

TechGrid Base Reinforcement Geogrids





TechGrid Base Reinforcement Polymer Geogrid TGB-11 & TGB 12

Techgrid TGB-11& TGB 12 is a biaxial Polymer geogrid manufactured from select grades of high tenacity, high molecular weight ≥ 25000 g/mol (GRI-GC8 / ASTM D4603), and low carboxyl end group ≤ 30 mmol / kg (GRI - GC7 /ASTM D2455) polyester yarn to ensure high strengths, low creep and excellent durability. The yarns are formed into a dimensionally stable grid structure with uniform square / rectangular apertures, using an advanced weft insertion warp knitting process and are then given a tough and durable polymeric coating for resistance to installation damage and enhanced durability. The geogrid is resistant to the chemicals and microorganisms normally found in soils and is stabilized against short-term exposure to solar radiation.

Techgrid TGB -11 & TGB 12 is a product engineered for the reinforcement of unbound aggregates used as subbase or base courses in flexible pavements, and for improved performance in all type trafficked applications.

Physical Properties

Aperture shape : Square / Rectangular
Aperture dimensions, mm (in) : 25 mm \pm 3 mm.

Reinforcement Properties - TechGrid TGB 11 & TGB 12

Tensile properties (ASTM D 6637)
minimum average roll value (MARV)



TechGrid Basal Geogrid

	TGB 11		TGB 12	
	(MD)	(XD)	(MD)	(XD)
Ultimate tensile strength, kN/m (lb/ft)	35 (2400)	60 (4100)	40 (2740)	80 (5480)
Tensile strength at 1 % strain, kN/m (lb/ft)	5.0 (340)	6.0 (410)	5.0 (340)	8.0 (550)
Tensile strength at 2 % strain, kN/m (lb/ft)	8.0 (550)	9.0 (615)	8.0 (550)	12.0 (820)
Tensile strength at 5 % strain, kN/m (lb/ft)	13.5 (925)	13.5 (925)	15.0 (1030)	17.5 (1200)

Reduction factor for creep, 25 years design life at 20°C 1.40

Reduction factor for installation damage, within coarse gravel (sub-base/base material) [ASTM D 6637 & D 5818] 1.20

Coefficient of interaction in pullout, sand and gravels [ASTM 6706] 0.85

Durability

Predicted to be durable for 100 years in soils or other granular materials with $5 \leq \text{pH} \leq 9$ at 20° C.
Stabilized against degradation due to short-term exposure to ultraviolet radiation.

Transportation, Storage & Handling

Standard roll length of 100 / 50 m (328 / 164 ft) and width of 5.0 m without sewing (16.4 ft.)

Material shall be protected from sunlight, mud, dirt, debris, any other harmful substances or mechanical damage during transportation.

Tech fab india design team can offer free applications suggestions and indemnified design, with full working drawings, offering increased support to design engineers. For projects on-site, our engineers are available on request to advise on solutions for problems with construction over weak or variable ground.

The information given in this data sheet is based on tests conducted at our in-house laboratory and independent accredited laboratories. While the information is presented as a true and accurate representation of the attributes of the products to the best of our knowledge, no expressed or implied warranties are made and Techfab (India) industries Ltd. assumes no responsibility or liability with regard to the use of this information. The right to make periodic revisions of the specifications without prior notice is reserved.

TechGrid Base Reinforcement Geogrid TGB-11 & TGB 12

Base Reinforcement and Subgrade Stabilization

The Techgrid TGB-11 and TGB-12 geogrids are specifically engineered for interlocking with the aggregates and act as reinforcement of unbound aggregates and other granular materials used as subbase or base courses in paved and unpaved roads. In paved or unpaved applications, they reduce rutting and help maintain the desired aggregate depth.

