

TARLAC-NUEVA ECIJA PROVINCIAL ROAD LA PAZ, TARLAC, REGION III, PHILIPPINES

Asphalt Pavement Reinforcement

Problem

The Department of Public Works & Highways (DPWH) Second Engineering District of Tarlac Province has approved the improvement and rehabilitation works of the 512 meters long stretch of a concrete-paved provincial highway in La Paz, Tarlac, Philippines.

The existing concrete pavement was severely damaged where cracks, potholes, and dilapidated surfaces were observed. A new surfacing course using asphalt was designed by DPWH engineers for the project. However, to avoid total removal of existing concrete pavement while maintaining or ensuring the design life of the new asphalt surface course for the highway, an alternative reinforcing mechanism was required by DPWH engineers.

Solution

In this, Maccaferri engineers designed an asphalt reinforcement system using MacGrid ARVG fiberglass geocomposite, which was primarily designed to extend the life of the asphalt by minimizing the effects of fatigue, thermal, reflective, and settlement crackings. The solution was introduced to DPWH engineers and has been approved for implementation.

MacGrid ARVG fiberglass geocomposite is manufactured by bonding a layer of a thin needle-punched nonwoven geotextile to a layer of fiberglass geogrid with pressure-sensitive coating. The said coating provides superior bonding to the asphalt layer. Stress concentrations in the asphalt matrix are relieved and redistributed by the MacGrid ARVG, resulting to delayed initiation of cracks, slower crack growth, narrower crack width, wider spacing between cracks, deviation of cracks, and extended design life of asphalt layer up to two to three times.

Client: DPWH Tarlac 2nd District Engineering Office

Designer / Consultant: DPWH Tarlac 2nd District Engineering Office

Contractor: N/A

Products used (Qty.)

- MacGrid AR 2 rolls

Date of construction: 09/2011 - 09/2011



During Construction



During Installation



Near Completion



Project Completed