

# bidim<sup>®</sup>

Nonwoven polyester geotextile



Made in Australia  
Designed for performance



## INTRODUCTION

The use of geotextiles in construction projects around the world has grown substantially since their humble beginnings in the 1960's. Geotextiles are now used in virtually every civil engineering construction project. A number of generic classes of geotextile are manufactured with the most popular being the nonwoven needle punched variety, due to its versatility and overall performance. **bidim®** was first produced in 1969 and continues to lead the way in terms of technical performance and range of applications.

**bidim®** nonwoven geotextiles were first introduced to Australia in 1977 when Geofabrics Australasia established offices in Victoria, New South Wales and Queensland. 1987 marked the beginning of an era in geotextiles in Australia, with the manufacture of the first rolls of **bidim®** continuous filament nonwoven needle punched polyester geotextile in Albury, New South Wales. Since this small start **bidim®** geotextiles have become a part of almost all construction projects carried out in Australia. Geofabrics Australasia and **bidim®** have become synonymous with;

### Quality and Reliability

#### Australian made for Australian conditions

#### Australia's most respected geosynthetic manufacturer & supplier

A number of key points make **bidim®** the geotextile of choice:

- **Quality**

**bidim®** is manufactured to ISO 9001:2000 Quality Management System Standards. As a result the quality of **bidim®** supplied to your construction project, is guaranteed the same from the first to the last metre on the roll.

- **Service & Support**

**bidim®** is stocked in all major cities and a number of regional areas. Technical support is provided by Australia's largest team of geosynthetics sales engineers & technical experts.

- **Experience**

As the most enduring geotextile in Australia, with over 30 years of applications, **bidim®** comes with a proven track record, supported by qualified sales engineers.



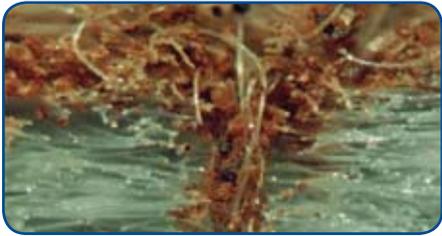
Continuous Filament Manufacturing Process



Nonwoven Structure

## APPLICATIONS

bidim® nonwoven geotextiles are used in a multitude of construction applications, however, it is important to understand that a “one size fits all” design philosophy is inappropriate. bidim® is available in a range of grades to cater for the diverse range of functions and applications. The choice of a suitable geotextile should be based on the key performance properties of the geotextile which is unique for each application. Examples of the applications and relevant performance properties are shown below.

<u>Applications</u>	<u>Key Properties</u>	
<b>Filtration</b>	<b>Pore Size (EOS)</b> <b>CBR Strength &amp; Elongation</b> <b>Grab Strength</b> <b>Tear Strength</b>	
<b>Drainage</b>	<b>Permeability</b> <b>Flow Rate</b> <b>CBR Strength &amp; Elongation</b> <b>Grab Strength</b> <b>Tear Strength</b>	
<b>Separation</b>	<b>Tensile Strength</b> <b>CBR Strength &amp; Elongation</b> <b>Grab Strength</b> <b>Tear Strength</b>	
<b>Liner Protection</b>	<b>Mass Thickness</b> <b>CBR Strength &amp; Elongation</b> <b>Grab Strength</b> <b>Tear Strength</b>	
<b>Road Maintenance</b>	<b>Polymer Melting Point</b> <b>Bitumen Absorption</b> <b>Tensile Strength</b> <b>Tear Strength</b>	
<b>Soil Reinforcement</b>	<b>Tensile Strength</b> <b>CBR Strength &amp; Elongation</b> <b>Grab Strength</b> <b>Tear Strength</b>	

## APPLICATIONS

### Filtration

In all soils, water flow at the interface between coarse and fine materials often leads to unstable substrates. A geotextile with properly specified pore size acts as a filter medium to simultaneously retain coarse material and prevent piping, yet allows the passing of fine materials ensuring ongoing permeability.

**bidim®** nonwoven needle punched geotextiles are used to replace thick, expensive granular filters in subsoil drainage and revetment applications. **bidim®** geotextiles outperform natural filters in many applications, particularly revetments and subsoil drainage. The extremely high porosity of nonwoven geotextiles allows water flow while limiting fines migration. The complex flow path mimics a natural filter and provides considerable cost saving over a traditional graded filter.



