

# Permeanable solution for the built environment

# BENEFITS

- •Reduces rainwater run off
- •Eliminates "peak flow" in a storm cycle
- Directly recharges groundwater
- Mitigates "first flush" pollution
- Protects streams , rivers and ecosytems
- Mimics the natural unbuilt environment
- •Reduces surface temperature and heat island effects
- Reduces the size of retention structures required

# PROPERTIES

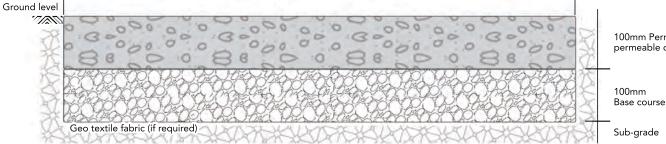
- Infiltration 8,000 10,000mm/hour
- Compressive Strength 15 20 MPa
- •Slip Resistance P4 0.45 0.54 BPN

# Carbon Footprint Driveway Natural 49.1kg CO2e/m Driveway Charcoal 51.8kg CO2e/m Footpath Natural 32.4kg CO2e/m Footpath Charcoal 34.2kg CO2e/m

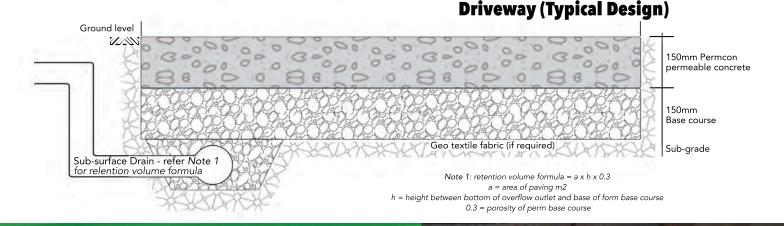
•Run off coefficient 0.3



## Footpath (Typical Design)



100mm Permcon permeable concrete



# **Frequently Asked** Questions

How long does permeable concrete last? Permeable/pervious concrete, when properly installed and maintained can last 15-20 years. It is worth noting that it may require re-sealing or resurfacing approximately every 4 years depending on conditions of use and weather.

### Can permeable concrete clog up?

A general maintenance regime of sweeping or surface washing will minimise the opportunity for the product to clog. In situations where this does occur an industrial vacuum can be used to clear the void.

### How long does it take before the system clogs up?

It's difficult to be specific due to every location being different and dependant if it's located in the right position and how much sediment there is in the runoff. The location of where Permcon is installed plays an important role with the sediment loading and hence life span of the system. Areas that will be subject to organic loading (leaves from trees) should be carefully considered together with a sweeping (without vacuum) regime. Other locations which will have a high clay content in the runoff should be avoided.

### What is the void ratio in permeable concrete?

The amount of void in permeable concrete can vary in the range of 15-30%. Permcon usually has a consistent void structure of 20-25%.

### How can I test the permeability of my pavement system?

One of the test methods is ASTM C1701/C 1701M -09 "Standard Test Method for Infiltration Rate of In Place Pervious Concrete" is simple and easy to conduct in on-site locations.

### Can permeable concrete be pumped into an installation?

Like traditional concrete, there are a variety of different methods used in installing the product. However, given that permeable concrete is a low slump product it cannot be pumped into place like traditional concrete.

### What kind of aggregates can I use for the base course?

Specifically designed drainage aggregates that are structurally sound when fully saturated/submerged with water. Normal GAP types of aggregate are not suitable and will lead to pavement failure.

**Stuart Girvan Operations Manager New Zealand** Permeable Concrete NZ. Ltd. +64 27 224 1361 sgirvan@permconnz.co.nz

> Permcon Australia & New Zealand