



GEOFABRICS CASE STUDY



NEW TASMANIAN ROAD STABILISED WITH LAMGRID GREEN GEOCOMPOSITE

PRODUCTS USED

LamGrid Green

The LamGrid Green range of products combines the Australian made bidim® Green, a premium nonwoven geotextile made from Australian recycled plastic material, and Tensar® TriAx® geogrid.

- Products are laminated together to create a high-performance geocomposite with stabilisation, separation and filtration functions
- Used in rail and road application areas with high water levels, soft subgrade soils or when the granular fill is of poor quality layer
- Faster installation by combining bidim Green and Tensar geogrids, compared to installing two conventional separate layers
- Improved cost benefits by reducing aggregate layer thickness by up to 30% when compared with an unstabilised aggregate layer
- Increased service life by 3 times or more with a mechanically stabilised layer, reducing long-term maintenance costs by up to 50%



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PROJECT DESCRIPTION

A new road was being constructed at a site where buried pipes were located at a shallow depth. It was expected that mobile cranes with axle loads up to 12 tonne would be trafficking this road due to the construction of a new treatment plant nearby.

Geofabrics was approached by the asset owner to provide a solution that would limit loading these pipes would be exposed to. It was critical to ensure that the loading on the pipes would not exceed the limit deemed safe by the designers.

OUR SOLUTION

Geofabrics recommended that LamGrid be incorporated into the pavement. This required an assessment to see if the product could be applied without needing to thicken the pavement.

Based on the provided information, it was initially assumed that Finite Element Analysis (FEA) would be required to arrive at a solution. However, by adopting the T-value method for working platforms developed by Tensar (for use with Tensar TriAx geogrids), the Geofabrics technical team was able to offer the client a preliminary evaluation without having to resort to FEA.

The adoption of the T-value method meant that the client could avoid resorting to traditional methods such as steel plates, concrete slab or increasing the pavement thickness. The Geofabrics solution resulted in a timely outcome and cost savings for the client.

GEOFABRICS®

Sustainable solutions



Due to the buried pipelines, we were restricted from excavating to the desired depth for 'sound' subgrade and pavement thickness. The geogrid provided protection of the excavated subgrade and good interlocking properties for the granular material. This resulted in less pavement thickness required for the road.

The finished product provided adequate protection above buried treated water pipelines and enabled access on site for heavy vehicles during construction of the nearby treatment plant.

Site Project Engineer



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