GEOHEX™

Product Information & Installation Guide

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AUSTRALIAN MADE AND OWNED

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Why Geohex?

The GEOHEX™ Erosion Control System is a unique and innovative ground stabilisation technology that is easy to use and quick to install.

GEOHEX™ is a permeable ground stabilisation technology that has been engineered for use in multiple applications ranging from soil & turf stabilisation for the enhancement of water saving measures, to the reinforcement of roads in and around construction sites.

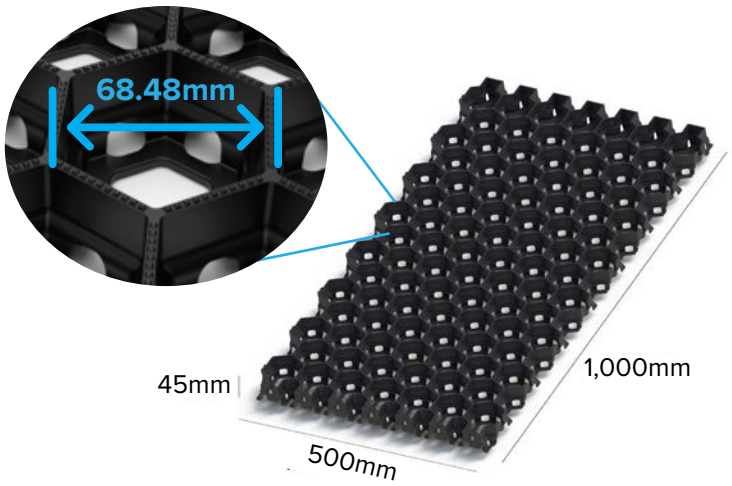
The GEOHEX™ Erosion Control System is a safe and cost effective substitute for concrete in many applications. Made from 100% recycled plastic, it is environmentally friendly and it's lightweight design reduces logistic costs, while at the same time, increasing ground stability and water conservation.

Designed and manufactured in Australia to ISO9001:2014 standards, GEOHEX™ is made from high impact resistant, 100% recycled polypropylene.

Features & Benefits

- Australian Made
- Easy to install & cost effective
- Erosion Control
- Maintains structure and integrity in the soil profile when it becomes saturated due to heavy rainfall
- Drainage & attenuation capabilities
- Reduces surface water runoff and the need for grated trench drain, minimising the size of detention tank
- NATA Tested & Certified – AS3996
- Eco-friendly – Made from post-consumer recycled polypropylene making it light weight and durable
- Versatile applications
- 25-year design life – as per manufacturer's installation detail

Technical Specifications



Material	Recycled Polypropylene
Dimensions	L 1000mm x W 500mm x H 42mm
Maximum Load Bearing Capacity	NATA Certified (AS3996)
Weight	2.7 kg
Temperature Tolerance	Project specific
Water Permeability	99.7%
Infiltration Rate	Infill dependent
Sustainability	100% Recyclable
Infill Requirements	$1m^3$ of aggregate covers approximately $20m^2$ of Geohex. 3mm – 15mm.
Warranty	12 months
Connection Method	Clip lock system

