PREMIER

BRICKS + PAVERS



Permeable Pavers

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PREMIER

Permeable Paving

A more sustainable solution that helps water filter naturally into the ground, easing pressure on drainage systems and supporting healthier outdoor environments.

400x400x55mm

Black



Natural



200x100x55mm

Black



Natural



Rapid Drainage

Made with 90% recycled material

Strong & durable

Freeze-thaw resistant

Slip resistant

A smart solution for a healthier environment.

Premier Permeable Pavers are designed to manage stormwater naturally, reducing surface runoff and helping to create cooler, clearner and more liveable spaces.

Manufactured from 90% recycled material, consisting of crushed porcelain and clay bricks, these pavers combine sustainability with exceptional performance. The high colume of interconnected pores allows rainwater to pass quickly through the surface, returning to the ground and supporting natural water circulation.

A practical, attractive and environmentally responsible paving solution for a wide range of projects.



Rapid drainage of stormwater

Rainwater quickly passes through the surface, reducing surface ponding and flooding.



Ground water recharge

Helps restore natural water circulation and reduces pressure on stormwater infrastructure.



Improved environmental performance

Supports a cooler urban environment and reduces urban runoff.



Sustainable materials

Made with 90% recyled porcelain and clay bricks, transforming waste into a high-performance paving solution.

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Product Performance

Engineered for strength, durability and long-term performance in all weather conditions.

High permeability	Greater than 700mm/hour, allowing rapid infiltration of rainwater.
High surface porosity	Exceeding 30% with interconnected pores for excellent water infiltration.
High compressive strength	47 MPa, suitable for pedestrain and vehicular applications.
Freeze-thaw resistant	Performs in cold climates without cracking or loss of strength.
Weathering resistant	Maintains appearance and performance through long term exposure to the elements.
Slip resistant surface	Textured finish for enhanced slip resistance in wet conditions.
Exceptional durability	Designed for long service life in high traffic areas.



Product Applications

Premier Permeable Pavers are suitable for a wide range of applications, like residentials, commercaial and public projects.



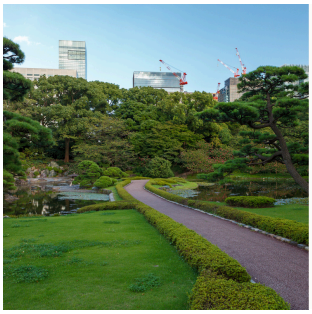
Residential

Driveways and patios.



Commercial

Commercial developments.



Public Spaces

Plazas, town centres, pathways and recreational areas.



Educational Facilities

Schools and universities.



Pool Surrounds

Pool surrounds and landscaping projects.

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Product Details

Specifications	
Product Name	Premier Permeable Paver
Dimensions	400 x 400 x 55mm
Colours	Black, Natural
Weight (per paver)	15.50kg
Number per m^2	6.25 pavers
m^2 per pallet	19.2m^2
Pallet quantity	84 pavers
Pallet dimensions	L 950mm x W 950mm x H 980mm
Material composition	90% recycled material (crushed porcelain and clay bricks)
Surface porosity	> 30%
Water permeability	> 700mm/hour
Compressive strength	47 MPa

PREMIER

Product Details

Specifications	
Product Name	Premier Permeable Paver
Dimensions	200 x 100 x 55mm
Colours	Black, Natural
Weight (per paver)	3.8kg
Number per m^2	25 pavers
m^2 per pallet	$24m^2$
Pallet quantity	600 pavers
Pallet dimensions	L 950mm x W 950mm x H 980mm
Material composition	90% recycled material (crushed porcelain and clay bricks)
Surface porosity	> 30%
Water permeability	> 700mm/hour
Compressive strength	47 MPa

Technical Information

Introduction

With significant rainfall across New Zealand, stormwater infrastructure can face considerable pressure during heavy rain. Increasing urban density and smaller residential sections have also reduced the land available for natural water absorption, making effective stormwater management increasingly important.

