

Pile Dynamics Develops Test for Thermal Integrity Profiler (TIP)



ADSC Associate Member, Pile Dynamics, Inc., Cleveland, Ohio, has developed a breakthrough test for concrete foundations in partnership with Foundation & Geotechnical Engineering, LLC (FGE) based in Plant City, Florida. The new solution for integrity evaluation of concrete foundations is called the Thermal Integrity Profiler (TIP).



TIP uses the heat generated by curing cement (hydration energy) to assess the quality of cast-in-place concrete foundations such as drilled shafts, bored piles, augered cast-in-place, continuous flight auger piles, and drilled displacement piles. Because temperatures within the concrete foundation are dependent on its diameter and distance to the center of the shaft, TIP measurements may be used to estimate the actual shape of the shaft including the previously difficult to deter-

mine thickness of concrete cover.

The Thermal Integrity Profiler, which is based on research conducted by the University of South Florida and originally implemented by FGE, is attractive in that it assesses the concrete quality of the entire cross-section and along the entire length of the foundation. Another major advantage of the TIP is its early testing time; test results are available as early as twelve hours after concrete is poured, allowing construction to continue.

The TIP is available in two types of thermal data acquisition systems: either with an infrared probe that is inserted in Crosshole Sonic Logging-type access tubes, or with thermal wires™ that are attached to the reinforcement cage prior to concreting. Either way, data is collected by Thermal Acquisition Ports, transferred to the TIP, and downloaded to a computer for further analysis and result presentation by the Thermal Analysis Reporter software.

For more information:
www.pile.com/pdi/products/TIP
216/831-6131