

Allied Concrete

Permacore®



Permacore®

Permacore® is engineered for environments where managing water matters.

As a high-void permeable concrete, it allows rainwater to pass directly through the surface, reducing runoff and supporting natural drainage.

Designed for New Zealand conditions, Permacore helps designers, contractors, and developers deliver practical, compliant, and buildable solutions, not just theory.

Built for Better Water Management

Permacore® is Allied Concrete's permeable concrete solution, designed to manage water where it falls. By allowing water to pass through the surface and into the ground below, Permacore helps reduce runoff, minimise ponding, and support modern stormwater and environmental requirements.

Whether you're designing a project or placing concrete on site, Permacore delivers practical, reliable performance.

Why Permacore®

Permacore® is a permeable (no fines) concrete with an open structure that allows water to flow through it. Instead of sitting on the surface, water moves through the concrete and into the base below.

Permacore is designed for real-world conditions, balancing performance, durability, and drainage.

- Reduces surface water and runoff
- Supports stormwater and environmental compliance
- Helps manage drainage without additional infrastructure
- Durable and fit for purpose when installed correctly

Where you can use it

Permacore® performs well across a wide range of applications, including:

- Driveways
- Car parks
- Footpaths and walkways
- Landscaping and outdoor areas
- Tree surrounds and urban spaces
- Low traffic pavements

Typical Performance

- Void content averages 20%
- Compressive strength: up to ~25MPa (application dependent)
- High infiltration rates (when installed correctly)

How it works

A system, not just a surface

Permacore® works by allowing water to pass through the concrete and into a prepared, free-draining basecourse below.

For this to work effectively:

- The concrete mix must allow water flow
- The basecourse must be designed to drain or infiltrate
- Installation must maintain the open structure

Features and Benefits

Features:

- Permeable concrete with open void structure
- Engineered mix design for strength and drainage
- Designed to work with prepared basecourse systems
- Supported by Aquapave, a certified permeable concrete company in New Zealand

Benefits:

- Improved drainage - Water flows through the surface, reducing ponding and runoff
- Reduced infrastructure demand - Less reliance on traditional stormwater systems
- Durable performance - Designed to handle everyday use when installed correctly
- Reduced impact from tree roots in landscaped environments
- Practical to place - Straightforward installation with the right approach and support

A smarter way to manage water,
without compromising on performance.

Performance starts with installation

Permacore® is supported by a network of approved installers trained in permeable concrete systems.

From base preparation through to placement and curing, they understand the specific requirements needed to deliver consistent, high-quality results on site.

Working with an approved installer helps ensure:

- The system is installed to best practice
- Permeability and performance are maintained
- Common installation risks are avoided

Use DesignHub® to connect with an approved installer or get guidance for your project.



Preparation Matters

Permacore® performance starts well before the concrete is placed. Like any permeable system, the basecourse and subgrade play a critical role in how the surface performs over time.

A properly prepared system ensures water can move through the concrete and into the layers below, rather than being trapped within the slab.

To achieve the best outcome:

- Use a free-draining, open-graded basecourse, not standard GAP materials
- Ensure the subgrade is stable, level, and suitable for infiltration or drainage
- Install geotextile where required to prevent contamination of the basecourse
- Design the system to suit site conditions and expected use

Installation Matters

Permacore® is easy to work with, but like any high-performance concrete, it relies on good practice.

Key considerations:

- Prepare a free-draining basecourse
- Avoid overworking the surface during placement
- Compact carefully without closing the voids
- Cure immediately after placement

Good installation ensures long-term performance.

Work with an approved installer or talk to Allied early to ensure the right approach on site.

Maintenance Matters

Permacore® is designed to manage water through the surface. Over time, dirt, debris, and organic material can reduce this performance if not managed.

Regular maintenance helps maintain permeability and extends the life of the system.

Simple maintenance includes:

- Sweeping or blowing off leaves and debris
- Preventing soil and sediment from washing onto the surface
- Periodic cleaning where required

If the surface becomes blocked, permeability can typically be restored through cleaning methods such as pressure washing or vacuuming.

