

## AN INTRODUCTION TO SCREW PILES

An efficient alternative to standard pile foundations

### What are they?

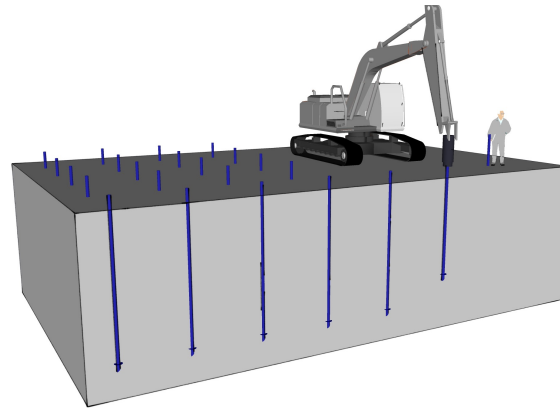
Screw piles (or piles) are effectively a big screw that is installed into the ground. There is no time spent excavating a huge hole to box and pour a pile, no spoil to remove from site and no over compensating over how deep the piles need to be. Each individual pile is installed down to the required loading.

Screw piles have been around for many years and we see them as an efficient solution for many residential projects. They can be used to replace standard house and shed piles, anchor back retaining walls, support decks, correct slumping foundations and as footings to furniture such as light poles- the list is endless.

### The Design

The Helix of the pile is designed with a true through cut on a single flight, with a 350 Grade Plate. The pipe used is 350 Grade with the Yield Stress of 570Mpa / tensile strength of 600Mpa. Galvanising of the piles can also be executed.

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### About

Rob and his team at Screw Pile Solutions have been trained by their Australian manufacturer who has a proven track record of 40 years combined experience in the domestic and commercial piling industry. With more than 22 years' experience in the construction industry himself, Screw Pile Solutions founder, Rob Voigt, knows a good system when he sees it.

Screw piles offer a less intrusive and time effective alternative to traditional piles and, and if required, can be removed as quickly as they are installed. There is no time spent excavating to box and pour a pile, no spoil to remove from site and no over Engineering on the depth of the pile.

Screw piles are the perfect solution for building foundations, ecologically sensitive sites, temporary structures, underpinning, furniture footings - the list goes on.

### Applications

#### Building foundations

Screw piles can be used for foundations to timber, steel or concrete. The connection detail varies depending on whether you want to connect to a concrete slab, joist or post.

#### Ecologically sensitive sites

Screw piles have a great advantage to traditional drill and pour piles as they can be installed with minimal disturbance to the landscape. To date this has been seen as a great advantage on sloped vegetated bush sites in Waitakere and also shoreline habitats.



## No Over Engineering

Each individual pile is installed down to a specific Kn which is calculated from the required loading. The Engineer will confirm the loading required for your project. As each pile's Kn is known at all stages of drilling, we drill to a depth which is determined by the loading requirements. These depths are all dependant on the ground condition so may vary from pile to pile. We've had a project at Te Atatu Peninsula where the piles varied from 14m to 22m due to unstable ground.

We can work with you/ your/ our Engineer to confirm the most practical loadings and pile spacing for your project.

## Custom Products

As well as off the shelf screws piles, connectors and top plates, we have the expertise to design a product with the manufacturer to suit your requirement, from a 70kn pile to 250kn pile with a wide range of connectors and top plates.

## Temporary structures

Screw piles can be removed as quickly as they are installed. Once removed, you can barely see where they've been. We've tested piles in a paddock and in a gravel driveway - the next day we barely noticed that they had been there. This is a great solution for temporary accommodation, site offices, art installations - the list goes on.

## Underpinning

Screw piles can also provide a simple solution for re-leveling subsiding foundations. We access the building footing with as minimal excavation as possible, install the screw piles at predetermined locations around the perimeter of the building, then attach a patented underpinning bracket which is then jacked up using a 50T jack.

## Furniture footings (e.g. lights poles)

Screw piles can come with additional lateral support fins which make them ideal for light pole and signage footings. It's time efficient and again, requires minimal (or no) excavation.

## Installation

Once the pile locations have been determined by the Engineer / builder, the installation of the piles is extremely efficient. We can have the piles installed for a standard house in half a day. We'll turn up once the pile locations have been marked out, unload and start installing. The piles are drilled in one or two metre extensions - there is no limit to the depth - just the PSI. We note the PSI and depth of each pile for your records.

Once the piles have been installed to the required depth, they can be cut off to prevent installing deeper than required.

The fixing to the top section of the screw (at ground level) can vary. It can be encapsulated into a concrete strip or small pile footing which the structure can then be bolted to, or have a connector attached allowing individual posts or joist to be fixed. This latter method does not require any excavation therefore is ideal for an ecologically sensitive design where there is minimal disturbance to the ground and surrounds required.

## Contact us today.