**bidim® A34 - Revetment Construction**



**bidim® A24 - Subsoil drainage**

### Drainage

The ingress of water into a structure, be it a road, retaining wall or basement, can have a disastrous effect on the life of the asset. Good drainage removes excess water from structures, ensuring their stability and longevity.

**bidim®** nonwoven geotextiles are ideally suited to subsoil drainage systems used to remove water from road pavement layers, sports fields and retaining walls. The complex needle punched structure acts to retain soil particles without reducing the permeability requirements of the drain. The three dimensional structure of a nonwoven needle punched geotextile ensures high flow rates giving excellent drainage performance. The opening size and porosity of **bidim®** has evolved from years of experience in Australian soil conditions ensuring optimum performance.

## APPLICATIONS



bidim® A49 - Subgrade Separation

### Separation

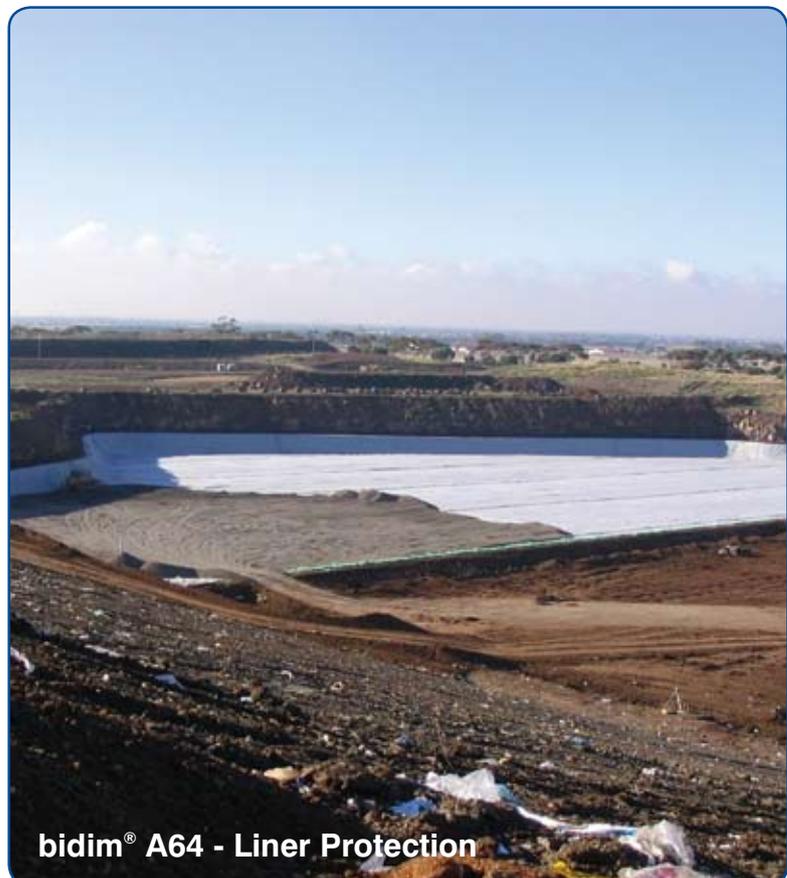
Construction of roads, embankments and platforms over poor quality subgrade material results in loss of high quality fill material into the subgrade and contamination of the fill material. This means more fill material is required to construct a stable base. Nonwoven geotextile separators have been used with great success over the past 30 years in Australia to limit this problem by stabilising the pavement.

bidim® needle punched geotextiles are used extensively in construction of roads and embankments over soft ground. The separation geotextile ensures the soft subgrade does not contaminate the fill material and the quality of the fill is maintained. The high elongation characteristics (>50%) of bidim® nonwoven geotextiles limits installation damage, which ensures long term performance.

### Protection

Polymer liners in landfills and ponds are prone to puncturing damage either from rough subgrade or the cover material placed over the liner. This puncturing and the subsequent leaks from the liner system can have a negative effect on the environment as contaminants enter the water table.

