permit its installation on milled surfaces but also extends the service life of pavements, even under repetitive loads.

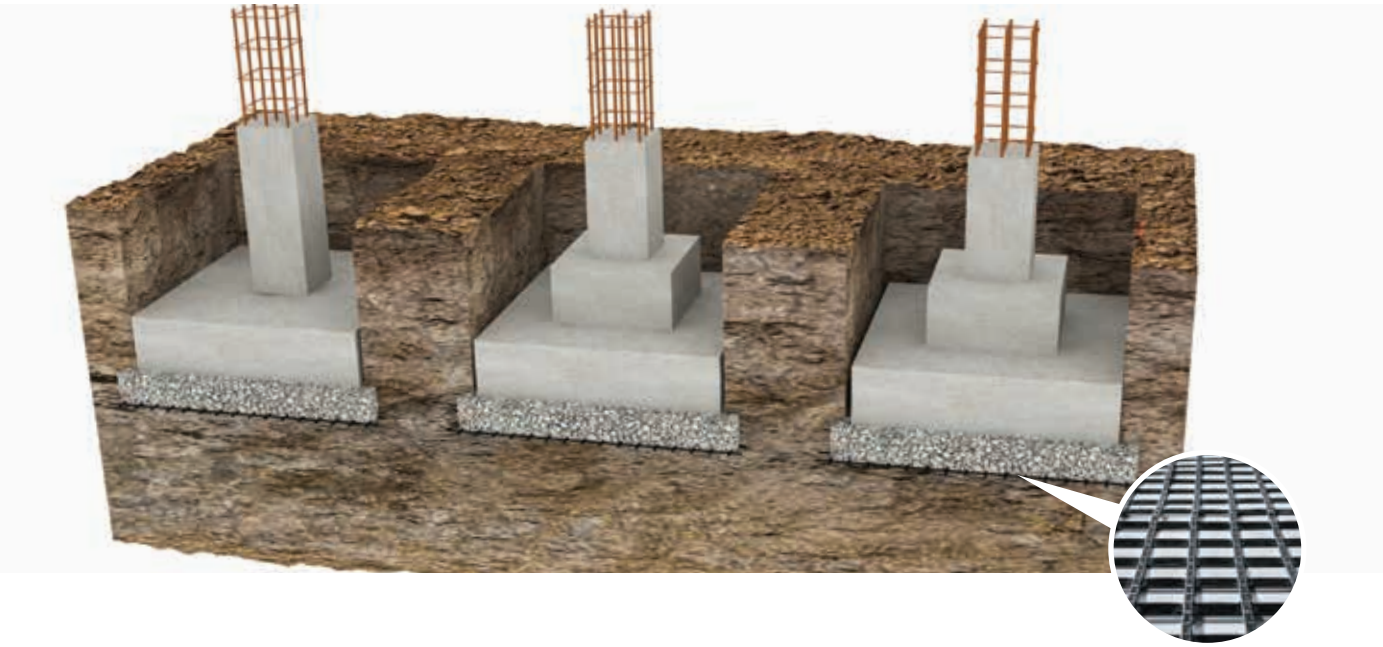
Using SGB Grid on the subgrade improves the modulus of the granular layer above, owing to its tensile modulus. When placed above the subgrade, it improves the modulus or layer coefficient of the granular material above by reinforcing that layer based on its friction, interaction, and tensile strength properties.



Load transfer platform and void spanning

SGB Grid is an effective solution for greater stability of structures constructed on soft soils with structural inclusions (piles, columns etc). It is used to reinforce a granular platform (load transfer platform) above ground built over the piles/columns, and below the embankment. This enables the effective transfer of loads from the embankment to the structural elements below ensuring minimum deformations between them.

It can also be effectively used in areas prone to subsidence due to existing voids/cavities in the soft ground. The use of SGB Grid bridges the gap which may be generated due to voids at the surface or at a depth below the surface preventing sudden failure and providing an innovative solution for the stability and safety of structures built above.

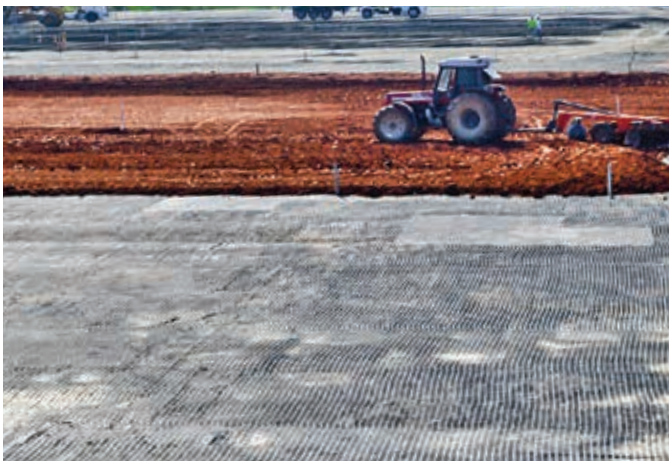


Below structural foundations

SGB Grid when provided below the various types of structural footings within a granular layer, creates a stiff, strong base for the footing and helps in reducing the excavation requirements. The inclusion of SGB Grid improves the modulus of the granular layer below concrete footing which helps distribute the pressure over a wider area, reducing the bearing pressure on the ground and improving the performance of the system holistically.

Embankments over soft soils (Basal reinforcement)

SGB Grid distributes heavy loads uniformly over a large area to reduce subsoil embankment pressure and allow for controlled consolidation of the ground. It follows global design methods and offers a cost-effective reinforced soil foundation to allow the embankment to be constructed directly on top of very weak soils, such as organic peats and alluvial clays.



Strata Professional Services

Professional Solutions

Our International Support Services team addresses the evolving needs of the infrastructure sector. We provide eco-friendly, cost-effective geotechnical solutions. With a broad spectrum of innovative, high-quality products, precision engineering, and timely, failsafe installation, surpassing customer expectations has become par for the course at Strata.

Strata's out-of-the-box problem-solving dexterity has pushed the boundaries of what is possible and performed engineering feats as diverse as our products.

Beyond supplying quality products and innovative designing engineering solutions, Strata also offers fully integrated construction capabilities and specialised contracting in select global markets.

Design, Application, and Supply

Strata not only provides geotechnical products, but our team of engineers help you with your turnkey project by supplying you with technical knowledge and support as to how our products can help you finish your projects on time while keeping costs down. The design team is equipped with software and knowledge to provide innovative and cost-effective solutions complying with international guidelines such as BS standards, FHWA, and AASHTO guidelines etc.

The team of engineers at Strata provides complete solutions along with prelim and detailed construction drawings, method statements, plus any other technical communication based on project/site-specific requirements.

Comprehensive and In-depth

To ensure the smooth installation of Strata products, our team is available to offer full technical guidelines like site-specific method statements, tender proposals and documents, and a wide range of case studies and independent certification documents.

STRATA

www.strataglobal.com | www.geogrid.com | technical@strataglobal.com
+91 22 4063 5100 | India, Spain, USA