

The Cone Penetrometer Test (CPT) is a method used to determine the geotechnical engineering properties of soils and delineating soil stratigraphy. Today, the CPT is one of the most used and accepted methods for soil investigation worldwide.

The test method consists of pushing an instrumented cone, with the tip facing down, into the ground at a controlled rate.

The advantages of CPT are the continuous (every 10mm) and high resolution recording of the soil properties to identify thin layers. It is a fast, reliable and efficient investigation technique. In addition, cone penetration test results can be used to indicate the optimum locations of boreholes and the most suitable depths for taking (undisturbed) samples.

Compared with SPT the CPT is much more accurate and do not depends on either operator skills and/or soil types. SPT results in clays and gravelly soils may be very poorly represent the true soil strength conditions. As such CPT will saves money as the strength parameters are more accurate and foundation designs can be cheaper without the need of extra safety factors.

All CPTu cones used today do measure inclination for correction of depth. For example miscalculations of more than 80cm in depth are made at 20 meter depth soundings when inclination is only 15°.

Another advantage with CPT technique to use other sensors and measure other properties only in one push like conductivity or resistivity, seismic, temperature, video, magnetometer and so on.