Hygrocrete™

Permeable Composite Concrete

COUNTIES READYMIX®
the decorative concrete specialists

Firstly, what is Permeable Concrete (also known as Pervious Concrete).

Permeable (also knows as pervious) concrete is able to allow water to pass directly through from the top surface to the bottom. This type of construction allows surface water to penetrate the subgrade and in some cases eliminated the need for stormwater drainage requirements. Permeable concrete has been around since the 1800's in various forms but recent high density housing has lead to a resurgence in demand. This environmentally sympathetic construction can allow rigid pavement for patio's and car parking without adding to the sites non permeable area. Permeable concrete can greatly reduce private and public stormwater infrastructure requirements and costs. Permeable concrete also restores ground moisture levels to sustain vegetation growth and health in built up areas.

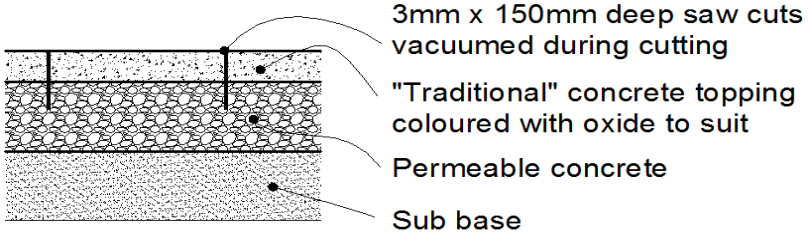
Downsides to Traditional Permeable Concrete.

There are some downsides to Permeable concrete unfortunately. Some aggregate will loosen from the concrete's surface (called ravelling) and it can be a little uneven in texture and appearance. It can become easily clogged with fine material such as soil and vegetation. It also has a different methodology for placement so your concrete placers need to be aware of what's required before concrete placement (traditional concrete is poured, screeded, floated, troweled and water cured, permeable concrete is poured, screeded, roller compacted and covered). If Permeable concrete is to be the "finished surface" please ensure your contractor is familiar with the material and placing process.

Is there a better way?

Yes, **Hygrocrete™** permeable composite concrete**.** This composite concrete construction has a base course of 150mm special fibre reinforced permeable concrete which is placed, screeded and roller compacted. Then an 80mm traditional concrete topping is laid over the permeable concrete (the traditional concrete can be barrowed or pumped over the **Hygrocrete™** permeable composite concrete. The permeable and traditional concrete form a composite material which has saw cuts at regular intervals to provide permeability in accordance with the site requirements (see table 1). This composite material is less likely to clog like traditional permeable concrete and debris can easily be swept or blown off the surface just like regular concrete maintenance. In some cases **Hygrocrete™** permeable composite concrete may be able to be laid without any fall as the surface water does not need to be directed to cess pits. In summary **Hygrocrete™** permeable composite concrete looks great, is fast and easy to construct, is what your customer expected and is permeable.

Table 1

Required Permeability	Saw cut ctrs… (all 150mm deep with cutting slurry vacuumed during cutting)	Typical **Hygrocrete™** permeable composite concrete construction detail (residential application)
5,000mm/h	1,000mm	
6,000mm/h	800mm	
8,000mm/h	600mm	
12,000mm/h	400mm	
15,000mm/h	300mm	

Note,

Permeable concrete should be tested for permeability every two years. If the permeability measures less than 250mm/hr then the concrete saw cuts should be vacuum cleaned and re tested.

Talk to your Architect, Engineer or Local Council to see if this type of construction is suitable for your project.

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