



CONDUCTIVE LEAK DETECTION CUSHION FOR GEOMEMBRANES

BIDIM[®] C CONDUCTIVE NON-WOVEN GEOTEXTILE



protect
contain
secure

GEOFABRICS
Sustainable solutions



Undertake liner integrity surveys across **100%** of the liner surface

Ease of installation
no heavy machinery or qualified staff required

Built from smart material

Bidim® C Conductive Non-Woven Geotextile

Bidim C is the world's first commercial conductive non-woven geotextile. Designed to provide effective and economical leak detection means for designers and installers of geomembrane lining systems, including landfills, tailings dams, tanks, and potable water storage facilities. Bidim C enables leak detection surveys to be carried out using an electrical leak location technique known as Arc testing, providing reliable leak detection of holes and defects as small as 0.2mm in diameter.

Using Bidim C Non-Woven Geotextile mitigates the need for water compared to conventional leak detection surveys as the electrical circuit can be completed without relying on a wet subgrade. This technology is particularly efficient in dual lining applications and/or when installed below the primary liner and above a geocomposite layer that separates the subgrade from the liner. Bidim C features a strong three-dimensional structure with high elongation, providing excellent filtration and also performing as a cushion to the subgrade.

Why choose Bidim C?

Bidim C Non-Woven Geotextile is made with graphene, which is a two-dimensional sheet of carbon atoms, considered to be the lightest, strongest, and most electrically conductive substance yet discovered.

Bidim C provides:

- An effective and economical leak detection means for geomembrane lining systems
- A strong three-dimensional structure with high elongation, providing excellent filtration and acting as a cushion to the subgrade

- Easy installation with no heavy machinery, equipment or special skills required
- Durability with a high melting point and high UV resistance thanks to Bidim polyester properties

Installation

Bidim C is simply rolled out onto either the subgrade or geocomposite below the primary liner and requires only a 100mm overlap to maintain the conductivity across when using standard liner integrity survey equipment.

Overlapping joints loose is typically sufficient to achieve continuity across roll edges, however welding is often preferred to limit impacts from wind prior to covering. If welding of overlaps is preferred, heat and pressure welding can be carried out using a Demtech welder or similar, as it maintains conductivity between joins.

Once the primary liner is then laid and install over the Bidim C, conductivity testing may commence.

Spark or arc testing can be conducted to American Society for Testing & Materials (ASTM) Standardised Specification D7953 at as low as 1kV, compared to other conventional methods up to 30kV.



BIDIM C - TECHNICAL DATA

PARAMETER	STANDARD	UNITS	DIRECTION	A19C	A34C	A64C	FREQUENCY
Index Tests							
Wide Strip Tensile Strength	AS 3706.2	kN/m	MD	14.0	21.5	42.0	Every 17,600m ²
			XMD	14.0	21.0	42.0	
Wide Strip Toughness	AS 3706.2	kJ/m ²	MD	3.2	5.2	12.3	
			XMD	3.7	5.7	12.6	
Grab Tensile Strength	AS 3706.2	N	MD	920	1,430	3,010	
			XMD	920	1,400	3,010	
Trapezoidal Tear Strength	AS 3706.3	N	MD	370	540	1,030	
			XMD	370	540	1,030	
CBR Burst Strength	AS 3706.4	N	-	2,400	3,700	6,950	
Pore Size	AS 3706.7	µm	-	<75	<75	<75	
Flow Rate @ 100mm Head	AS 3706.9	l/m ² /s	-	175	155	80	
Performance Tests							
Peak Interface Friction Angle (°)	ASTM D5321	°	Smooth HDPE	13 - 15			As Required
			Textured HDPE	27 - 29			
Surface Resistivity ‡	ASTM D4496	Ω/sq	-	<15,000			Every 1,500m ² †

Notes:

*: Interface friction analysis was carried out in a large-scale direct shear box with both interfaces completely submerged and loaded for 15 minutes prior to shearing. A load between 10-500kPa was used at a test speed of 1mm/min. The reported friction angles were determined from a best-fit linear regression line drawn through the test data across the noted load. Caution should be exercised in using these values for applications involving normal stresses outside of the stresses covered by the test series or in isolation of site specific conditions and geotechnical investigations. Results may vary across different loads, geosynthetic material types and testing facilities. These values should always be verified by actual interface friction analysis using project-specific materials/conditions.

†: Initial testing will be every 1,500 m², however this testing frequency may decrease or may be replaced by continuous testing.

‡: A lower surface resistivity value indicates higher conductivity

The data and specifications contained in this table are obtained from the manufacturer's laboratory testing. To ensure this information is current please contact your local branch of Geofabrics Australasia.

Please note: The Grab Tensile Strength test standard AS 3706.2 is equivalent to AS 2001.2.3b.

All index testing has been carried out by a NATA accredited laboratory and copies of test certificates are available on request.

The product properties listed in the above table are typical values.



AUSTRALIAN-MADE GEOFABRICS

Geofabrics is the only geotextile manufacturer in Australia, with plants in Albury and Ormeau. We pride ourselves on providing unrivalled service to our customers. We can recommend the best geosynthetic product to achieve the objectives of your project and ensure it's available when you need it.

Over 40 years of experience allows our technical staff to provide practical support, based on local conditions. We are proud to have been recognised in the Australian Financial Review (AFR) Most Innovative Company list in 2020 with Bidim Green.

In 2021, Geofabrics ranked #1 in AFR's Most Innovative Company for Manufacturing and Consumer Goods for Sorbseal.

With a view to the future, we are committed to improving the sustainability of our business by reducing waste to landfill, lowering our carbon emissions and investing in our people.

Visit [geofabrics.co](https://www.geofabrics.co) or call 1300 60 60 20 (AU)
or [geofabrics.co.nz](https://www.geofabrics.co.nz) or call 0800 60 60 20 (NZ)



GEOFABRICS[®]
Sustainable solutions