



Libya Tripoli Airport Asphalt Reinforcement

Airports are critical structures where operations must continue without interruption. As with all airport services, the continuous functionality of runways is of great operational importance; therefore, downtime must be minimized and construction activities must be completed quickly, in a controlled and reliable manner.

Within the scope of the restoration and modernization project of Tripoli International Airport, carried out to improve Libya's civil aviation infrastructure, implement modern technologies, and align the facility with international civil aviation standards, ensuring long-lasting and uninterrupted service from the runways has been one of the primary objectives.

Accordingly, the project required not only the repair of existing pavement damage but also a reinforcement solution capable of maintaining performance under heavy aircraft traffic and repeated loading, while reducing application time and ensuring surface stability.



Challenges Encountered:

The project is being carried out under climatic conditions dominated by high temperatures. Intense solar radiation and elevated surface temperatures make time management during installation critical. In particular, during installation across large runway areas, the material must be placed quickly and evenly on the surface.

Under high temperatures, potential slippage, waviness, or surface irregularities may directly affect the quality of the installation. Therefore, achieving both a rapid and well-controlled construction process becomes a key requirement.

Industry: Geosynthetics Applications
Application: Stabilization
Location: Tripoli, Libya
Product:  **AsfaltTex**
Asfalt Reinforcement Geogrids

Case Studies

Solution

AsfalTex Asphalt Reinforcement Geogrid has been developed to be placed within the upper structure of asphalt roads and runways in order to increase pavement strength under repeated vehicle and aircraft loads while delaying cracking and deterioration. By extending the service life of pavements and reducing maintenance costs, this system was further modified specifically for the runway rehabilitation works in Tripoli.

Going beyond its standard configuration, a AsfalTex 100/100 PC SW strength geogrid was transformed into a composite structure by stitching geotextile layers to both the upper and lower surfaces. This double-geotextile configuration allows the system to be installed immediately onto the surface while the emulsion is still wet; the lower geotextile layer adheres instantly to the emulsion, ensuring a smooth and stable placement.

As a result, installation can be carried out rapidly and in a controlled manner without folding, wrinkling, or blistering, and without the need for mechanical fixing. Even under high temperature conditions, this special configuration maintains surface integrity and creates a uniform and reliable reinforcement layer for runway strengthening.



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