

This document is intended as a guide to the use of Insulslab SFRC as a replacement for traditional methods of construction for residential and other similar buildings.

All ground conditions are to be confirmed in a site investigation report by a geotechnical consultant and reviewed by GHW Consulting Engineers prior to construction.



GROUND CONDITIONS	LOW RISE RESIDENTIAL BUILDING WITH MASONRY OR TIMBER FRAME.			SUITABLE?
	Normal Foundation	Insulslab Foundation	Cost effective?	
Suitable bearing strata within 1.2m of ground surface.	Strip / trench fill foundations. Suspended slab.	Yes. Occasionally additional stone may be required	(1) Generally Insulslab breaks even between 750-1000mm deep trenches. U value benefits may make Insulslab still be chosen even at shallow depth trenches	YES
Suitable bearing strata at 1.2m or greater below ground surface	Deep trench fill foundations. Suspended slab.	Yes, on improved ground.	Generally yes depending on site specific conditions	YES
Low bearing pressure for considerable depth	Ground improvement with reinforced strip foundations or piling & ground beams. Suspended floor.	Yes, Insulslab has a low ground bearing pressure (Occasionally ground improvement is necessary).	Yes	YES
Rock; hard sound chalk; sand & gravel; sand & gravel with little clay content, dense silty sand.	Shallow strip / trench fill foundations. Ground bearing slab.	Yes, Insulslab is a shallow foundation	As item (1) above	YES
<u>Uniform firm & stiff clays</u> (a) Where existing nearby vegetation is insignificant.	Strip / trench fill foundations. Suspended slab.	Yes, shallow foundation	As item (1) above	YES
(b) Where trees, hedges or shrubs exist close to the foundation or are to be planted near the building at a later date.	Strip / trench fill foundations. Suspended slab.	Yes, shallow foundation	As item (1) above	YES
(c) Where trees & hedges are cut down or to remain near area of foundations . [Low to Med Plasticity].	Strip / trench fill foundations. Additional depth to NHBC Chapter 4.2. Suspended slab.	Yes, shallow foundation, Extra stone over whole plot in accordance with NHBC Chapters 4.2 & 4.5.	Yes. In some circumstances no extra aggregate is required. On sites where extra aggregate is required a commercial assessment is required.	YES
(d) Where high water demand trees & hedges are cut down or to remain near area of foundations . [High Plasticity].	Strip / deep trench fill / piled foundations. Additional depth to NHBC Chapter 4.2. Suspended slab.	Yes, shallow foundation, Extra stone over whole plot in accordance with NHBC Chapters 4.2 & 4.5.	No. Amount of extra excavation and cart away prohibits its use from a commercial perspective.	NO
Soft clay, soft silty clay, soft sandy clay, soft silty sand.	Piles & ground beams. Suspended floor.	Yes, Insulslab would form a cap on piles without additional reinforcement or ground beams	Yes	YES
Basement construction with retaining walls.	Retaining wall foundations / trench fill / raft foundation with insulation & screed on top.	Retaining wall would be constructed off Insulslab with external insulation.	Yes	YES
Brown field with varying made ground.	Ground improvement with reinforced strip foundations or piling & ground beams. Suspended floor.	Yes, on improved ground or piles	Yes	YES
Mining & other subsidence areas.	Robust reinforced foundations or raft.	Yes, standard shallow foundation	Yes	YES
Stepped foundations to terraced blocks.	Strip / trench fill foundations. Suspended slab.	Yes, but will require additional shuttering at step.	Depends on site conditions subject to cost assessment.	YES