



PERMCN

OPERATIONS & MAINTENANCE MANUAL

FOR PERMCN
PERMEABLE CONCRETE





WHAT IS PERMCON PERMEABLE CONCRETE?

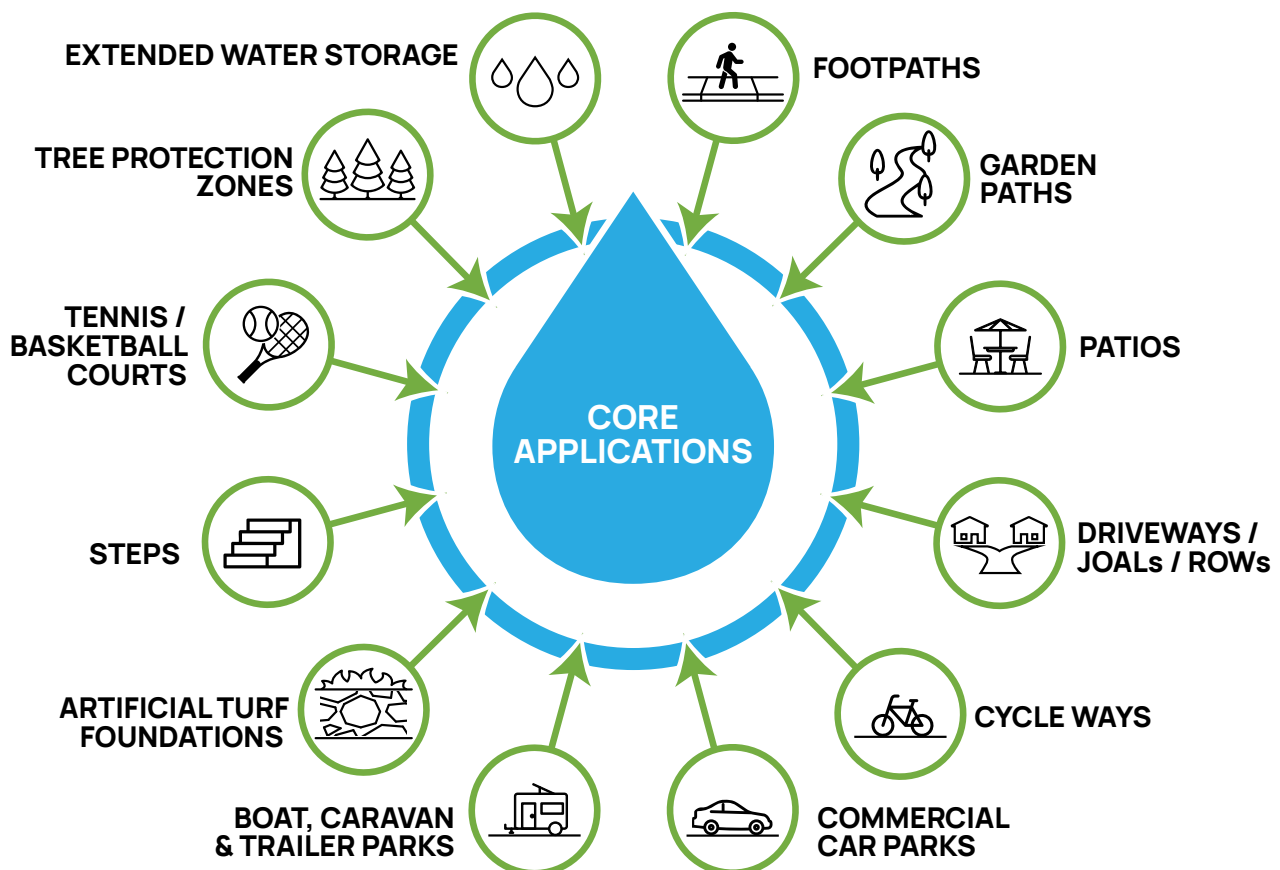
Permcon permeable concrete is made for light-to-medium traffic and pedestrian areas. It helps meet permeable surface requirements by allowing water to drain through, without increasing impermeable ground cover. It also supports stormwater management by slowing runoff and filtering pollutants before they reach local waterways.

HOW PERMCON SUPPORTS WATER MANAGEMENT

Permcon contains little to no fine material in its mix – typically nothing smaller than 5mm. This creates voids between the aggregate, allowing stormwater to flow through the surface into an open-graded aggregate layer beneath. This lower layer temporarily holds water, which can then soak into the natural subgrade, evaporate into the atmosphere, or enter the stormwater system in a controlled way. The open-graded layer also traps sediments and pollutants, helping to prevent them from reaching local waterways.

