

Installation Quality Assurance Manual



Geonet & Geocomposite Products





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1.0 INTRODUCTION

This manual provides an overview of the GSE Installation Quality Assurance procedures consistent with industry accepted practices to ensure that the geonet and geocomposite products installed will best perform for its intended purpose. In addition, all installation work will be performed in strict accordance per the customer's specifications. Please read the procedures below completely before you begin. If you need further clarification, contact the GSE Engineering Support Staff for assistance. Remember safety first and use safe practices always on every project.

2.0 ROLL PACKAGING

GSE geocomposite rolls shall be shipped from the factory in an opaque protective covering to prevent damage and UV degradation. However, GSE geonets do not need to be further protected from UV degradation during shipping or storage.

3.0 MATERIAL DELIVERY

- A. Upon arrival on site, QA personnel will inventory all materials on-site.
- B. Roll numbers of the geonet or geocomposite will be logged on the Inventory Check List (Appendix A) and cross-referenced with the Bill of Lading.
- C. Copies of the Inventory Check List and signed Bill of Lading should be sent to GSE corporate headquarters while the on-site QA personnel retains the original copies.
- D. Any visible damage to roll materials should be noted on the roll and Inventory Check List.

4.0 UNLOADING & STORAGE PROCEDURES

- A. Rolls of material shall be unloaded with equipment that will not damage the geonet or geocomposite.
- B. Fabric-straps, spreader bars, stinger bars, or other approved equipment shall be used for handling rolls of geonet and geocomposite.
- C. Materials should be stored in a flat, dry and well drained area.
- D. The surface shall be free of sharp rocks or other objects that could damage the materials.

5.0 SUBGRADE PREPARATION

The subgrade shall be free of sharp rocks or other objects that could otherwise cause damage to the materials.

6.0 DEPLOYMENT

Geonet and geocomposite shall be handled in a careful manner to ensure that it is not damaged in anyway.

- A. On slopes, the material shall be anchored in the anchor trench and then rolled down the slope in such a manner as to continually keep the material under tension.

- B. In the presence of wind, the leading edge of the material shall be weighted with temporary ballasting, such as sandbags until the final cover is placed.
- C. Care shall be taken to assure that any underlying layers are not damaged during placement. Low ground pressure machines, such as ATV's to facilitate deployment over the geosynthetic layers is allowed. Low ground pressure machines are machines with a ground pressure less than 8 psi when carrying a driver weighing approximately 150 lbs.
- D. Care shall be taken to avoid entrapment of stones, mud and other materials during placement operations.

7.0 OVERLAPS & SEAMS

- A. The recommended geonet overlap in the machine direction is 3.0 in to 5.0 in. The recommended overlap in the transverse direction is 6.0 in to 12.0 in.
- B. On slopes the ends of the materials shall be shingled down in the direction of the slope.
- C. A plastic cable tie should be placed once per every five linear feet in the machine direction and once per every linear foot in the transverse direction.
- D. If the product is a geocomposite, the geotextile on the bottom shall be overlapped and the geotextile on top shall be overlapped, sewn or heat bonded. The exact seaming method or overlap is typically specified in project construction documents.

8.0 COVER SOIL PLACEMENT

- A. Prior to placement of cover soil, a Certificate of Acceptance (Appendix B) must be signed by a responsible party and an installer's representative.
- B. Any cover material, such as soil, that is placed over the drainage material shall be placed with care to assure the material is not damaged.
- C. Care shall be taken to minimize any movement of the geonet or geocomposite and to assure that no tensile stress is induced in the material.
- D. Cover soils deployed over the geonet or geocomposite should be free of all sharp objects, sharp rocks and sticks.
- E. Wide track equipment should be used to distribute cover soil over the geocomposite.
- F. A minimum of 12.0 in of cover soil is required to separate the equipment from the geocomposite to prevent damage.



Appendix B

GSE Lining Technology, LLC
19103 Gundle Road
Houston Texas 77073
800-435-2008
281-443-8564
281-875-6010 Fax

Job No.: _____
Project: _____
Client: _____
Bill To: _____

Job Description: _____
% Complete of Total Job: _____

Certificate of Acceptance

Material	Estimated Square Feet	Final Quantity/Description

I, the undersigned, duly representative of:
Do hereby take over and accept the work described above from the date hereof and confirm to the best of my knowledge the work has been completed in accordance with specifications and the terms and conditions of the contract.

Name	Signature	Title	Date
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Certificate accepted by GSE Lining Technology, LLC Representative.

Name	Signature	Title	Date
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