
Special Specification 3075

Geogrid Base Reinforcement



1. DESCRIPTION

Use geogrid to reinforce the emulsion treated base placed on embankment material. Geogrid comprises of a synthetic planar structure formed by a regular network of integrally connected polymeric tensile elements with apertures designed to interlock with the base and the underlying material.

2. MATERIALS

2.1. Furnish Type 2 Geogrid meeting the requirements of Departmental Materials Specification DMS-6240, Geogrid for Base/Embankment Reinforcement. The Engineer will randomly select a roll from those delivered to the project and sample a piece of geogrid from the roll, approximately 10 ft. in length and 4 ft. in width. The Materials and Tests Division/Soils & Aggregates Section (MTD/SA) will test the geogrid sample to determine if it meets the material requirements listed in DMS-6240. Allow a minimum of 10 calendar days for MTD/SA to perform all testing.

When test results fail to meet any of the minimum requirements, the Engineer will reject the roll and randomly select an additional roll to sample and test. If the additional sample fails to meet any of the material requirements, the Engineer will reject the entire quantity of rolls represented by the samples tested.

2.2. **Packaging.** Package geogrid in rolls of the length and width shown on the plans or as approved. Package each roll in one continuous piece in a suitable sheath, wrapper, or container to protect the geogrid from damage due to ultraviolet light, moisture, storage and handling.

2.3. **Identification.** Identify each roll with a tag or label securely affixed to the outside of one end of the roll. List the following information on the label:

- Unique roll number, serially designated;
 - Lot or control number;
 - Name of producer;
 - Style or catalog description of product; and
 - Roll width and length.
-

3. CONSTRUCTION

Install geogrid in accordance with the lines and grades as shown on the plans. Do not operate tracked construction equipment on the geogrid until a minimum cover of 6 in. of flexible base backfill material is placed on the geogrid. Install the geogrid to avoid any deformation or damage to the underlying, compacted material below the geogrid. When the underlying, compacted material below the geogrid is damaged during installation, correct all areas to the satisfaction of the Engineer.

3.1. **Geogrid Placement.** Orient the geogrid length as unrolled parallel to the direction of roadway. Overlap geogrid sections as shown on the plans or as directed. Use plastic ties at overlap joints or as directed. When placing geogrid around corners, cutting and diagonal lapping may be required. Pin geogrid at the beginning of the backfill section as directed. Keep the geogrid taut and flat throughout backfilling but not restrained from stretching or flattening. Use a bulldozer to place the backfill material by cascading flexible base onto the geogrid with a minimum depth of 6 in. Spread and shape the flexible base into a uniform layer by gradually raising the bulldozer blade over the geogrid. Sufficiently compact the unbound buffer layer placed directly above the geogrid to achieve the required density in all subsequently constructed pavement layers.

Avoid any equipment from direct contact with the geogrid. When approved by the Engineer, rubber tired equipment may be operated directly on the geogrid. When allowed, only operate the rubber tired equipment at a maximum of 5 mph, do not turn tires on the geogrid, do not make sudden stops and starts on the geogrid, and do not distort the geogrid to create excessive deformation waves. Correct areas with distorted and excessive deformation waves to the satisfaction of the Engineer. When directed by the Engineer, adjust the geogrid installation and construction methods to minimize any distortion and deformation waves.

- 3.1.1. **Longitudinal Joints.** Overlap longitudinal joints by a minimum of 1 ft. Space longitudinal ties 10 ft. to 20 ft. or as directed.
- 3.1.2. **Transverse Joints.** Overlap transverse joints by a minimum of 1 ft. Space transverse ties 4 ft. to 5 ft. or as directed.
- 3.2. **Damage Repair.** Remove and replace contractor damaged or excessively deformed areas without additional compensation as directed. Lap repair areas a minimum of 3 ft. in all directions. Tie each side of repair grid in at least three locations but do not exceed normal construction spacing. The tie spacing for odd shapes will be as directed. Repair excessively deformed materials underlying the grid as directed

4. MEASUREMENT

Geogrid base reinforcement will be measured by the square yard of roadway placement as shown on the plans with no allowance for overlapping at transverse and longitudinal joints.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" are paid for at the unit bid price for "Geogrid Base Reinforcement" of the type specified. This price is full compensation for furnishing, preparing, hauling and placing materials including labor, materials, freight, tools, equipment and incidentals.