

Soil Mixing Wall System

Strength and speed



A pioneering method

Soil Mixing provides a quick and cost effective way of creating cut off and retaining walls requiring less equipment on site and, importantly, causing minimum disruption to neighbours.

The Soil Mixing Wall System blends self-hardening cement slurry with on-site soil to create strong reinforced walls that are quick to construct and are highly cost effective.

Also known as Mixed In Place Piles, and used extensively in the United States and Europe, ASP is pioneering this method at suitable locations across Australia.



Advantages

Significant cost savings

As ground soil is not required to be excavated and is used as a fundamental construction material, there are cost savings in terms of equipment required on site and landfill haulage.

Reduced disturbance

The Soil Mixing Wall System uses a specialist drill rig to create the walls and does not require a pile driver or pounder, thereby reducing the disturbance to neighbours and reducing the probability of cracks caused by vibration of sheet pile installation and the possibility of any ground movement on neighbouring properties.

Flexibility

The Soil Mixed Wall System can be used as an alternative to block walls and sheet piled walls in certain locations. Soil mixed walls can also be shaved to meet specific architectural profile requirements.

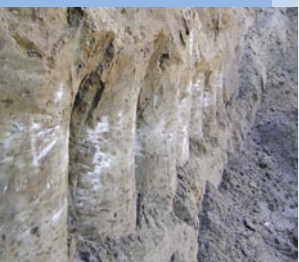
Methodology

A drill using two independent rotary drives pushes a mixing tool into the ground. As the native soil is broken down it is mixed with cement slurry that is continuously injected through the drill stem.

A continuous wall is constructed by overlapping alternating primary and secondary wall elements

Depending on the type of soil and cement content, wall strengths range from 2MPa for cut off walls to 8-10 MPa for retaining walls.

Wall thickness of 430mm and depths of up to 12 metres can be achieved using this method.



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The in-ground experts



Soil Mixing Wall System Technical Background



The twin mixing tools are mounted on a high revolution auger driver while the suspension (water/cement mixture) supply is attached.

As the mixing tools are lowered into the ground, soil is mixed with grout under pressure which is constantly pumped to the mixing tool as it descends to the required depth. The developed mixture from soil and suspension is further mixed during tool withdrawal and suspension continues to be pumped. Once the augers are withdrawn, the completed wet mixed twin-pile is ready to cure.

Single piles, secant pile walls, block patterns or any other required patterns can be produced.



Above left: Soil mixing plant in use.

Far Left: High revolution auger driver.

Left: The twin mixing tools.

Below: Computerised soil mix system.



Above: A newly completed soil mix wall.



Left: SMW used as a boundary retention system.

