

MICROPILE SPECIFICATION1. GENERAL

The work involves the construction of 200mm (8") diameter micropile. The micropile shall be fabricated using steel tube and the bond length of micropile shall be 16m or directed by the S.O. The working load of micropile is 200 kN and factor of safety used in design is 2.0. The whole of work and materials shall be in, accordance with current Malaysian or British Standard or other National Standards approved by the S.O.

2. REINFORCEMENT

Steel grade - HFS 16 (BS: 1775 - 1964)
External diameter 139mm (5½")
Thickness - 9.5mm (3/8")
Yield strength - 250 N/mm² (16 Tsi)

3. GROUT

The grout shall be thoroughly mixed with Ordinary Portland Cement (MS522) and water (MS28). The grout shall be Antishrink cement grout. The water cement ratio shall be 0.45 - 0.50. The 28 days. Strength for cement grout shall be 25N/mm² (3570 psi). The representative cubes shall be collected on each day of grouting works for testing on the 28th days. Details of admixture shall be submitted to the S.O. for approval before commencement of works. The use of the admixture shall comply with instruction by the manufacturer & MS 922. The grout shall be free from segregation, slumping, & bleeding of water and fine materials during and after placing.

4. INSTALLATIONa) Drilling

The drilling for installation of micropile shall guarantee the absence of Vibration which may cause damage to the existing building. Adequate precaution must be taken to ensure boreholes for micropile do not collapse during drilling.

If necessary, temporary casing shall be used. During drilling of borehole, the contractor shall maintain complete record of soil profile. The logging shall include depth of soil and water table. This drilled hole and soil bore log shall be signed by contractor's site

representative and a copy of which shall be deposited with the S.O. The contractor shall be required to keep representative sample of soil for each soil profil in plastic bag for inspection by the S.O. Sample may only be disposed after the S.O. is satisfied that the logging has been properly done. The type of drilling equipment shall be approved by the S.O. The drilled hole shall be flushed clean with air or water.

b) Fabrication of micro pile

Method of splicing of bars or pipes shall be approved by the S.O. Centralisers at about 3m centre must be used to ensure a minimum cover of 25mm or directed by the S.O.

c) Grouting

The contractor shall also provide details on method and equipment used in grout mixing. Further information such as grouting pressure, grouting procedure, grouting equipment and techniques employed in grouting under water shall also be furnished and approved by the S.O.

To prevent deterioration of strength of soil, soil coring, installation of reinforcement and cement grouting shall be carried out in one continuous operation.

5. Load Testing

Micro-pile shall be load tested to 2 times design load using the Maintain Load Test. Minimum of one (1) load test shall be carried out. The contractor shall also specify and provide details of the method of load testing. Micropile shall be constructed only after the preliminary pile pass the load test requirements of JKR standard specification for building Works.