



SWAMP GRID™

Composite Geogrid Solution

The highest performing all-in-one soft soil base reinforcement, separation and filtration solution on the market.



Filtration



Drainage



Reinforcement



Separation



ABOUT SWAMP GRID™

Swamp Grid™ is a unique robust base reinforcement product specially designed and manufactured in-house at Titan. It consists of a **polypropylene punched and drawn biaxial geogrid** bonded to a continuous filament nonwoven geotextile by a precision heat bonding process. The geogrid acts as reinforcement, whereas the geotextile works as a separator and filter to prevent contamination of the aggregate base/subbase by fines from the subgrade. Swamp Grid™ performs as an all-in-one geocomposite solution that offers base/subbase reinforcement with added subgrade separation and filtration, soil separation, and subbase drainage performance.

As a composite product Swamp Grid™ works to effectively stabilize poor saturated subgrades that are susceptible to shear failure and rutting, prevent loss of imported granular material into the soft subgrade, and increase load-bearing capacity.

Ideal design solution for:

- Construction on sites with weak subgrades due to saturated soil conditions.
- Base reinforcement of sites or infrastructure that have high static or dynamic loading requirements.

KEY BENEFITS:

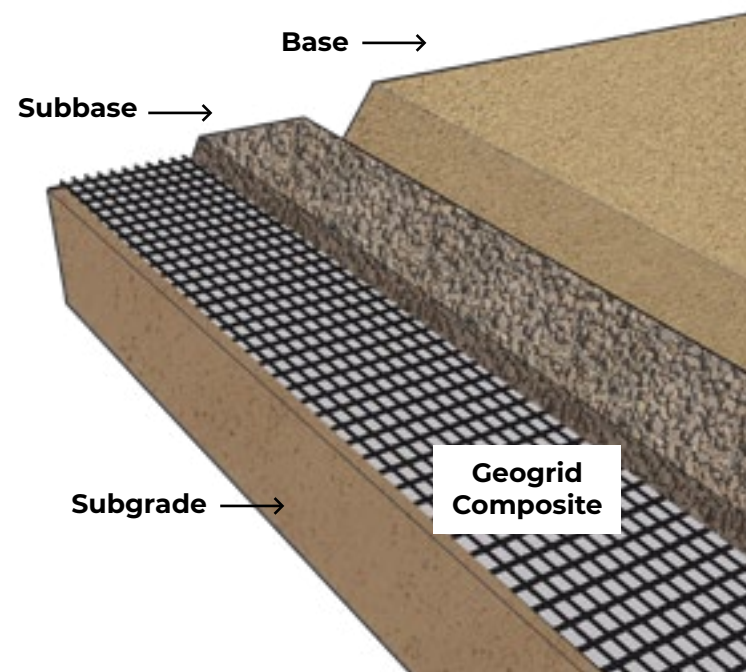
Eco-Friendly

Minimizes carbon footprint by:

- Reducing use of aggregate
- Reducing soil excavation and backfilling
- Speeding up compaction

Longevity & Design Life

- Proven high survivability with coarse-aggregates
- No damage from freeze-thaw conditions
- Minimizes differential settlement & prevents upward movement of subgrade = higher structural performance
- Tested in North America and CE Certified



Cost Savings



Reduces aggregate thickness up to 40%
=
construction cost savings



Reduces soil excavation & backfilling
=
construction cost savings



Improves overall structural life
=
maintenance cost savings



Improves drainage
=
maintenance cost savings

PRODUCT MANUFACTURING AND FEATURES

- Swamp Grid™ is made of **biaxial polypropylene (PP) geogrid** bonded to a continuous filament non-woven geotextile separator by a precision heat bonding.
- Manufactured using a punched and drawn process whereby the polypropylene sheet is stretched in two directions: machine (longitudinal) and cross-machine (transverse).
- The result is a monolithic and isotropic geogrid with thick and wide ribs, thick integral nodes, and uniform square apertures. The ribs have a high degree of molecular orientation continuing in part through the mass of the integral node.

FEATURES

- Geometry allows for strong mechanical interlock with soil particles and features high tensile stiffness at low strains to resist construction damage, environmental exposure.
- The attached non-woven geotextile effectively keeps expensive imported material from being contaminated by the migration of fines from the saturated subgrade soils.
- Engineered to be mechanically and chemically stable in aggressive soil environments and formulated to resist UV degradation.
- Not susceptible to hydrolysis, environmental stress cracking and micro-organism attack.

A SWAMP GRID™ FOR EVERY PROJECT

There is a Swamp Grid™ for every project. Depending on the subgrade conditions and loading requirements of your site, Swamp Grid™ comes in various tensile strengths to be prescriptive for your project.

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SWAMP GRID™
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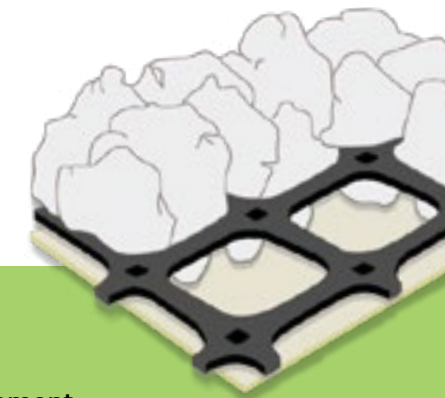
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Base/subbase reinforcement for:

- Site developments
- Mine haul roads
- Oil platform access roads
- Temporary military roads
- Forestry and logging roads
- Coastal roads
- Rural roads
- Streets and highways
- Airport runways
- Parking lots
- Overburden or waste rock stock pile areas (mine sites)

Foundation base support for:

- Agricultural grain silos
- Hydro-electric transmission line towers
- Building footings



Design Outcomes

- Achieves long-term settlement. NO concern of 2% and 5% strain at construction.
- Prevents mixing of aggregate with subgrade during placing and compaction of granular subbase/base.
- Facilitates proper compaction of subbase/base even on weak subgrades.
- Reinforces the granular base/subbase through lateral confinement of aggregates, subgrade restraint and tensioned membrane effect.
- Acts as a separator between granular subbase/base and the subgrade.
- Functions as a filter between granular subbase/base and the subgrade.
- Serves as a working platform for construction plant.



SWAMP GRID™ TOP ATTRIBUTES

Swamp Grid™ is a composite geogrid made of high stiffness biaxial polypropylene (PP) geogrid, heat bonded to a continuous filament non-woven polyester geotextile that acts as a filter and soil separator. It is strong in many categories, including: drainage, reinforcement, mechanical properties, and durability.



Drainage



Reinforcement



Mechanical
Properties



Durability

When compared to alternative, strap welded, extruded, and other geogrids, Swamp Grid™ excels in separation, filtration and product structure.



Separation



Filtration



Product
Structure

All product solutions are backed by comprehensive engineering and specialized technical support.

Using the latest and advanced design software, we work with engineers and consultants all over the world to provide free first-class customized pre-design support, helping to save time on infrastructure, site development and geotechnical projects.



Scan QR code to see Swamp Grid™ in action in a rail track extension!



Want to learn more about Swamp Grid™ or our other smart technologies?

Contact us to request a quote, book a project specific consultation or get free pre-design assistance.

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We provide geogrid installation resources for contractors and on-site installation assistance on request.