



Quality Assurance for Deep Foundations

BUILDING A STRONG FOUNDATION TIP Thermal Wire® Wire Cable System by Pile Dynamics, Inc.

Once in a while a new solution to an old problem comes around that is so superior to the leading industry standard technologies that it cannot be ignored. The TIP Thermal Wire® Cable System by Pile Dynamics, Inc. takes assessing the quality of cast-in-place concrete foundations to a whole new level, while eliminating virtually every problem that plagues legacy technologies. Please review the highlights listed below outlining the numerous critical advantages of TIP that greatly benefit professional Engineering and Construction interests:

ENGINEERING

1. Proven in numerous projects around the world with great success. TIP has received several awards for innovation, and has an associated ASTM Standard D7949.
2. First non-destructive testing technology ever that allows the Engineer to profile and analyze every section of the entire shaft envelope, including areas exterior to the reinforcing cage.
3. Data from each Thermal Wire® cable is sampled automatically, typically every 15 minutes, by a battery powered data acquisition unit, allowing the concrete temperature to be monitored through the optimal window for gathering quality data.
4. On-site analysis of field measurements alone will instantly highlight glaring irregularities since the average temperature vs depth profile shows the general shaft shape. This level of review reveals cage alignment irregularities, casing location, locations of over-pour bulges, layers of deficient cement content (weak concrete) or necking, and can easily alert the user or owner to areas of concern.
5. TIP does not require an Engineer be present on-site during testing making evening and weekend shifts unnecessary.
6. Provides a complete 3-dimensional visualization of the shaft quality in the early stages after the pour.
7. Results of the TIP are presented in a written report within (5) working days of completion of testing.



CONSTRUCTION

1. Tie Wrapping TIP Thermal Wire[®] Cables to the vertical sections of rebar prior to cage placement greatly simplifies the testing procedure.
2. Thermal Wire Cables have a very small profile compared to typical access tubes and do not restrict the concrete flow to the exterior of the cage.
3. The entire Integrity Profile will be completed within 12 to 72 hours of the pour. Other technologies are typically used later in the curing process, which invariably adds unnecessary days of delay to the construction schedule.
4. Swifter discovery equals swifter ability to move to the next shaft, or swifter determination of any necessary remediation.
5. Multiple shafts are easily profiled simultaneously with crucial data being delivered in near real-time via digital transmission to a data logger for on-site analysis or engineering review.
6. The cost to collect the Thermal Wire[®] cable data and review it is less than the cost to acquire and process a percentage sample of CSL data, allowing every shaft to be inspected by TIP for about the same cost as a fractional sample of CSL data.
7. The total installation cost of Thermal Wire[®] cables, and subsequent collection and evaluation of the data, are less than the comparable cost to install, test and evaluate CSL data using probes inserted into water-filled steel access tubes.