

Seismic Dilatometer sDMT



The seismic dilatometer is an add-on module that may be combined with the dilatometer or with the CPT for measuring the shear wave velocity V_s (SDMT) and compression wave velocity V_p (SPDMT).

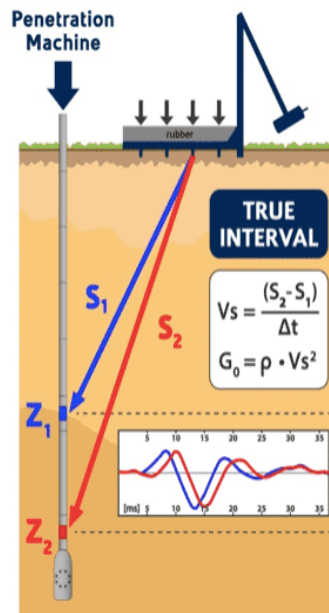
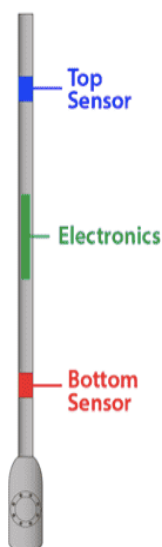
The SDMT is the combination of the flat dilatometer with an add-on seismic module for the measurement of the shear wave velocity. The seismic module is a tubular element placed above the DMT blade, equipped with two receivers located at 0.5 m distance. When a shear wave is generated at surface, it reaches first the upper receiver, then, after a delay, the lower receiver.

The seismograms acquired by the two receivers, amplified and digitized at depth, are transmitted to a PC at the surface, that automatically calculates the delay using the Cross Correlation algorithm.



Seismic Dilatometer (SDMT)

SDMT Test Layout



V_s is obtained as the ratio between the difference in distance between the source and the two receivers ($S_2 - S_1$) and the delay ΔT from the first to the second receiver. The true-interval test configuration with two receivers avoids possible inaccuracy of the “zero time” at the hammer impact, sometimes observed in the pseudo-interval one-receiver configuration.