Geohex Applications

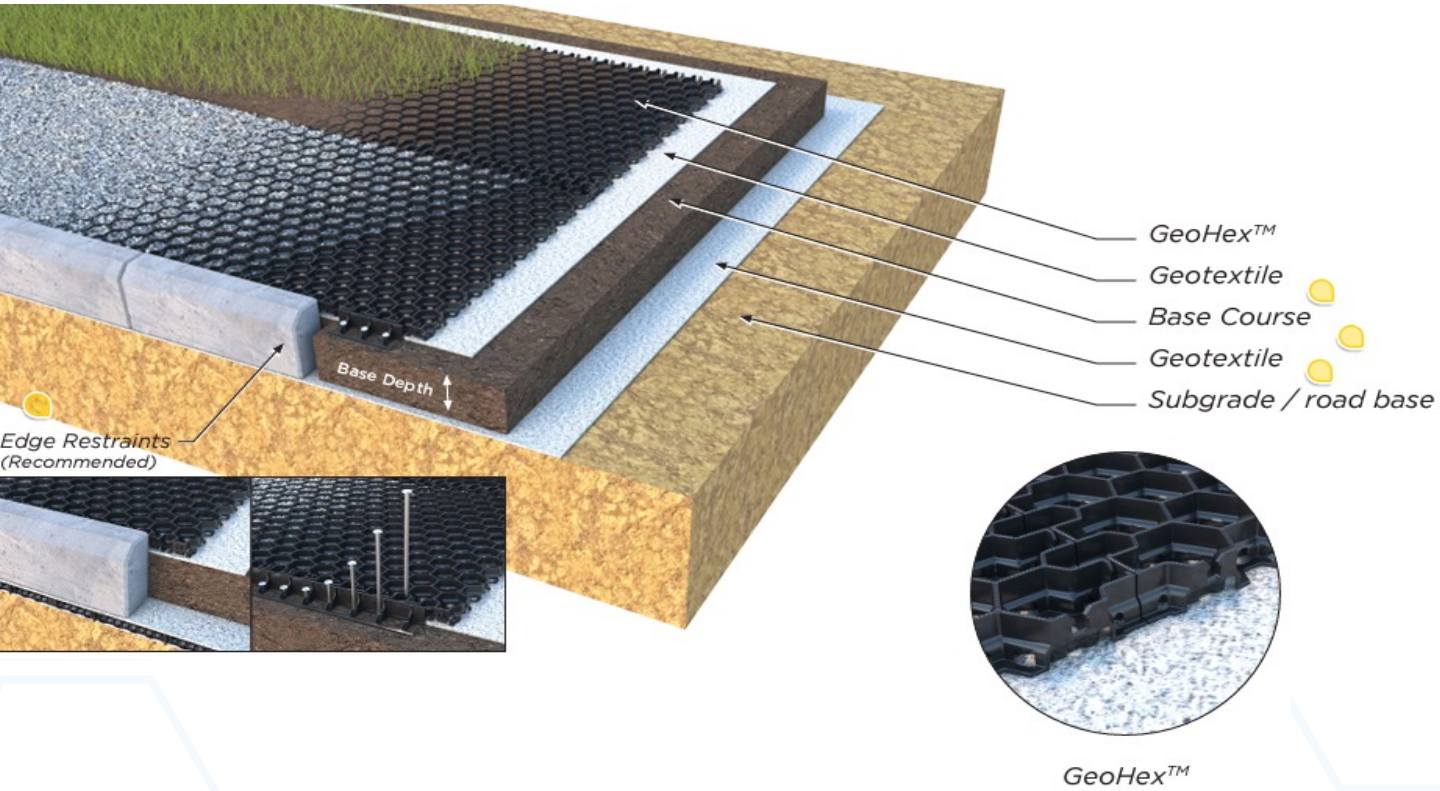
Parking Areas / Hardstands	Golf Courses	Municipal Parks	Driveways
Aggregate Paths & Roads	Caravan Parks under turf	Feedlots & Troughs	Dairy Lanes
Landscaped Areas	Equine, Cattle, Sheep Yards / Agistments	Under Large Water Tanks	Sportsgrounds

AS3396 Class Definitions

Type	Class	Typical Use	Nominal wheel loading	Serviceability design load	Ultimate limit state design
	A	Areas accessible strictly by pedestrians. Not suited to vehicles. Purpose - residential backyards. Walkways not accessible by vehicles.	330 kg	6.7 kN	10 kN
	B	Private and shared residential property. Suitable for vehicles accessing driveways and fooways. Low speed only. Purpose - residential driveways, unit sites, parklands and residential car parks.	2,670 kg	53 kN	80 kN
	C	Residential roads and car parks trafficable to vehicles. Purpose - areas with slow moving traffic and minor roads.	5,000 kg	100 kN	150 kN
	D	Major roads including freeway and motorway shoulders. Warehouses and loading docks. Purpose - major roads.	8,000 kg	160 kN	240 kN
	E	Freeway and motorway carriageways. Suitable for all heavy vehicles. Purpose - freeways and motorways.	13,700 kg	267 kN	400 kN
	F	Docks, wharfs and airport service and taxiways. Purpose - heavy and high traffic volumes.	20,000 kg	400 kN	600 kN
	G	Docks, wharfs and airway runways. Purpose - heavy and high traffic volumes.	30,000 kg	600 kN	900 kN

Rural & Landscaping Installation Guide

Base Depth		
0 - 50mm	Foot traffic only	
50mm - 100mm	Turf stabilisation	Golf Cart Paths



GeoHex™

This graph is based on non-reactive soils only. For advice on reactive soils please contact the GEOHEX team on (02) 9603 5322.

