

GEOFABRICS®

# RIVERLANDS WINERY PROCESSING PLANT



CIVIC AND LANDSCAPING

CASE STUDY



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## PRODUCTS USED

### BIDIM®

bidim geotextile is the most well known nonwoven geotextile product on the market today. It leads the way in terms of technical performance and versatility and has applications in virtually every civil engineering construction project.

bidim nonwoven geotextiles provide an effective, economical solution to a range of engineering problems including weak soil, rutted and cracked roads and liquid and gas leaks from landfill sites.

All bidim nonwoven geotextiles are manufactured in Australia to ISO 9001 standards and are supported by a rigorous MQA process as well as being designed to meet the requirements of Australian and New Zealand road authorities.

### TENSAR® TRIAX®

The Tensar TriAx geogrid is the most advanced geogrid in today's market and the result of 30 years continual innovation and development. It outperforms conventional biaxial geogrids and substantially reduces construction time and costs.

The Tensar TriAx geogrid is based on one of the most efficient, stable structural forms - the triangle.

Where biaxial geogrids have inbuilt strength in two directions, with the TriAx it's multi-directional, providing greater stability and increasing bearing capacity.

## PROJECT DESCRIPTION

The wine industry in Marlborough has been developing steadily since 1967, with most well-known processors now established in the area.

As development increases and the better locations for wineries already acquired, this means new processing plants are being built on marginal land.

The Riverlands industrial site is on land that is prone to liquification and is adjacent to a marshlands area.

## CHALLENGE

Designs were required to accommodate the winery building and 260,000 and 500,000 litre tanks (over an 8m diameter). The design was also required to minimise differential settlement and liquefaction during earthquakes.

Due to the Christchurch earthquake the use of geotextiles and geogrids is now an accepted method for both private and commercial foundations.

## SOLUTION

Design assistance was provided using Tensar software to model the forces that could be expected for the conditions of the site. Geofabrics created a solution using bidim non-woven geotextile and Tensar TriAx geogrid to ensure minimal excavations. This enabled the building to be raised as a reinforced platform minimising differential settlement.

The design incorporated the bidim as a separation layer, followed by three layers of Tensar TriAx geogrid to create a gravel raft for the buildings and the winery processing tanks. This meant less transportation to remove the excavated material therefore lower costs.

The use of the bidim and Tensar TriAx also meant a large saving in the AP65 aggregate (approx. 33-50% less material required).





Illustrates soft subgrade.



Site prep and first section install.



Drainage installation.



Winery platform.



Overlap of Tensor TriAx.



Close up of Tensor TriAx layers.