Mistakes to Avoid

These are the biggest reasons permeable systems fail:

- Using standard GAP basecourse instead of drainage aggregate
- Over-compacting or over-finishing the surface
- Poor subgrade preparation
- Blocking the surface with sediment during construction

Step 1

Prepare the Subgrade Properly

- Must be even, compacted, and free-draining
- Weak or saturated ground may need stabilisation
- Poor subgrade reduces both strength and drainage

Step 2

Start with the Base

- Use clean, open-graded drainage aggregate, not standard GAP
- Ensure adequate depth for the application
- Install geotextile where required to prevent contamination

Step 3

Place with Care

- Place directly and evenly
- Avoid excessive handling or reworking
- Water may be added to the truck to keep the concrete paste soft

Step 4

Compact, Don't Overwork

- Light compaction is required to bind the mix
- Avoid excessive vibration or finishing
- Overworking the surface will prematurely dry the paste and cause contiguous dislodgement

Step 5

Finish Differently

- Do not trowel like standard concrete
- Maintain the open, textured surface
- Minimal finishing is best
- Use force to consolidate the surface/ensure good paste contact between surface aggregate

Step 6

Cure Immediately

- Prevent rapid drying
- Apply curing membrane as soon as possible
- Critical for strength and durability



By allowing rainwater to pass through the surface and into the ground below, Permacore® helps reduce the impact of hard surfaces on the natural environment.

Smarter water management, built into the surface

Permacore® supports more sustainable site design by managing water at the source. By allowing rainwater to pass through the surface and into the ground below, it reduces runoff, eases pressure on stormwater systems, and helps return water to the natural environment.

As water moves through the system, sediment and pollutants can be filtered out, improving water quality while also reducing peak flow during storm events. This helps mimic natural ground conditions, delivering the durability of concrete with the environmental performance of a permeable surface.

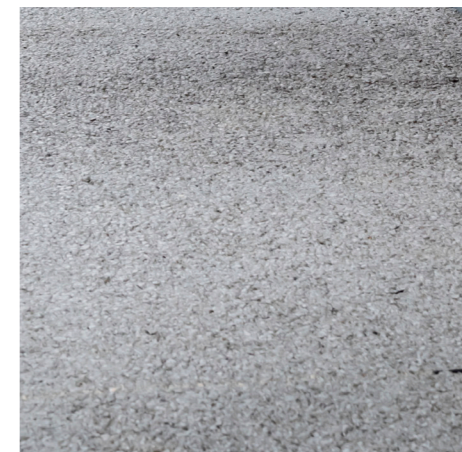
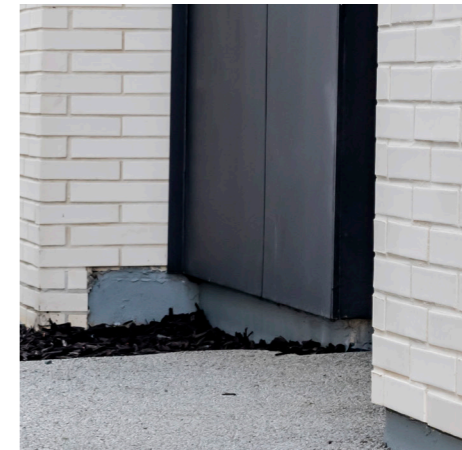
Smarter infrastructure

By managing water where it falls, Permacore can reduce the need for traditional stormwater infrastructure such as extensive drainage networks, retention systems, and detention tanks. This can simplify site design and allow for more efficient use of available space.

Designed for long-term performance

Sustainable outcomes rely on systems that perform over time. Permacore is designed to maintain permeability with proper maintenance, while still delivering the strength and durability required for everyday use. When correctly designed and installed, it supports long-term environmental and compliance outcomes without compromising performance.

Permacore® can be paired with Ecrete to deliver a lower carbon concrete solution, without compromising performance.



FAQs

1. How long does permeable concrete last?

When correctly designed, installed, and maintained, permeable concrete can perform for many years, comparable to traditional concrete in similar applications, typically lasting 30 to 50 years.

2. Can Permacore clog?

Yes, like any permeable surface, it can clog over time if exposed to excessive sediment, dirt, or organic material, however clogging is generally preventable and manageable with regular maintenance.

3. How do you maintain Permacore?

Maintenance is simple:

- Sweep or blow off debris regularly
- Prevent soil and sediment washing onto the surface
- Periodically wash or clean if required

If clogging occurs, the surface can be restored using pressure washing and/or vacuum cleaning.