Base: DGB20mm crushed rock, compacted (95–98%)

Rural & Landscaping Applications

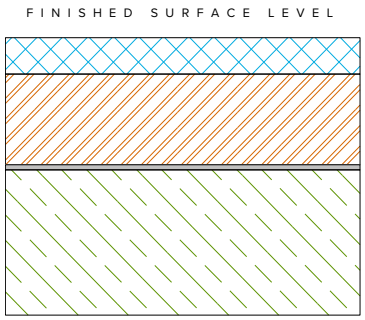
Farming

Agistment

Landscaping

Class B Installation Guide

Use Case	Areas (including footways & light tractor paths) accessible only to vehicles (excluding commercial vehicles) or livestock (light duty), rural/farm golf course.
Ultimate Limit State Design Load	80 kN
Serviceability Design Load	53 kN
Normal Wheel Loading	2,670 kg

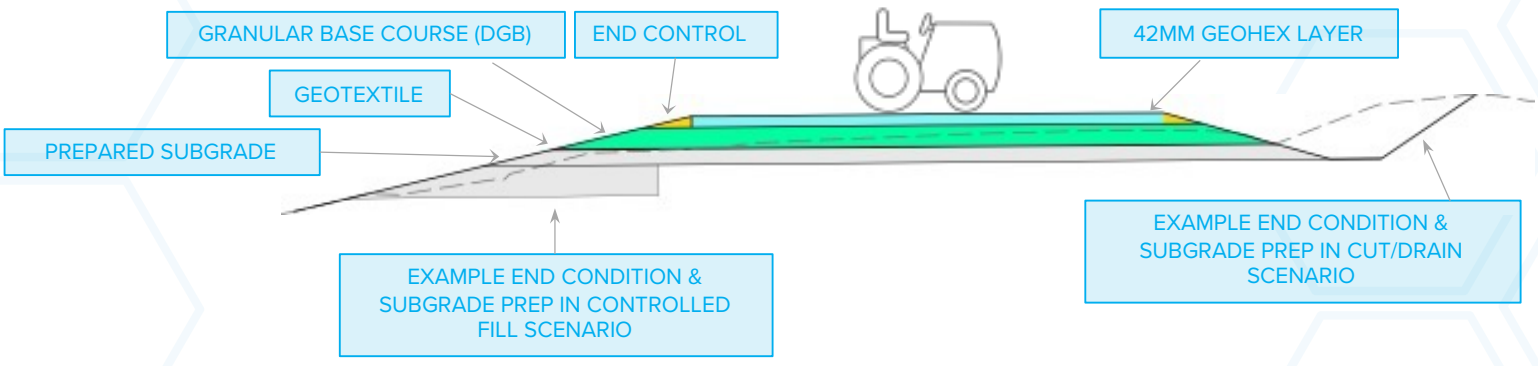


Geohex with crushed rock infill (42mm thick)

150mm thick compacted base layer

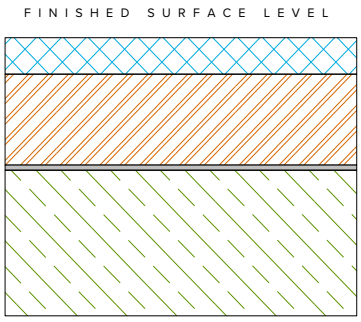
14mm Geofabrics Geotextile Layer

Nominal thickness re-compacted subgrade CBR > 5%



Class D Installation Guide

Use Case	Carriageways of unclassified roads, areas open to commercial vehicles, light trucks including loading docks, laydown yards.
Ultimate Limit State Design Load	240 kN
Serviceability Design Load	160 kN
Normal Wheel Loading	8,000 kg

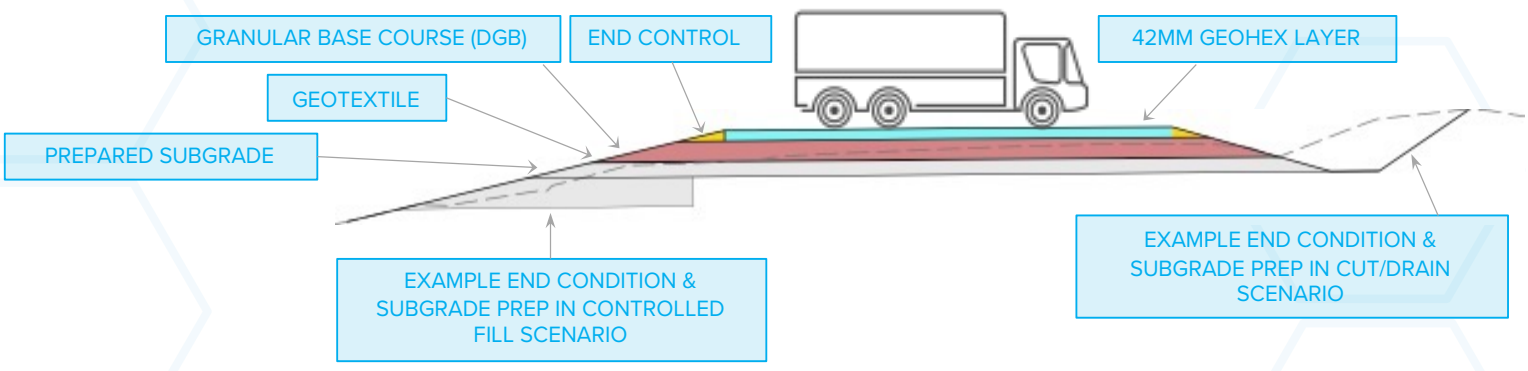


Geohex with crushed rock infill (42mm thick)