Functionality

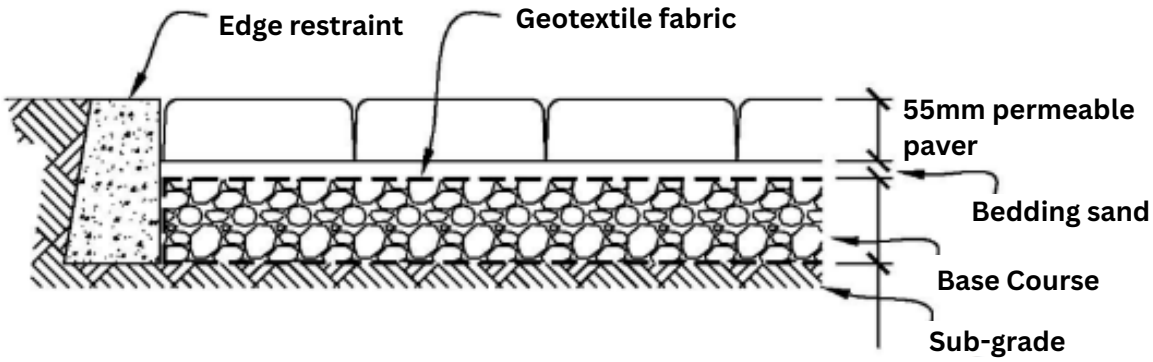
The Premier Permeable Paver system is designed for residential and commercial applications, helping to manage stormwater at the surface.
The system allows water to pass through the paving and into the ground, helping to reduce runoff, relieve pressure on stormwater networks and minimise surface ponding.

Where council stormwater infrastructure is unavailable, permeable paving can help manage water on-site and reduce runoff onto neighbouring properties. It can also be incorporated into retention systems to temporarily store water and release it gradually into the council network.

Council Requirements

This brochure provides general guidance on the installation and functionality of the Premier Permeable Paver system. It should be used alongside advice from the relevant project professionals, including a qualified civil engineer and/or landscape architect, to ensure the system meets the requirements of the relevant Territorial Authority.

Typical Cross-section



TYPICAL CROSS SECTION

Technical Information

Sub-grade
The natural ground beneath the paving system. Its bearing capacity determines the required base course depth to support the system and its intended loads.

Filter Cloth
A non-woven polypropylene geotextile allows water to pass through while retaining the bedding sand and preventing surrounding soil and clay from entering the sub-base. It must fully encapsulate the base course to maintain system efficiency.

Storm-water drain
Typically 65mm or 110mm NOVAFLO, with perforations that allow water to enter from the sub-base. Positioned at the lowest point of the system, it directs water to a collection or discharge point.

Base course
The compacted base course provides structural support for the paving system and its intended loads. Use clean, open-graded aggregate free of fines to allow water to move freely through the base. GAP aggregates are not suitable.

Winstone's WAPP12 is one option for consideration by your civil engineer. A minimum depth of 100mm is recommended, increasing to 300–400mm depending on sub-grade bearing capacity and system design.

A binding layer of washed silt-free river sand 2000 micron is recommended across the top of the WAPP12 to help protect the geotextile fabric.

Bedding Sand
Lay permeable pavers on 20–30mm of clean, coarse bedding sand with a maximum particle size of 3mm. Iron sand, silty river sands and sands with cementitious properties are not suitable.

Jointing Sand
Use the same sand for jointing as for bedding. Sweep the sand into the joints at a 45-degree angle until flush with the top of the pavers. Thoroughly remove excess sand.

Laying Pattern
A herringbone pattern is recommended to help minimise movement and support the long-term performance of the paving.

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Installation
Install pavers in accordance with NZS 3116:2002. GAP aggregates must not be used, as fine particles can clog the system and reduce its efficiency.

The design must also consider the sub-grade's ability to absorb moisture and the need for filter fabrics.

This information is provided as a guide only and does not replace professional engineering advice.

Sub-grade Assessment
The strength of the sub-grade is critical to the performance of the entire paving system.

For smaller projects, NZS 3116:2002 outlines a test to classify sub-grade strength as weak, medium or strong.

For larger projects, or where sub-grade strength is uncertain, NZS 4402:1986 outlines the Scala Penetrometer test for determining the California Bearing Ratio (CBR) value.

