NILEX CIVIL ENVIRONMENTAL GROUP

Unearthing better results.

INSTALLATION GUIDELINES

EasyGrid (Geocomposite Geogrid)

MATERIAL DESCRIPTION

EasyGrid geocomposite geogrids are composite materials produced by combining an extruded geogrid with a nonwoven geotextile. The geogrid is manufactured from extruded polypropylene sheets that are punched and then stretched under controlled temperature in different directions in order to reach the required material characteristics. The geogrid is then heat bonded to a nonwoven geotextile.

Geogrids are ideal for applications like roads and other trafficked areas, railways, earthworks, foundations and retaining structures, and are 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.

SITE UNLOADING, HANDLING & STORAGE

- Upon delivery, check the geogrid roll labels to verify that the intended product has been received. Inspect the product to ensure it is free of any flaws or damage that may have occurred during shipping or handling. If variable roll widths are supplied, please confirm that the correct quantities have been delivered.
- While unloading or transferring EasyGrid from one location to another, prevent damage to the roll itself.

- During storage, EasyGrid rolls shall be elevated off the ground and adequately covered to protect them from precipitation, extended UV exposure, chemicals that are strong acids or strong bases, open flames, excess temperatures, and any other environmental condition that may damage the property values of the product.
- 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 product should be covered as soon as possible.
- Each Nilex supplied EasyGrid roll has an identifying label, stating the grade, roll width, roll length, net weight, gross weight, CE number and a unique roll number.

INSTALLATION

- Clear and excavate (if necessary) to the design subgrade elevation, stripping topsoil, deleterious debris and unsuitable material from the site. For very soft soils (CBR < 0.5), it may be beneficial to minimize subgrade disturbance and leave root mats in place, cutting stumps and other projecting vegetation as close and even to the ground surface as practical. For moderately competent soils (CBR > 2), it may be prudent to lightly proof roll the subgrade to locate unsuitable materials. When possible, backdrag to smooth out any ruts.
- Once the subgrade has been prepared and all the sharp objects (stones, roots) removed or covered, EasyGrid should be rolled in line with the placement of the new aggregate. EasyGrid should not be dragged on the subgrade, but placed smoothly, eliminating any possible wrinkles.
- EasyGrid can be anchored in place to maintain the overlaps and alignments. Before fully unrolling the product, 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.
- Overlapping of the sides and ends of the rolls of EasyGrid must be 'shingled' so that the aggregate placed on top of the product cannot migrate under the overlap.

EasyGrid (Geocomposite Geogrid)

- If aggregate material is spread using heavy equipment the shoving action may create “waves” in the geocomposite geogrid 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 roll.
- Parallel rolls should be overlapped. For curves, EasyGrid should be cut or folded and then stapled or pinned.
- Before covering, EasyGrid 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 300mm. Driving on EasyGrid is to be avoided unless a minimum aggregate thickness of 200mm is maintained.

JOINTS & OVERLAPS

Overlaps are used to provide continuity between adjacent rolls. The overlap width is site specific and depends upon the subgrade CBR, as seen below.

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

- Transverse overlaps (between subsequent rolls/ lengths) should be located at least 1m from the toe and crest of slopes.
- Adjacent rolls should be overlapped (shingled) in the direction of anticipated fill spreading. This is to avoid the “peeling” of the geocomposite geogrid at overlaps.
- To minimize 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.
- EasyGrid can be easily cut with sharp shears to accommodate manhole covers, curves, etc.

BACKFILLING

- Driving vehicles or the machinery directly over EasyGrid can cause damage and must be avoided.
- When covering a large area with EasyGrid from a central point it is recommended that a temporary platform be constructed in a herringbone pattern. This should be a minimum thickness of 600mm 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

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