200mm thick compacted base layer (place in 2 x 100mm layers)

14mm Geofabrics Geotextile Layer

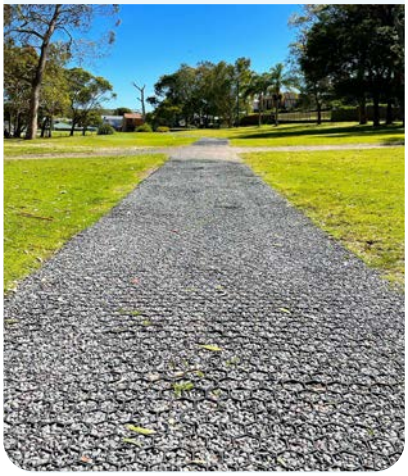
Nominal thickness re-compacted subgrade CBR > 5%



Class B & D Applications

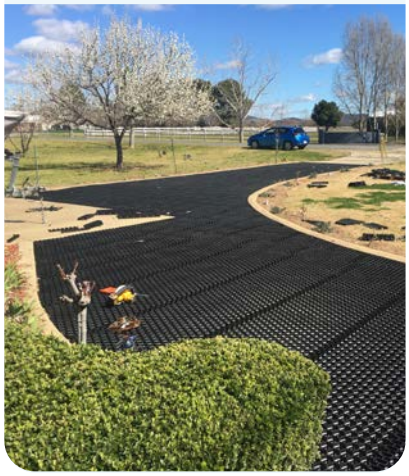
Class B Applications

Golf Courses



Beach Access

Driveways



Class D Applications

Hardstands

Roadways

Civil

Installing GEOHEX™ on sloped surfaces

When installing GEOHEX™ on any slope, it is best practice to secure the pavers with 150mm - 300mm landscaping screws with a 17mm bugle head. The number of screws per needed per panel is relative to the angle of the sloped surface the product is being installed on.

Please note when laying GEOHEX™ on a slope, it is important not to overfill the GEOHEX™ paver. Overfilling may result in aggregate being lifted from within the honeycomb cell. We recommend using an aggregate of 10mm -15mm in diameter to allow for ample drainage.

For adjoining areas on sloped installations, divert high levels of runoff water away from the GEOHEX™ installation site to prevent erosion forming under the product.

For subterranean installations, 100mm x 200mm plinths may be used at a depth of 200mm to stabilise ground movement beneath GEOHEX™. Refer to your current state building codes for more detailed reference information.

Important note – For best results, slopes over 15 degrees we recommend a certified engineering evaluation and site report prior to installation.

For all sloped installations or more detailed advice on your specific GEOHEX™ installation, contact our team of Territory Sales Managers on (02) 9603 5322.

Geohex Fill Materials

Fill Material	Procedure	Tips
Lime (crushed/granular)	Use at a diameter of up to 15mm and ensure medium to high levels of compaction.	Avoid lime with a high clay content as the surface will become excessively slippery.
Pumice	Great for drainage and soft surface requirements.	Ensure good compaction and low sand content.
Blue metal and recycled crusher/ cracker dust	Very good compacter and useful for exits and entry roads	Needs thorough and uniform compaction.
Rotten stone (also known as riverstone)	Good for bovine hooves and is also preferable for many other livestock.	Must be no bigger than 15mm in diameter. Can get slippery when wet. Must be soft enough to avoid damaging the GEOHEX™ Erosion Control System.
Soil	Only use where extremely soft surfaces are required. Ensure a very high level of compaction. Also good for areas where the promotion of turf growth is required.	Ensure the soil is clean and free of contaminants such as large racks, metal or glass. Can be mixed with 10% to 15% washed sand.
Other	Fine, rock or soil like material that is less than 15mm in diameter.	Avoid fillings that have high stone content or sharp edges.