Sub-grade Strength	**Sub-grade classication**	**Test on soaked ground**
Weak	CBR 5	Walking leaves a positive footprint.
Medium	CBR 10	Heel pressure makes an imprint.
Strong	CBR 15	There is no imprint on the ground.

Sub-grade Specification
This table provides a general guide to sub-grade requirements for permeable paving systems. The use of geotextile filter cloth is recommended for most applications to help maintain system efficiency and maximise performance.

Technical Information

Application	Sub-grade strength			Paver
	Weak	Medium	Strong	
All footpath situations, patios and the like.	100mm	100mm	100mm	60mm
Residential single unit driveways.	150mm	125mm	100mm	60mm or 80mm
Residential multi-unit driveways and ALL commercial traffic.	Engineering Design	150mm	125mm	80mm

Design Considerations

1. Where sub-grade strength is inadequate, consider excavating an additional 150–300mm and installing GAP 40 or GAP 65 fill before the sub-base.
2. Where the permeable paving system is designed to store and retain larger volumes of water, increase the sub-base depth to accommodate the required storage capacity.
3. Winstone's WAPP12 is recommended for the sub-base, with a storage capacity of approximately 40 litres/m^2 at 100mm depth (400 litres/m^3). EnviroMix concrete may also be considered, with a storage capacity of approximately 250 litres/m^3.
4. On very weak sub-grades, avoid vibrating compactors. Use a static roller with minimal passes to prevent disturbing the soft ground. Consult a civil engineer for advice.
5. In areas subject to heavy traffic, where ground conditions are uncertain, a biaxial geogrid may be required over the sub-grade before installing GAP 40 or GAP 65 to the depth specified by the engineer.
6. On sloping sites, water naturally flows to the lowest point, potentially affecting system performance. Consider installing concrete weirs to control water flow and direct it into an integrated drainage system.
7. Secure the permeable pavers and supporting system with robust, well-designed kerbing on both sides to prevent movement under traffic loads.

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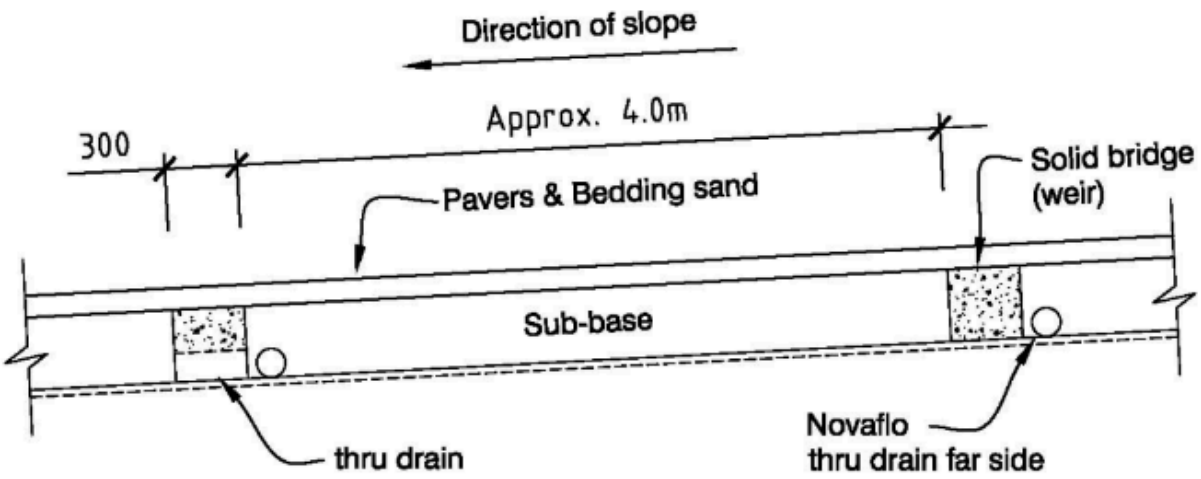
Bedding & Jointing Material
The bedding layer should be approximately 25mm thick, using coarse sand that complies with NZS 3116:2002, Table 4, Sand Category III.
Alternatively, Winstone's WAPP7 clean metal chip, with particle sizes between 2mm and 7mm, may be used. Apply light compaction only.