Heavyweight bidim® needle punched geotextiles provide excellent protection to liner systems in landfills, heap leach pads and general pond lining applications. The grade of geotextile depends on the particle size of the cover material and subgrade strength. The protective geotextile cushions the forces that would otherwise be directly transferred onto the liner. The inclusion of a geotextile protection layer can extend the life and maintain the integrity of the lining system for many years.



bidim® A64 - Liner Protection

## APPLICATIONS



Sealmac® Road Construction

### Road Maintenance

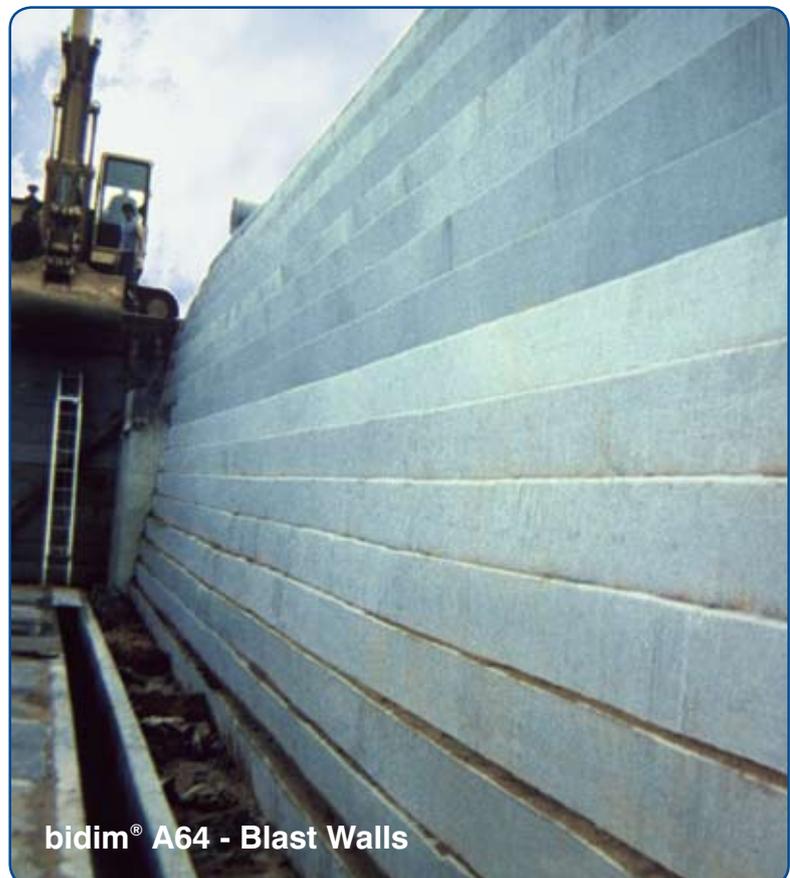
Without adequate maintenance, paved roads deteriorate rapidly. The escalating cost of paved road rehabilitation highlights the need for cost effective solutions to this problem. Since the early 1980's the use of geotextile reinforcement in surfacing seals has been successful worldwide. **Sealmac®** paving fabric is a proven system to prolong road life, reduce overlay thickness, prevent water ingress and retard reflective cracking.

**Sealmac®** is a continuous filament nonwoven needle punched polyester paving fabric, which provides stress relief, waterproofing and reduces reflective cracking functions in new and existing paved roads. Designed specifically for Australian conditions, the PF1 and PF2 ranges have undergone 30 years of testing and refinement to provide proven performance in extending pavement life.

### Reinforcement

The use of geotextiles in slope and wall reinforcing applications has grown since the first applications in the 1970's. While rigid structures require stiff geosynthetic products, flexible or temporary structures can be constructed at a fraction of the cost with continuous filament geotextiles.

**bidim®** continuous filament geotextiles are often used as reinforcing elements in retaining structures which are designed to flex, such as blast walls, bund walls or temporary retaining structures. The nature of the continuous filaments ensures good strength characteristics while the needle punching allows a high level of flexibility and drainage of the surrounding soil.



bidim® A64 - Blast Walls

## CONSTRUCTION

### Storage

**bidim**® geotextiles do not require special storage conditions for periods of less than 6 months, as the product is wrapped in 180µm co-extruded High Density Polyethylene and Linear Low Density Polyethylene for toughness with secondary UV stabilisers for greater life under Australian conditions.

