



Base Reinforcement

Permanent Roads and Pavements

Hot Cargo Apron Expansion, Hurlburt Field, Florida, USA

Base reinforcement with the biaxial **Fornit® 30** Geogrid



Situation

In March 2001, the US Army Corps of Engineers began reconstruction and expansion of the existing Hot Cargo Apron at Hurlburt Field, Florida. The project involved demolition of the existing, approximately, 30.000 m² apron, excavation and preparation of approximately 200.000 m² for construction of a new Hot Cargo Apron and a 450 m long vehicle access roadway. The new expanded site took in wetland areas that when cleared, had very soft sub-grade materials consisting of organic peat and silty soils, typical of the Florida coastal area. Due to the extremely low bearing capacity of the organic peat and silty soil sub-grade, the project design specified biaxial geogrid reinforcement over the entire area.

Solution

Fornit® 30, a biaxial geogrid was installed by Grundy Marine Construction Company, the general contractor for this project.

The Construction Detail/Sequence was as follows:

- A thin cover (15-30 cm) of sand/silt/sandy gravel fill materials was carefully placed with lightweight equipment as a working platform over soft soils and standing water.
- **Fornit® 30** was then placed over the entire site, as well as under the access road sub grade. Project specifications required the geogrid to be overlapped by 0.90 m at all edges.
- Approximately 3 m of surcharge material, again a sandy/silt/sandy gravel fill material, was then placed over the geogrid. Here the project specifications required settlement under surcharge for up to 45 days, after which the surcharge material was to be reduced and compacted to final level. Observed settlement was



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less than 7.5 cm, due in large part to the reinforcement enhancement provided by the **Fornit® 30** geogrid. The contractor was able to begin compaction to final level within two weeks and completed work on the base phase more than a month ahead of schedule.

- A 15 cm thick aggregate base course was placed and surfaced with 35 cm of unreinforced concrete on the cargo apron area. The access road was surfaced with 7.5 cm of asphalt.

The project was completed in August of 2001

Advantages of Solution

Jimmy McKinney, Project Manager for Grundy Marine Contracting Company commented:

“The 5 m widths of **Fornit® 30** saved us time and money due to the reduced number of rolls to handle and less waste due to fewer overlaps required. We saw less than 7.5 cm of settlement of the surcharge material and were able to begin compaction to final grade within two weeks, which allowed us to complete this phase of the project well ahead of schedule”.



Project: USAF Special Operations Field-Hot Cargo Apron Expansion

Country/Place: Hurlburt Field, Florida, USA

Project owner: US Army Corps of Engineers

Contractor: Grundy Marine Contracting Ca, Ft. Walton Beach, Florida

Period of Construction: March – August 2001

Product: **Fornit® 30**

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