

ARE SCREW PILES RIGHT FOR ME?

Step-by-step process to determine if screw piles are suitable for your project.



WHAT IS THE LIFE OF A SCREW PILE?

The life expectancy of a pile is directly related to the **Exposure Classification in AS2159 Piling – Design and installation** and the **thickness of the steel section**.

Exposure Classification AS2159	Uniform corrosion allowance (mm/year)	Unsealed Screw Piles (corrosion on two surfaces)		Sealed Screw Piles (corrosion only on one surface)	
		76.1mm x 4.0mm	88.9mm x 5.5mm	76.1mm x 4.0mm w/ sealed end#	88.9mm x 5.5mm w/ sealed end#
Non Aggressive	<0.01	100	137	200	275
Mild	0.01-0.02	50-100	68-137	100-200	138-275
Moderate	0.02-0.04	25-50	34-68	50-100	68-138
Severe	0.04-0.1	10-25	13-34	20-50	27-68
Very Severe	>0.1	<10	<13	<20	<27

Only applies where pile extensions are NOT used - where extensions are used, assume pile is unsealed.

WHAT LOAD WILL THE PILE NEED TO SUPPORT?

Typical safe working loads (kN SWL) of the piles can be calculated based on their spacing.

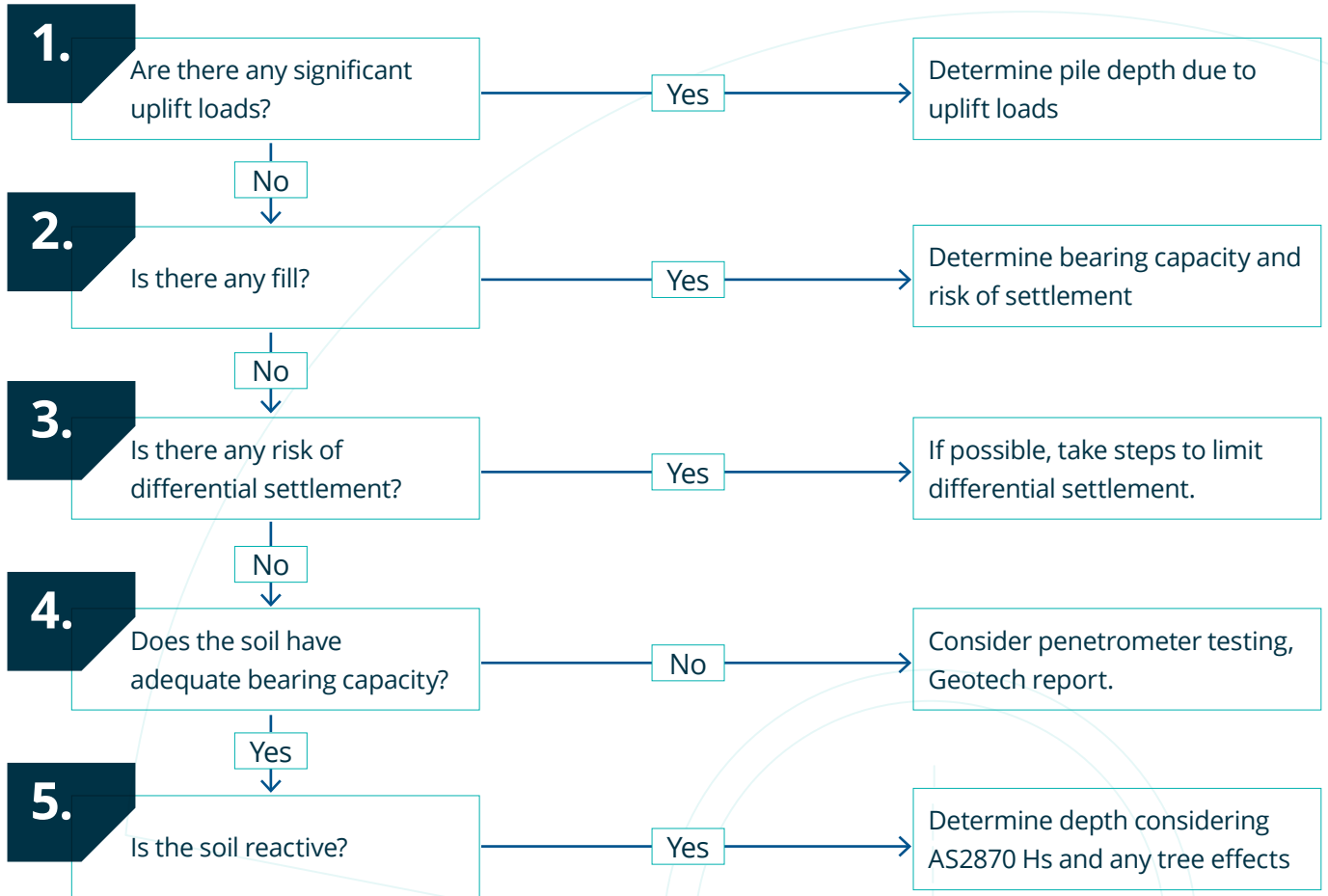
Pile Spacing	1.5m SWL (kN)	2.0m SWL (kN)	2.5m SWL (kN)	3.0m SWL (kN)
Single Story Brick Veneer Tile Roof	28.1	37.5	46.8	56.2
Single Story Brick Veneer Metal Roof	24.5	32.7	40.8	49
Double Story Brick Veneer Tile Roof	46.9	62.5	78.1	93.7
Double Story Brick Veneer Metal Roof	43.3	57.7	72.1	93.7

WHAT LOAD WILL THE SOIL SUPPORT?

GUIDE CAPACITY RANGE SUMMARY TABLE: Single Helix, Depth of Helix = 3m, FOS 1.5 – Assumes pipe torsion will not be a limiting factor.

Soil Type	Shaft	76.1mm x 4.0mm	76.1mm x 4.0mm	88.9mm x 5.5mm	88.9mm x 5.5mm
	Helix	250mm x 8.0mm	300mm x 8.0mm	350mm x 10.0mm	2No 350mm x 10.0mm
		(kN)	(kN)	(kN)	(kN)
Soft – Loose		7-53	10-79	14-107	41-179
Firm – Medium		13-115	20-171	27-230	81-300
Stiff – Dense		27-200	40-200	54-230	162-300
Very Stiff Clay		53	79	108	324

WHAT DEPTH SHOULD THE PILE BE?



WHAT IS THE RECOMMENDED INSTALLATION TORQUE?

Australian soils: Geotechnical report provides an indication of dense/stiff natural soil with a bearing capacity of 100kPa.

	Shaft	76.1mm x 4.0 mm	76.1mm x 4.0 mm	88.9mm x 5.5mm	88.9mm x 5.5mm
	Helix	250mm x 8.0 mm	300mm x 8.0 mm	350mm x 10.0mm	2No 350mm x 10.0mm
Safe Working Load (kN)	Torque (Nm)				
60kN	3000	3500	3000		
80kN	4000	4500	4000		
100kN	5000*	5500	5000	5000	
150kN			6000	6000	
200kN					9000

OTHER SCREW PILE CONSIDERATIONS

- Acidic soils
- Proximity to creeks, lakes, and sea
- Site access and slope
- Underground services
- Distance from installer
- Hard drilling or rock

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ESTABLISHED

2013

JOBS

45,000

SCREW PILES INSTALLED

2.3 million

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