Once the protective wrapping is removed the product should be installed or placed under cover. Extended UV exposure should be avoided with maximum recommended exposure for **bidim**® being 30 days.

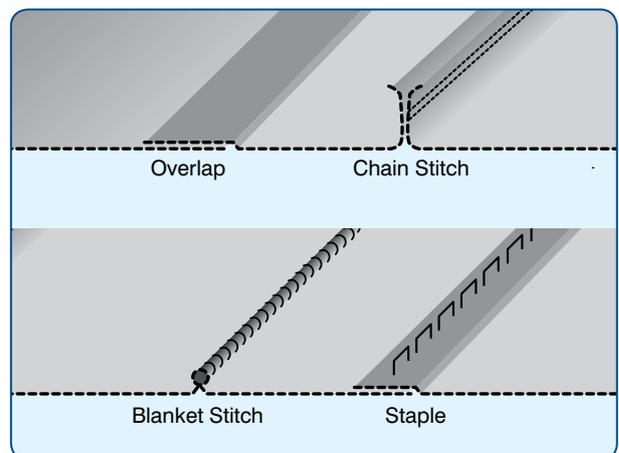


### Handling

The maximum weight of a 6m wide roll of **bidim**® is approximately 250kgs. In most cases the geotextile can be rolled out by hand. However, for larger rolls, a specially designed dispensing frame can be provided to help deploy the rolls. Narrow width rolls (2m & 3m) are available to suit the site layout, access and conditions.

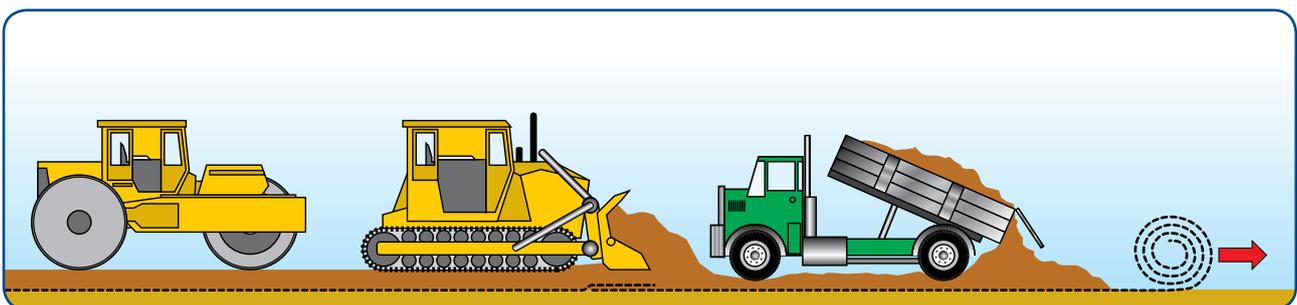
### Joining

Joining methods for geotextiles are dependant on the strength of the subgrade, with the recommended selection of joint type based on the required strength transfer across the geotextile. Subgrades with a CBR of greater than 3 may require simple overlapping, however where the geotextile is placed over a subgrade with a CBR of less than 3, a sewn joint is recommended.