WHY MAINTENANCE MATTERS

When properly installed and maintained, Permcon permeable concrete can last 15-20 years. This manual outlines key maintenance practices to help ensure long-term performance.





MAINTAINING PERFORMANCE OF PERMEABLE CONCRETE SURFACES

Permeable concrete surfaces in New Zealand must have a minimum permeability rate of 1200 mm/hour at installation. To remain compliant, this rate must not fall below 120 mm/hour. Below that, the surface is no longer considered permeable.

The standard test method used in New Zealand to measure infiltration of in-place pervious concrete is ASTM C170.

Permcon's infiltration rate will gradually decrease over time as dust, sediment and organic matter accumulate on the surface. To help maintain performance:

- **Keep the surface clear.** Homeowners, property managers or maintenance crews should regularly remove rubbish, leaves, sediment and other debris – especially after storms.
- **Design adjacent landscaping carefully.** Ensure soil levels sit 5-10mm lower than the pavement to prevent runoff carrying sediment across the surface.
- **Use planting to stabilise soil.** Grass or groundcover helps bind bare areas and slows water movement.
- **Communicate with landscapers.** Anyone maintaining nearby garden areas should understand how Permcon works, so they can avoid introducing organic matter.
- **Protect before tipping.** Lay a barrier if you're tipping soil, mulch or sand to avoid clogging the surface.



Landscaped areas adjacent to the Permcon pavement should be kept 5-10mm lower than the pavement



MAINTENANCE MATTERS

Once Permcon permeable concrete has been installed and cured, a maintenance schedule should be put in place to protect performance and extend service life. Here is a minimum recommended programme.

MONTHLY

Visually inspect the surface to ensure:

- It's clear of leaves, debris and rubbish.
- It drains freely after rain.
- There's no visible sediment build-up.

AS REQUIRED

- Maintain adjacent garden or landscaped areas to prevent soil or sediment washing onto the surface.
- Seed or plant bare patches in upstream garden beds to stabilise soil.
- Clean the surface as needed with sweeping, leaf blowing or light washing.
- Check that overland flow paths haven't shifted due to changes in landscaping. If they have, redirect flows away from the surface.

ANNUALLY

- Sweep the surface if this hasn't been done during monthly checks.
- Inspect for moss or organic build-up in the concrete voids and remove if present.



MAINTENANCE MATTERS (CONT.)

ROUTINE MAINTENANCE

Monthly maintenance should begin with a visual inspection of the Permcon surface to check for debris. If leaves, grass or other materials are present, remove them using a broom, leaf blower or similar tool. For larger areas, a sweeping or dry vacuum truck is recommended.

Regular cleaning helps prevent surface materials from breaking down and clogging the concrete's voids. Frequency will depend on the site conditions:

- **Open, well-ventilated areas** may only need occasional sweeping.
- **Shaded or sheltered areas**, especially under tree canopies, may require more frequent maintenance.

WATCH FOR MOSS AND ORGANIC BUILD-UP

If the surface is in a dark or sheltered area – such as the south side of a house – moss or other organic matter may accumulate in the concrete voids. Sweeping may not be enough to remove it.

In these cases, a chemical wash may be required. If so, check the product's environmental impact. Any residue will drain through the concrete into the basecourse and natural subgrade, potentially harming the bacteria that help remove pollutants from stormwater. This could also affect nearby vegetation or receiving waterways.



If there are leaves, grasses or other solid debris on the Permcon permeable pavement, these can be removed by sweeping, using a leaf blower or similar



MAINTENANCE MATTERS (CONT.)

EXCEPTIONAL MAINTENANCE

If Permcon's infiltration rate drops below 120mm/hour – due to missed routine maintenance or an external event – standard cleaning may not be enough to restore performance. In this case, a deep clean is likely required.

This should be carried out by a professional contractor, using specialist equipment. Several companies in New Zealand offer this service.

The most effective method is to power wash and vacuum at the same time. Once the surface is saturated, water pushes up through the concrete, lifting trapped debris. It's then vacuumed out, reopening the voids and restoring drainage.

CLIMATE CONSIDERATIONS

In areas prone to freezing, it's critical to maintain Permcon's free-draining function. If infiltration rates drop and water is trapped in the voids, freezing can cause expansion and structural damage.

Assess infiltration rates in autumn. If you notice standing water or slow-draining puddles, schedule a deep clean before winter.

When functioning properly, Permcon offers significant advantages in snow and ice conditions. Meltwater drains away instead of pooling and refreezing – minimising the need for salt and reducing environmental harm.

If snow settles on the surface:

- **Clear with a shovel.** Avoid metal tools that may damage the concrete.
- **Use de-icing agents with care.** Some chemicals can harm concrete or leach into waterways. Always check the label.



WATCH OUR EXPLAINER VIDEO HERE!

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