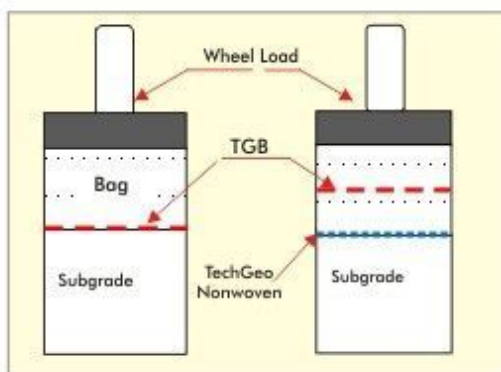
There is an opportunity to provide considerable savings on unpaved roads and in permanent road construction. Less aggregate is required with TGB-11 & TGB -12 geogrid, which also reduces installation time and further helps to reduce ground stabilisation costs. The reduction in aggregate materials and transport also helps engineers to meet sustainability objectives.

The function of the base and subbase courses of a flexible pavement is to spread the wheel loads over a wide area so that the subgrade is not overstressed. The ability of the granular layer to distribute the loads depends on the layer thickness, strength and stiffness of the material. Weaker subgrades require higher thickness of aggregate layer. The primary mechanisms of failure of unbound aggregate base layers are through the lateral displacement of aggregates and the punching of aggregates into the subgrade under repeated traffic loads. Reinforcing the aggregate layers with Techgrid TGB geogrids is the most efficient method to prevent such failures and enhance the strength and stiffness of the aggregate bases. In some cases, it may be advisable to include a TechGeo nonwoven geotextile also as a separator.

The benefits are :

- Improved Lateral confinement of aggregate that reduces vertical and lateral deformations in the base. Enhanced performance of mechanically stabilized layers is the result.
- The stronger and stiffer base can distribute wheel loads over wide area. This means lower vertical stresses on the subgrade.
- Shear stresses on the subgrade are reduced. ● Punching of aggregates into the subgrade is prevented.
- An increase in traffic life for a given sub-base thickness. ● Reduction in sub-base thickness for a given traffic load.

Base reinforcement with TechGrid TGB Geogrids results in better performance, longer service life and reduced maintenance cost which can offer immediate cost savings. Alternatively the same level of performance can be achieved with a smaller aggregate thickness.



TechGrid TGB Geogrids are manufactured at TechFab India's state-of-the-art ISO 9001:2000 certified manufacturing facility using the highest quality materials and precisely controlled processes. The raw materials and the finished products are regularly subject to stringent quality control checks at our fully equipped in-house laboratory to ensure conformance to specifications. The specifications have been verified by third party testing at internationally renowned accredited laboratories.

The rolls of geogrids are free from sharp edges and recoiling. Thus making installation easier and faster

About TechFab India Industries Ltd.

Techfab India was founded in 2003 with the objective of providing world class geosynthetic products and services to serve the needs of infrastructure development in India. From a modest beginning with the setting up of a manufacturing facility for woven geotextiles in Silvassa, we have rapidly grown to become the largest manufacturer of geosynthetics in India. Today we manufacture a wide range of products at our factories in Silvassa and Daman. Details are as listed:

- TechGrid - Knitted and polymer coated Polyester Geogrids (CE Marked)
- TechGrid - Base Reinforcement Geogrids (CE Marked)
- TechGlass - Glass-fibre geogrids with modified Bitumen Coating
- TechGeo Needle Punched Non-Woven Geotextiles
- TFI Woven PP Geotextiles (CE Marked)
- TFI Woven Polyester Geotextiles (CE Marked)
- TGC Reinforced Non Woven Geocomposite products
- TFI Copper & Polymer Gabions
- TechDrain - Prefabricated Vertical Drains
- Geotextile Tubes, Geotextile Bags etc



World-class Geosynthetics Manufactured in India by Techfab India Industries Ltd.

TFI Woven Geotextiles			Techgrid Geogrids	TGC Reinforced Nonwoven Composites	Techdrain PVDs	Tech Glass Geogrids	TechGeo NonWoven Geotextile
Polypropylene Tape	Polypropylene Multifilament	Polyester Multifilament					



TECHFAB INDIA

At the heart of geosynthetic activity

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