



The combination of easy installation and thickness reductions allowed for rapid installation in the face of inclement weather



Paved Roads & Surfaces
Nº 443

Manufacturing plant of Ionics EMS Inc.

Laguna, Philippines

CONSTRUCTED IN 2021

Benefits

50% reduction in granular material used
compared to the original design

15% increase in the pavement design life
compared to the original design

Protected subgrade
and reduced earthwork activities

Accelerated solution to declining weather

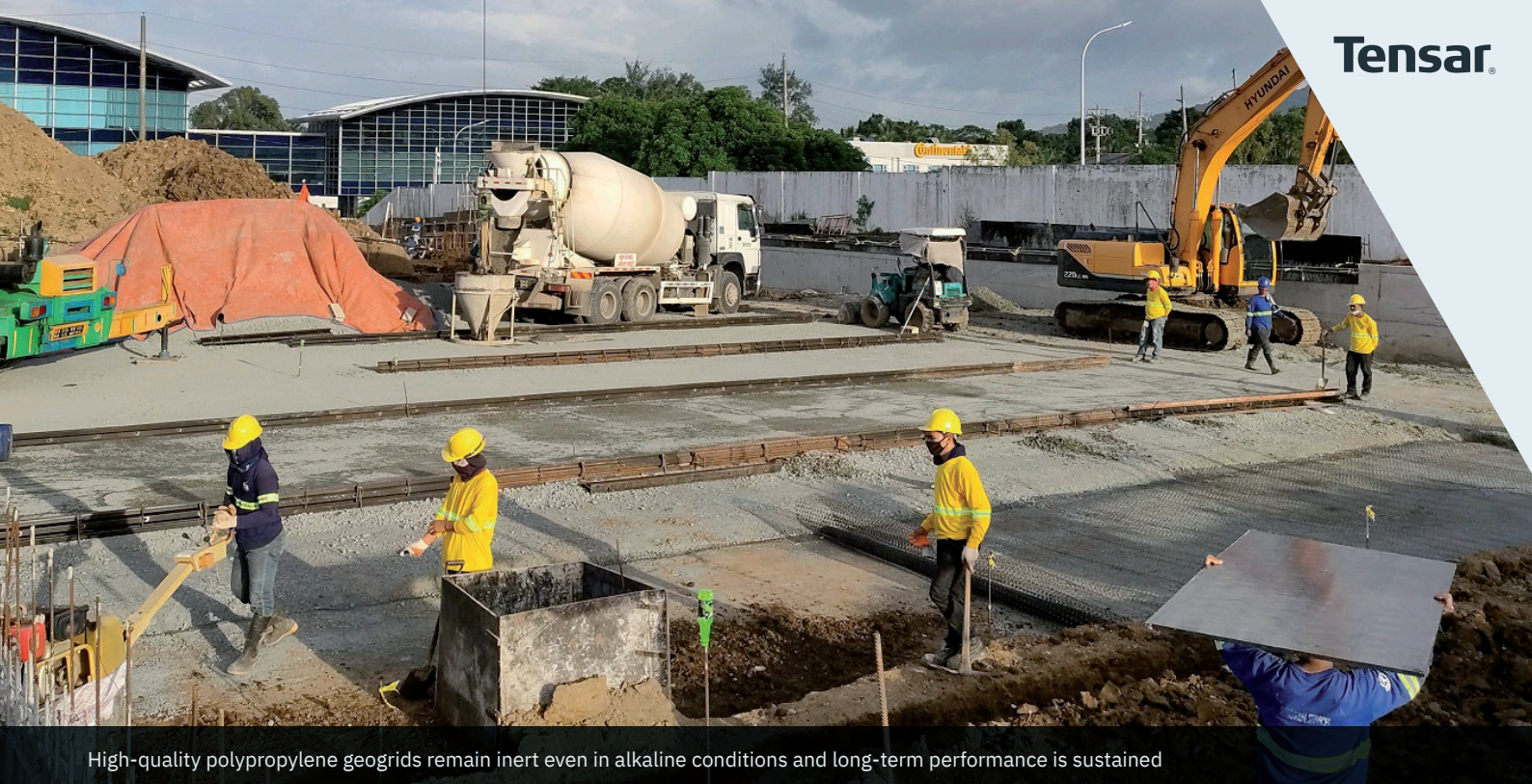
A critical access road to a manufacturing plant construction project required a reliable, economical and high performance solution. Inclement weather and deteriorating ground conditions further complicated access to the road construction. Tensar's mechanically stabilised layer (MSL) provided an accelerated

CLIENT'S CHALLENGE

Due to unfortunate timing, the project construction coincided with the rainy season in Philippines. Heavy rains can worsen ground conditions which would result in difficulties in accessing the site. The original access road design required a thickness of 300mm of aggregate material, which would be a significant additional cost to the project.

TENSAR SOLUTION

A 50% reduction in thickness was achieved with MSL at the base of the access road. The pavement performed well in supporting the construction traffic. An additional benefit from this application is the incorporation of the MSL into a permanent semi-rigid pavement post-construction. A 200mm concrete layer was laid over the MSL as a permanent road into the site. The use of MSL has provided significant savings in cost and increased the pavement life.



High-quality polypropylene geogrids remain inert even in alkaline conditions and long-term performance is sustained

PROJECT BACKGROUND

From June to November, the Philippines experiences heavy rainfall during the rainy season. This increase in precipitation can saturate the subgrade and grind construction activities to a halt due to poor ground conditions and access into construction sites. This was the primary challenge encountered by the contractor in this project and so they approached Tensor's partner in the Philippines, FW Nicol Philippines Inc. for a solution.

Tensor's MSL was quickly found to be the best solution for this problem as the thicknesses could be reduced while providing additional pavement life to this project. The use of geogrid also allowed for rapid, unhindered installation of the access road, eliminating any disruption from additional work. The accelerated solution comprised of a layer of MSL over weak and saturated subgrade.

The use of MSL brought further advantages as after the access road had completed its service, a permanent semi-rigid pavement with the MSL functioning at the aggregate base layer could be installed. This would allow the MSL to continue to provide support to the pavement and increase the performance of the permanent pavement for years to come.

Main contractor

FW Nicol Philippines Inc.

Consultant

JFA Electrical
Construction & General
Services Inc.

Client

Ionic EMS Inc.

Pavement's cross section

