Synteen Biaxial Geogrids

Thornton Road Reconstruction Project
Pinal County, Arizona

Pavement Base Reinforcement

A Case Study

Project
Thornton Road
Reconstruction Project
Florence, Arizona

Owner
Pinal County

Installer
Grey Mountain Const.
Chandler, Arizona

Supplier
GeoSupply
Phoenix, Arizona

Problem
Due to weak/soft subgrade soils, the proposed roadway design, required excessive and costly asphalt and aggregate base course materials.

Solution
Construct reinforced pavement structure using Synteen SF12 high-strength geogrid.

Synteen

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Thornton Road, a key commercial access road from I-10 South of Phoenix, was experiencing failure due to deep rutting. With heavy wheel load traffic to a Wal*Mart distribution center, poor subgrade soils (R value of 30) and high traffic volume (ESAL requirements approaching 1,000,000), unreinforced pavement design options required costly and excessive asphalt and aggregate material.

Pinal County was looking for cost-saving and performance enhancing solutions for the reconstruction project. Synteen Technical Fabrics, hired Earth Improvement Technologies to prepare an alternate pavement design based on AASHTO 93 design guidelines. With the inclusion of Synteen SF12 geogrid, section reductions in asphalt of 10% and aggregate base materials of 25% were achieved while providing the same pavement structural number as the original design.

In addition to providing affordability and high tensile strength, the contractor choose the “zero waste” option afforded by Synteen SF12 custom roll dimensions, with roll width options ranging from 12’ – 17’.