THRACE NG

MEMBER OF THRACE GROUP

GEOGRIDS

STORAGE & INSTALLATION GUIDE

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Material Description

Thrace NG polypropylene geogrids are manufactured at one of Thrace NG facilities, using the extrusion method of punching a pattern of holes, followed by stretching under controlled temperature in both directions in order to reach the material's tensile characteristics. Geogrid geocomposites are produced by heating bonding the geogrids with any type of Thrace Group nonwoven geotextiles.

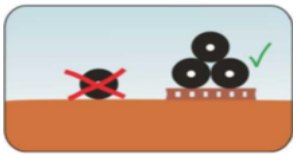
Thrace NG polypropylene geogrids are ideal for applications like roads & other trafficked areas, railways, earthworks, foundations & retaining structures, used to decrease the fill material thickness while increasing the bearing capacity of the underlying soil. Geocomposite geogrids provide additional separation from underlying soil, thus reducing construction time and cost.

Packaging

Each Thrace NG geogrid roll has an identifying label, stating the grade, roll width, roll length, net weight, gross weight, CE number, and a unique roll number.

Site Unloading, Handling & Storage

- If practicable, use fork lift trucks fitted with poles that can be inserted into the rolls' core. Be sure that the poles are at least two thirds (2/3) the length of the rolls to avoid possible damage of the geogrid.
- While unloading or transferring the geogrid from one location to another, prevent damage to the geogrid itself.
- During storage, geogrid rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, temperatures in excess of 71°C, and any other environmental condition that may damage the property values of the geogrid.
- The geogrid should not be exposed to direct sunlight for more than 30 days. For longer periods the geogrids should be stored indoors.
- Once unrolled the geogrids should be covered as soon as possible.



Installation

The success of Thrace NG Geogrids requires proper installation. If the geosynthetic is damaged during installation or construction, it will not perform as desired. Moreover, if the geogrid is placed with a lot of wrinkles it will be not tensioned and will not provide reinforcement. Installation techniques provide assurance that the geogrid will perform as intended.

- Before installing the geotextile, the site should be cleared and excavated to the desired grade, with care in order not to disturb the subgrade. All vegetation should be cut and sand can be placed over stumps, roots or lower spots, to cushion the geotextile.
- Once the subgrade has been prepared and all the sharp objects (stones, roots) removed or covered, the geogrid should be rolled in line with the placement of the new aggregate. Geogrids should be placed directly on top of the geotextile when used together. The geogrid should not be dragged on the subgrade, but placed smoothly, eliminating any possible wrinkles.
- Thrace Geogrids may be anchored in place to maintain the overlaps and alignments. Before fully unrolling the geogrid, anchor the beginning of the roll at the center and corners. Anchoring can be achieved by small piles of fill aggregate, pins and U-staples driven in the subgrade capturing the apertures of the grid.

- If aggregate material is spread using heavy equipment the shoving action may create "waves" in the geogrids ahead of the fill. If significant waves occur, the anchoring washer and pin or U-staples should be removed to dissipate the wave at the end or sides of the geogrid roll.
- Parallel rolls should be overlapped. For curves, the geogrid should be cut or folded and then stapled or pinned.
- Before covering, the geogrid should be checked by an inspector for extensive damage and be repaired by placing a new layer on top of the damaged area or replaced.
- The first layer of aggregate should be spread and graded to 300 mm. Driving on the geotextile is forbidden unless a minimum aggregate thickness of 200 mm is maintained.

Joints & Overlaps

Overlaps are used to provide continuity between adjacent geogrid rolls. Overlap width are site specific and depend on the subgrade's CBR, as seen below.

CBR	Minimum Overlap
>2	300-450 mm
1-2	600-900 mm
0.5-1	900 mm or mechanical ties
<0.5	1000 mm or mechanical ties
All roll ends	900 mm or sewn

- Transverse overlaps (between subsequent rolls/lengths) should be located at least 1m from the toe and crest of slopes.
- Adjacent geogrid rolls should be overlapped (shingled) in the direction of anticipated fill spreading. This is to avoid the "peeling" of the geogrid at overlaps.
- To minimize geogrid wrinkles caused by the shoving action, fill material shall be pushed forward and spread while gradually lifting the blade of the bucket.
- Transverse overlaps should not be formed/jointed on slopes greater than 180 (1:3).
- Overlaps should not be placed along the anticipated primary wheel paths location.
- Geogrids can be easily cut with sharp shears to accommodate manhole covers, curves, etc.

Backfilling

- Driving vehicles or the machinery directly over the geogrid can cause damage and must be avoided.
- When covering a large area of geogrid from a central point it is recommended that a temporary platform be constructed in a herringbone pattern. This should be a minimum thickness of 600 mm of drainage stone. This platform should avoid the possibility of installation damage being caused by repeated trafficking. The stone can be stripped off and re-used once the area local to the platform has been covered.

Repair

- The geogrid shall be protected from long-term exposure to direct sunlight during transport and storage. Storage of the geogrids shall be in such a manner to avoid contact with excessive mud, epoxies, wet concretes and any other deleterious materials.
- After placement, the geogrid shall be covered as soon as possible.