

BIAXIAL GEOGRID INSTALLATION GUIDELINES

1. Site Preparation

Remove debris, stumps, large plant growth, and other deleterious material from the site to form as clean and level a surface as possible. Care should be taken to avoid disturbing any surface crust overlying softer soil. In these cases, the geogrid should be placed directly on the unprepared subgrade. The fill material selected should be well-graded and angular for best performance.

2. Geogrid Type and Placement

Selection of the appropriate biaxial geogrid is primarily governed by the strength of the subgrade (often expressed as % CBR), the magnitude of the loading, the type of fill material used and the performance required.

- 2.1 Place the geogrid in position and manually roll it out over the subgrade.
- 2.2 Overlap the adjacent rolls of the geogrid in accordance with the following table.
- 2.3 Overlap geogrids in the direction that fill will be spread (“shingling”)
- 2.4 In very soft soil conditions or where construction traffic has potential to disrupt geogrid overlap, adjacent rolls of geogrid can be fixed together with zip ties every 20 feet if deemed necessary by the contractor or engineer
- 2.5 The geogrid corners may be held down with shovelfuls of fill, sandbags etc.

Table 1: Recommended Overlaps

Soil Type	CBR %	Overlap Inches
Firm	>3	12
Soft Ground	1-3	24
Very soft Ground	< 1	36

3. Dumping, Spreading Fill & Compaction

- 3.1 Rubber-tired construction equipment can be driven directly on the geogrid at speeds of less than 5 mph when underlying subgrade is not prone to rutting under limited construction traffic. Do not operate tracked vehicles directly on geogrid.
- 3.2 In general, an initial lift of no less than 6 inches is required.
- 3.3 For very soft conditions, the required fill thickness is a function of subgrade strength and construction procedure; usually it will be significantly greater than 6 inches.
- 3.4 Over relatively competent subgrades (CBR >2), fill may be dumped over ground that bears its weight and then pushed out over the geogrid. Work from stronger to weaker subgrade areas.
- 3.5 The dozer blade should be gradually raised as the fill is pushed out over the geogrid. This will cause much of the fill to roll out onto the geogrid and will reduce stress on the subgrade.
- 3.6 Back dump subsequent loads onto the leveled fill and advance forward over the fill by spreading with a dozer and proceed in this cascaded fashion.
- 3.7 Be aware of the directions of the overlaps of the geogrid, and don't work against the shingle pattern. If the wrinkles or waves develop in the geogrid, they will usually roll forward with the fill and out at the end of the geogrid roll.
- 3.8 The fill material over the geogrid should be well compacted to. Standard compaction methods can be used, unless the soils are very soft. In these cases, static rather than vibratory compaction should be used. Compaction is normally accomplished with a light roller and moisture.

