



Thermal Aggregator

Thermal Aggregator (TAG)

Wireless data collection in real time through the Thermal Integrity Profiler (TIP™) via the PDI Atlas™ Secure Cloud Services.

Innovative. Immediate. Collaborative.

Thermal Integrity Profiling (TIP™) is an award-winning technology that utilizes heat generated by curing of concrete to assess the integrity and quality of drilled shafts, augured cast in place (ACIP) piles and other concrete foundations.

The critical time for recording TIP™ data occurs during the hydration process, until peak concrete temperature is reached. Temperatures should be recorded at a minimum time of half peak and again at peak. PDI's TAG units can be used to collect TIP™ data from multiple TAP Edge (Thermal Acquisition Port) boxes attached to a foundation, sending the data via a cellular modem to the Cloud.

The TAG allows engineers, designers and the contractor to see the data all at once, in real time, from any location.

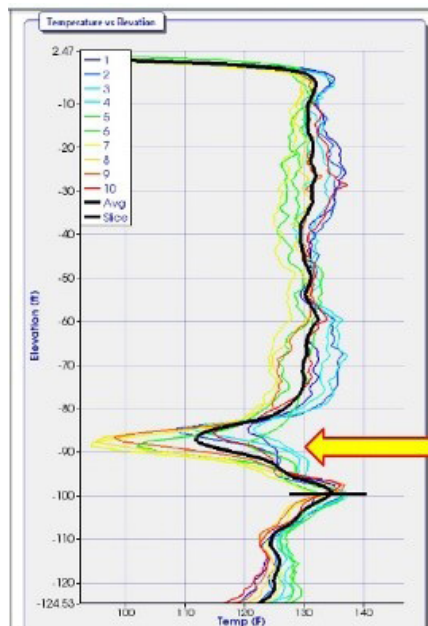
Thermal Integrity Profiling Measurements and Results include:

- Estimation of the shape of the shaft
- Determination of the concrete cover
- Earliest shaft evaluation, saving construction time
- Location of areas of concern
- Evaluation of the degree of eccentricity of the reinforcing cage
- Indication of regions that are colder than normal indicating necks or inclusions, or poor concrete quality
- Indication of regions that are warmer than normal indicating bulges



Advantages of Thermal Integrity Profiling

- Uses temperature vs. depth vs. quadrant
- Tests early after casting
- Evaluates concrete quality cover and cage alignment
- Avoids false positive issues
- All Thermal Wire cable temperature sensors are NIST traceable



November 2015
10 ft. diameter shaft
8.5 ft. diameter cage

Core near wires 7 and 8

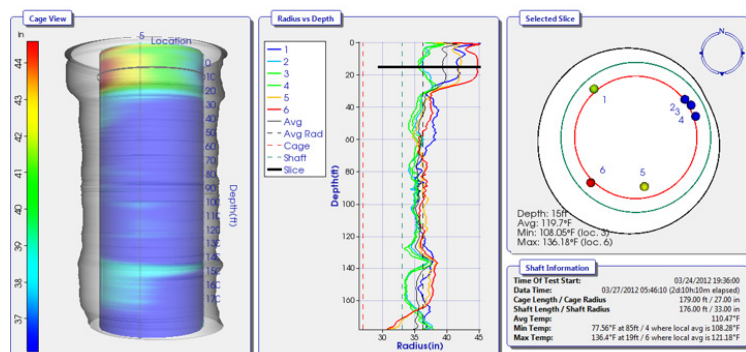


- Provides real time data collection via the PDI Altas™ Secure Cloud
- Allows engineer, designer and contractor to evaluate data from any location
- Saves construction time and money with early shaft evaluation

Innovative Data Collection

TIP™ data is collected by the Thermal Wire® Cable system which includes cables fitted with digital thermal sensors spaced along the cable length and TAP Edges. The Thermal Wire cables are attached to the reinforcing cage prior to concreting. In general, one cable is installed per each 305 mm (one foot) of shaft diameter. A TAP Edge is connected to each Thermal Wire cable, and automatically samples data from that cable at user selected time intervals, typically every 15 minutes. Temperatures obtained throughout the concrete curing process are saved in each TAP Edge, and may be viewed at any time, via the TAG data upload to PDI's Atlas Secure Cloud, once data collection begins.

The expected temperature at any location is dependent on the shaft diameter, mix design, time of measurement and distance to the center of the shaft.



Pile Dynamics, Inc. (PDI) is the world leader in developing, manufacturing and supplying state of the art QA/QC products and systems for the deep foundations industry. The company is headquartered in Cleveland, Ohio, USA, with offices and representatives worldwide. For additional information visit us at www.pile.com or contact info@pile.com.