Aggregate Base Recommendations

Driveways	Compacted DGB20mm crushed rock (or equivalent), well graded up to 20mm. For sloped driveways, please see Slopes for more information.
Horse Stables	Compacted DGB20mm crushed rock (or equivalent), well graded up to 20mm.
Cattle Yards	Compacted DGB20mm crushed rock (or equivalent), well graded up to 20mm
Lawns	Compact soil to the top of the GEOHEX™ pavers before watering and filling in any spots that are uneven. Turf can then be laid over the top of the GEOHEX™ pavers. Alternatively, seed or spray grass can used.

Pictured Cattle Yard

Frequently Asked Questions

Q: Can the GEOHEX™ Erosion Control System be used anywhere?
A: Yes, the GEOHEX™ Erosion Control System can be used in any type of soil or geological configuration.

Q: How big are the GEOHEX™ pavers?
A: The GEOHEX™ pavers come in a standard size of 0.5sqm, however, panels can be cut to size to suit your specific installation if required.

Q: How does the GEOHEX™ Erosion Control System promote safety?
A: The GEOHEX™ Erosion Control System stabilises turf and ground areas, meaning there is a lot less potential for accidents to occur. It also minimises the risk of machinery or livestock getting bogged in muddy areas. By using the GEOHEX™ Erosion Control System in landscape applications, embankment subsidence and large movements of soil and rock can be easily prevented.

Q: How does the GEOHEX™ Erosion Control System promote water conservation?
A: The unique, hexagonal and porous design of the GEOHEX™ Erosion Control System means that water is captured in the soil which can then be diverted into storage and detention tanks. This lowers the amount of surface water runoff, meaning less soil erosion and allows rainwater to be used for secondary purposes.

Q: How heavy are the GEOHEX™ pavers?
A: Each GEOHEX™ standard 0.5sqm pavers weigh 2.7kg (unfilled).

Q: Is the GEOHEX™ Erosion Control System strong?
A: Yes, the GEOHEX™ Erosion Control System is NATA-certified to Class G loads, ensuring superior strength and reliability for demanding applications, including erosion control, subgrade stabilisation, and vehicular access.

Q: Is the GEOHEX™ Erosion Control System safe to use in the ground?
A: The GEOHEX™ Erosion Control System is non-toxic to humans, animals and plants and also non-reactive to solvents, oils, chemicals and water.

Frequently Asked Questions

Q: How far down do I need to excavate to lay the GEOHEX™ pavers?
A: We recommend excavating down to a minimum of 200mm however, final excavation will need to be determined by the existing material in the installation area. For example, water soaked mud and very sandy soils will require a thicker base than solid clay or rock bases. We also recommend laying a 150mm compacted road base sub-layer prior to installing the GEOHEX™ pavers.

Q: What is the best way to lay the GEOHEX™ pavers once the base has been prepared?
A: We recommend laying the GEOHEX™ pavers starting in one corner with the male lugs facing outward and female lugs facing the next paver to be laid on both sides. Once you've determined the start point, lay the pavers in a staggered pattern for strength and durability, and simply click into place.

Q: Can I adjust or move the GEOHEX™ pavers once installed?
A: There is a small amount of flexibility in the GEOHEX™ pavers to allow for movement if you need to make minor adjustments or follow any ground contours.

Q: Can the GEOHEX™ Erosion Control System be used on sloped ground?
A: Yes, the GEOHEX™ Erosion Control System can be used on sloped ground. For best results we recommend laying on inclines of 10mm or less but for inclines greater than 10mm we recommend the use of ground pins to secure the paver. Type 17 Bugle Head Screws, galvanised and a minimum of 300mm long can be screwed into the sub-grade without the need for hammering through the cell material.

Q: What infill material can I use with the GEOHEX™ Erosion Control System?
A: While excess material from the excavation is acceptable for infill, a granulate material made up of a mix of size and grade that packs down into the matrix will deliver the best result. For roads, we recommend cracker dust, road base or limestone. Please note that aggregate larger than 15mm will not settle well into the void.

Q: How much infill is required to fill a GEOHEX™ paver?
A: $1m^3$ of aggregate will cover approximately $20m^2$ of Geohex.

GEOHEX™

Disclaimer: The information provided herein is for reference purposes only. It is intended as a guide and will not apply to every circumstance as both site conditions and intended use varies. Determination of the suitability of use of the product given the site conditions and intended function is the sole responsibility of the user. We recommend the user seek the advice of a Civil Engineer to assess site conditions and recommend a suitable site preparation procedure using locally available materials and machinery to ensure a successful installation. We accept no responsibility for failure to seek appropriate installation advice prior to the installation of GEOHEX™.

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Certified System Quality ISO 9001 SAI GLOBAL

Certified System Environment ISO 14001 SAI GLOBAL

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