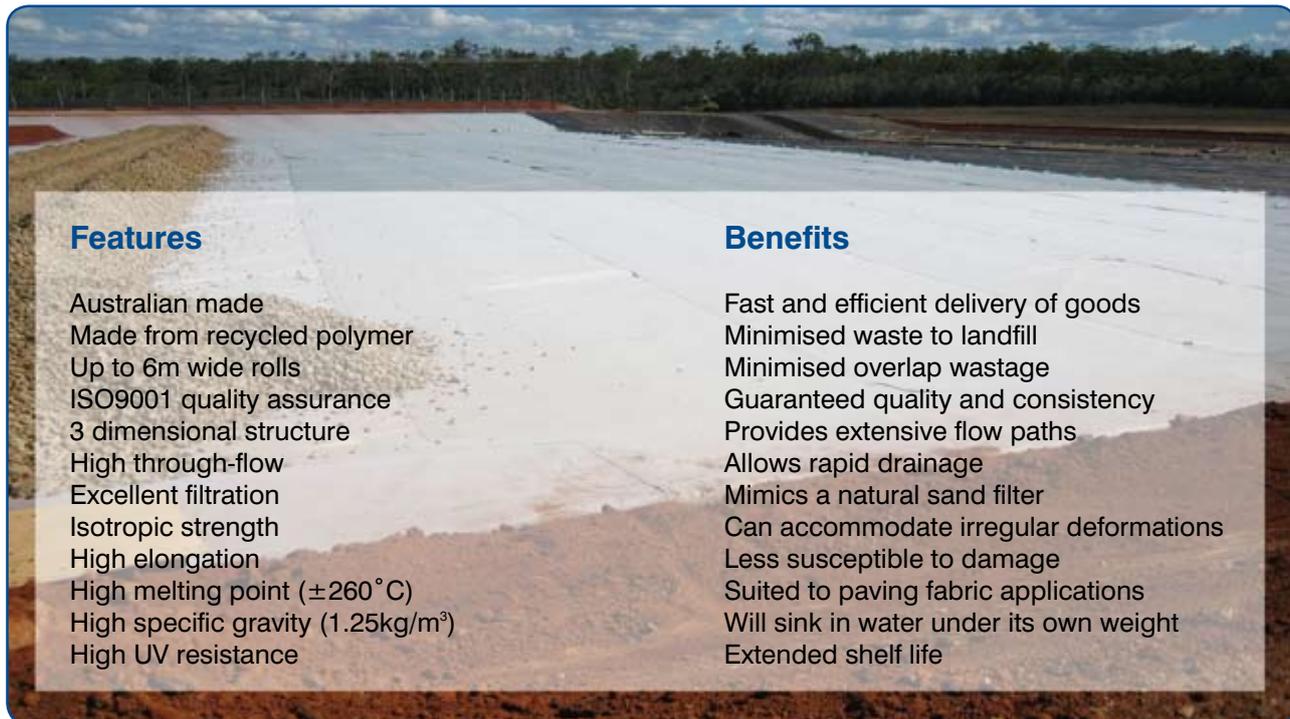


### Fill placement

Fill over a geotextile should be placed in such a way that the integrity of the joints is maintained. Driving vehicles or machinery directly over the geotextile must be avoided, as this leads to damage of the geotextile. Use only light construction equipment initially over weak soils.



\* For more information on geotextile storage and installation please refer to the **bidim**® - Storage & Installation Guide document (M142)



<p><b>Features</b></p> <ul style="list-style-type: none"> <li>Australian made</li> <li>Made from recycled polymer</li> <li>Up to 6m wide rolls</li> <li>ISO9001 quality assurance</li> <li>3 dimensional structure</li> <li>High through-flow</li> <li>Excellent filtration</li> <li>Isotropic strength</li> <li>High elongation</li> <li>High melting point (<math>\pm 260^{\circ}\text{C}</math>)</li> <li>High specific gravity (<math>1.25\text{kg/m}^3</math>)</li> <li>High UV resistance</li> </ul>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>Fast and efficient delivery of goods</li> <li>Minimised waste to landfill</li> <li>Minimised overlap wastage</li> <li>Guaranteed quality and consistency</li> <li>Provides extensive flow paths</li> <li>Allows rapid drainage</li> <li>Mimics a natural sand filter</li> <li>Can accommodate irregular deformations</li> <li>Less susceptible to damage</li> <li>Suited to paving fabric applications</li> <li>Will sink in water under its own weight</li> <li>Extended shelf life</li> </ul>
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**IMPORTANT NOTICE**

The information contained in this brochure is general in nature. In particular the content of this brochure does not take account of specific conditions that may be present at your site. Site conditions may alter the performance and longevity of the product and in extreme cases may make the product wholly unsuitable. Any data or specifications contained in this brochure are average values obtained in our laboratory. Actual dimensions and performance may vary. If your project requires accuracy to a certain specified tolerance level you must advise us before ordering the product from us. We can then advise whether the product will meet the required tolerances. Where provided, installation instructions cover installation of product in site conditions that are conducive to its use and optimum performance. If you have any doubts as to the installation instructions or their application to your site, please contact us for clarification before commencing installation. In all cases we recommend that advice be obtained from a qualified consulting engineer before proceeding with installation. © Copyright held by Geofabrics Australasia Pty Ltd. All rights are reserved and no part of this publication may be copied without prior permission.

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