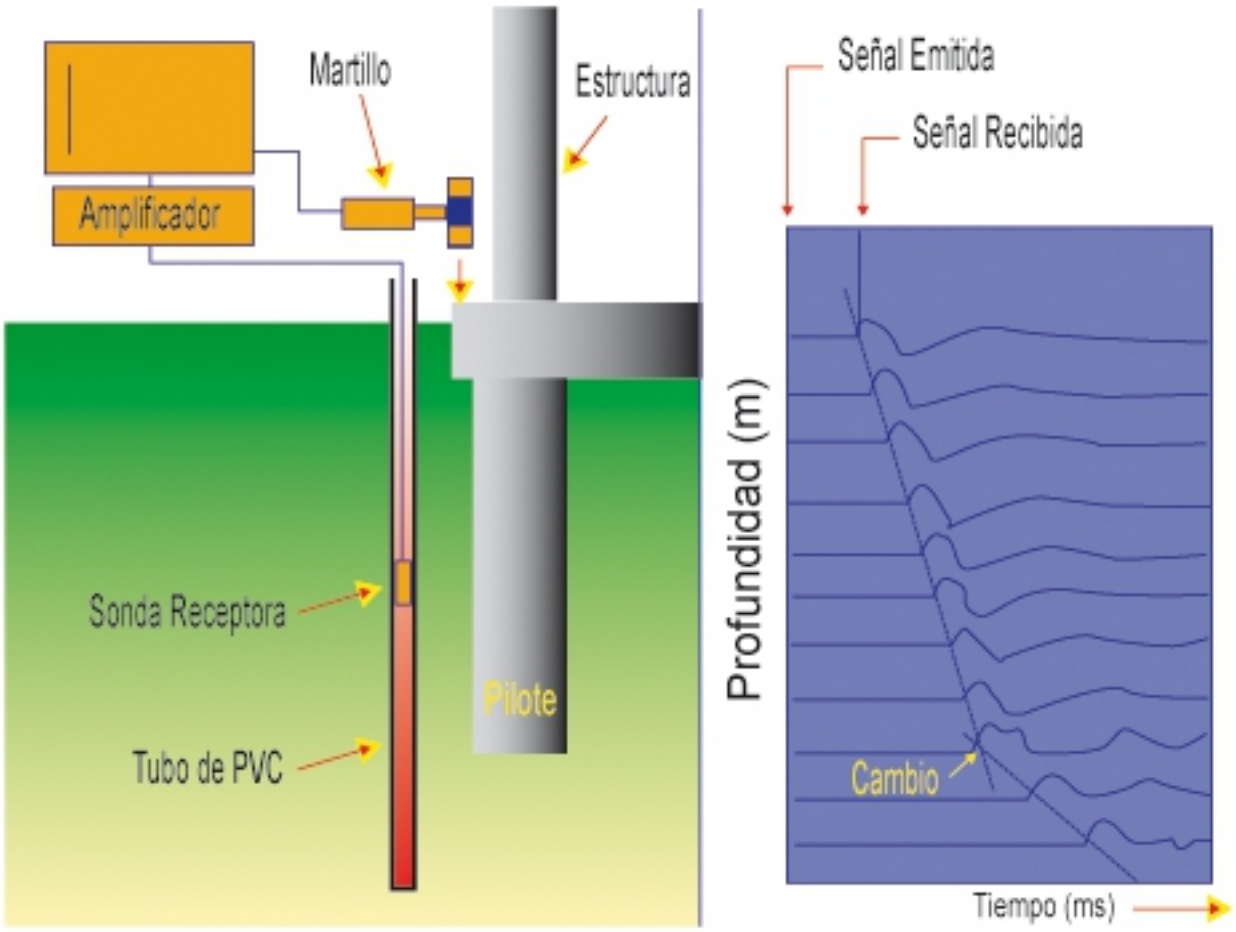
Parallel seismic testing is used when there are doubts concerning the integrity and length of piles and diaphragm walls after completion of a structure. In such cases it is not usually possible to access the tops of the piles, and other non-destructive methods are hard to use. The special characteristics of these tests mean that they are usually used in structural renovation work on buildings and civil engineering infrastructures.



For this test a shaft must be drilled parallel to the pile to be tested, as close to it as possible (0.5 mm). This shaft must be at least 5 m deeper than the expected foundation depth.

A receiver probe is inserted into the PVC tube and raised in regular steps (usually of 0.5 m each). At each step a signal is sent through the pile into the soil and from there to the receiver probe by striking with a hammer as close to the top of the pile as possible. The time taken for the wave train to reach the probe is recorded at each step.

A dromochronic (time/distance) graph is drawn up which is then used to calculate the length of the pile and the velocity of propagation of the waves in the concrete and in the soil.