

Soil test and footing classification

What your soil test tells us, and why we cannot engineer your slab without it.

Why a soil test comes first

Every Shed Homes kit is a Class 1a residence, engineered for your block. Two things set that engineering: the wind region of your address, and the site classification from your soil test. The soil test tells the engineer how much the ground under your home will move as it wets and dries, and how much load it can carry. That decides the slab or footing design, the amount of steel in it, and the depth of the edge beams.

You arrange and pay for the soil test directly with a geotechnical company, and it stays your document. Send us the report and we design the engineered slab to suit it. We do not build, so the slab is placed by your concreter or your builder to that design.

What to send us

- The full geotechnical or soil test report for the exact address, not a neighbouring lot.
- The site classification, for example Class M or Class H1, and whether it is a deep moisture change site.
- The allowable bearing pressure at founding level, in kPa.
- The borehole logs and depths, plus any note on fill, reactive clay, rock or trees removed.

Footing classification, at a glance

This is the standard classification table used across Australia for residential slabs and footings. Your report will name one of these classes.

General soil type	Site classification	Site material description at founding level
Rock	Class A	A strong material including shaly material and strongly cemented sand or gravel that does not soften in water. Material that cannot readily be excavated by a backhoe may be taken to be rock.
Sand (not loose)	Class A	A granular soil that may contain a small proportion of fines including silt or clay. The amount of fines can be assessed as small by visual inspection, or if the amount passing through a 0.075mm sieve is 15% or less. Material with a higher proportion of fines is treated as silt or clay.
Silt	Class S	Fine grained soil that is non-cohesive and non-plastic when wet. Can include some sand and clay.
Clay	Class S	Fine grained soil with plastic properties when wet, including sandy or silty clays. Class S is material with a predicted surface movement, due to moisture changes, of less than 20mm.
Clay	Class M	Predicted surface movement due to moisture changes of between 20mm and 40mm. Moderately reactive.
Clay	Class H1	Predicted surface movement due to moisture changes of between 40mm and 60mm. Highly reactive.
Clay	Class H2	Predicted surface movement due to moisture changes of between 60mm and 75mm. Highly reactive.
Clay	Class E	Predicted surface movement due to moisture changes of more than 75mm. Extremely reactive.



General soil type	Site classification	Site material description at founding level
Soft soils	Class P	Loose sand, or swampy silt and clay sites. Generally the allowable bearing pressure at founding level is less than 100 kPa under tied strip or pad footings, or 50 kPa under all slabs and untied pad footings.
Fill sites	Class P	Sites with fill over rock, or over strongly cemented sand or gravel strata. If any subsurface conditions are Class H or E clay, or prevent drilling pier holes or cleaning them mechanically, the site is treated as a problem site.
Problem sites	Class P	Sites subject to landslip, mine subsidence, collapsing soils and similar conditions.
Isolated soft spots, trees on site, removal of structures	Class P	Soft areas can be left by removing large trees, stumps or old structures in the construction area, and water may pond there if they are not filled correctly. Tree roots may also interfere with footings.

Shallow or deep moisture change

For Classes M, H1, H2 and E a further classification may be required, based on the depth of the expected moisture change. Where moisture changes are deep-seated, typical of dry climates and matching a design depth of suction change of 3m or more, the class becomes M-D, H1-D, H2-D or E-D. For example, M is a moderately reactive site with shallow moisture changes, and M-D is a moderately reactive site with deep moisture changes.

What this means for your build

- Class A and Class S sites are the least reactive and usually the most straightforward to design for.
- Class M, H1, H2 and E sites move more, so the slab design carries more steel and deeper beams. Budget for that concrete cost before you commit to a block.
- Class P sites need site specific engineering, which can mean piers, removing and replacing fill, or a different footing system.
- Removing large trees, stumps or old structures can leave soft spots. Tell the soil tester what has been removed and where.
- A soil test on the neighbour's block is not your block. The classification can change across one lot.

Next step

Design your home in the online 3D designer, then send us your address and your soil test report. We need the address to set the wind region, and the report to set the slab design. Enquire online at shed-homes.com.au/enquire/ or email sales@shed-homes.com.au.

Reference information only. Site classification is determined by the geotechnical engineer who carries out your soil test, and the slab or footing design is determined by the project engineer. Shed Homes Pty Ltd supplies home kits and engineered documentation, and does not carry out soil testing, concreting or construction. Classification descriptions follow AS 2870, Residential slabs and footings.