

Trial Pitting and Mechanical Excavations



Trial pitting is usually undertaken using a tracked 360° excavator or JCB 3CX backhoe excavator. Concrete breaker attachments are available for sites with hardstanding.

Trial pits are carried out in order to recover large bulk samples of soil or if detailed visual examination of the strata is required. The main advantage of this method compared with light-cable percussion drilling or window sampling is the relative speed with which the work can be carried out. The disadvantage is the level of surface disturbance and the difficulty in carrying out effective reinstatement of the excavations.

Trial pits are usually carried out when the ground is able to stand temporarily unsupported. The Engineer has the opportunity to see the changes in ground conditions with depth and in some cases lateral changes can be observed.

Additional testing in trial pits can include infiltration/soakaway testing (in accordance with the guidance as set out in BRE 365), CBR testing and in-situ strength testing.

Mechanical excavations can be used to excavate long trial trenches in order to determine the location of buried features such as the boundary of a solution feature. Mechanical excavators can also be used to aid in the exposure of foundations for larger buildings with expected deeper foundations.



Excavator Type/Size	Max Digging Depth
Micro Digger	1.7m
1.5 Tonne	2.3m
3 Tonne	2.7m
5 Tonne	3.4m
8 Tonne	4.2m
13 Tonne	7.8m
<u>JCB 3CX</u>	4.5m