

ABSTRACT

Disclosed is a rapid load test method for a pile by use of a method resulting from extending a well-known SULP method, wherein a rapid load test is implemented on a pile head more than once in the manner of changing a drop height h of a weight, with the pile instrumented with strain gages and accelerometers at more than one depth level, followed by the processing of obtaining a rapid load F_{rapid} -pile displacement w relation for each pile segment for each time of the rapid load test using measurement data measured by the strain gages and the accelerometers, of obtaining a soil resistance R_{soil} -pile displacement w relation on each pile segment for each time of the rapid load test, of calculating an unloading point that can be a point of maximum displacement of the pile, together with an unloading point load R_{ULP} at that moment, and of obtaining a static soil resistance R_w -pile displacement w relation on each pile segment by use of an Unloading Point Connection method using the calculated unloading point and unloading point load R_{ULP} for each time of the rapid load test. Accordingly, an analysis on a load-displacement relation is performed by use of a load transfer method with respect to the whole pile, using a nonlinear model of the thus obtained soil resistance on each pile segment.