4. What happens if it stops draining?

Reduced drainage is usually caused by surface blockage, not product failure.

In most cases, cleaning the surface restores permeability.

5. Can Permacore be pumped?

Permacore is a low slump concrete and is typically not pumped like standard concrete.

Placement methods may vary depending on the project, and guidance should be followed to ensure the best outcome.

6. What base materials should be used?

Permacore must be installed over a free-draining, open-graded aggregate base.

Standard GAP materials are not suitable, as they restrict drainage and can lead to failure.

7. Is Permacore suitable for all sites?

Permacore is best suited to areas where:

- Drainage is required
- Subgrade conditions allow infiltration or managed drainage

Sites with high clay content or heavy sediment loading may require additional design consideration

8. Is it as strong as normal concrete?

Permacore is designed to balance strength and permeability.

It is suitable for driveways, car parks, footpaths and light traffic areas. The mix can be tailored depending on the application

9. Does it meet compliance requirements?

When correctly designed and installed as part of a system, permeable concrete can support compliance with stormwater and environmental requirements.

10. Do I need a specialist installer?

Permacore should be installed by contractors familiar with permeable concrete systems. Using an approved installer helps ensure correct methods are followed and long-term performance is achieved.

11. What is DesignHub and how can it help?

DesignHub is Allied Concrete's design and technical support service, helping ensure your Permacore system is designed and delivered correctly from the start.

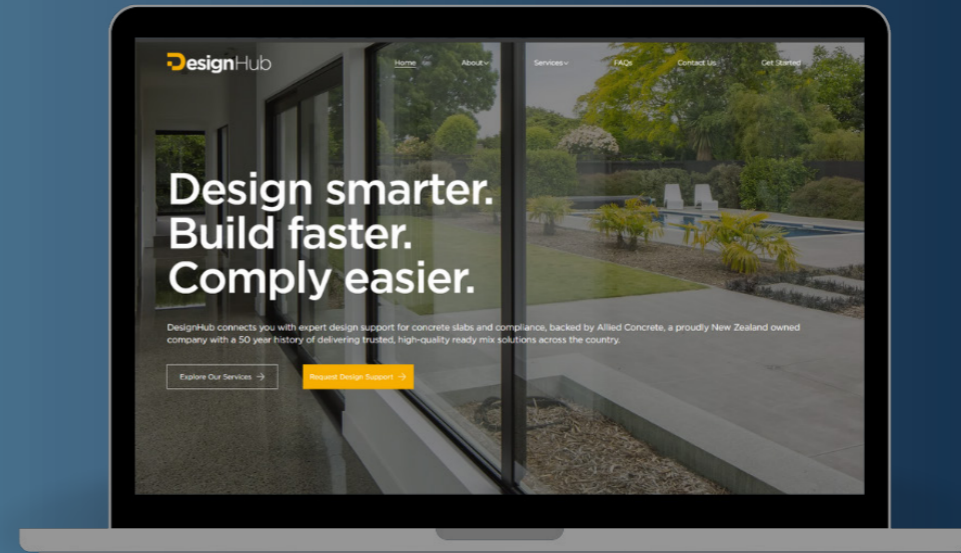
It provides support for:

- System and application selection
- Subgrade and Basecourse and drainage design
- Specification and compliance requirements
- Installation guidance and best practice

DesignHub can also connect you with Permacore approved installers, helping ensure your project is delivered using proven methods.

REQUEST PERMACORE® DESIGN SUPPORT »»

thedesignhub.co.nz



Still have questions?

Talk to the Allied Concrete team or request support through DesignHub
alliedconcrete.co.nz | thedesignhub.co.nz



Scan to visit
website

Find Permacore® Near You!

Permacore® is available from Allied Concrete plants across New Zealand. For specific mix availability and support in your area, please contact your local team.

Our team is committed to delivering permeable concrete solutions tailored to your project's needs, ensuring you get the right outcome from design through to delivery.

For the best results, talk to us early to ensure the right system design, base preparation, and installation approach.



Allied Concrete

Consult your Allied Concrete representative
for specialised information.

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www.alliedconcrete.co.nz

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