Sloping Sites
On sloping sites, the design must account for water flowing rapidly through the system and accumulating at the lowest point. Concrete weirs can help control water flow and reduce the risk of flooding.

Install concrete weirs approximately 300mm x 300mm across the paved area, at intervals of no more than 4m.

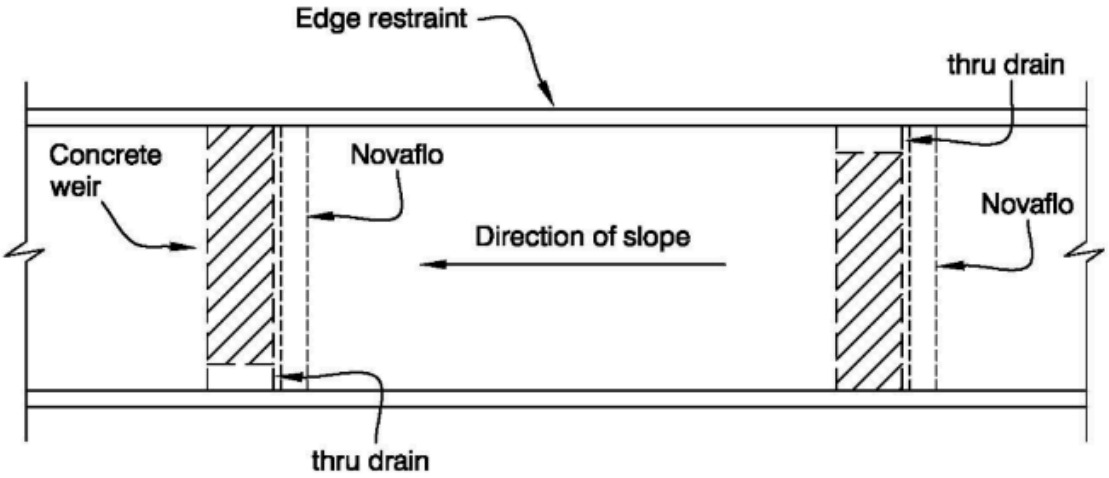
Position a Novaflo drain at the lower end of each section, adjacent to the weir, to allow water to drain freely. Install a through-drain at one end of each weir to allow water to pass into the next section, alternating sides between sections.

Engineering advice is recommended to ensure the system is designed to suit the site conditions.



SLOPING SITE - WEIRS CROSS SECTION

Technical Information



PLAN VIEW - SLOPING SITE

General Comments

Before installation, thoroughly investigate the site and locate all underground services, including gas, electrical and drainage, to avoid costly damage or remedial work. Consider any trees and root systems that may be affected by the proposed stormwater system.

When correctly installed, permeable paving can help improve runoff water quality as water passes through the sub-base. The system can retain certain heavy metals and nutrients through a process known as Cation Exchange Capacity (CEC).

System performance and lifespan will vary depending on site conditions and the amount of sediment entering the system. Regular maintenance, including removing leaves, dirt and other debris, helps maintain efficiency and extend the system's operating life. With appropriate design, installation and maintenance, permeable paving systems can perform efficiently for many years.

Premier permeable paver and system base aggregates

Base Aggregates

WAPP12 | Approx. 13mm–5mm | 1.45 tonnes/m^3

WAPP40 | Approx. 40mm–7mm | Suitable for soft ground and commercial applications. | 1.16 tonnes/m^3

Bedding and Jointing Sand

Washed, silt-free river sand | Approx. 2000–400 micron | 1.3 tonnes/m^3

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Maintenance Instructions

Annual cleaning with a mechanical rotary brush is recommended to remove sediment build-up. Maintenance frequency will depend on factors such as location, traffic levels and environmental conditions.

Household detergent can be used as a foaming agent alongside the mechanical brush to help lift sediment from the pavers.

Handheld water blasting is not recommended, as it can push sediment deeper into the pavers and reduce their permeability.

See the link below for an example of suitable cleaning equipment.

https://www.kennardshire.co.nz/for-hire/cleaning-floor-care/pressure-washers/pressure-washer-rotary-walk-behind-2500-psi











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MIE

GOT A QUESTION?

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