Bi-Directional Load Testing

Introduction:

Our Group (Dhorjia Project LLP and Satt Engineering Ltd.) is proud to offer the Super-Cell® for Bi-Directional static load testing of deep foundations. Its design is based on over 22 years of our deep foundation load testing experience.

our mission is to provide our clients with the optimum solution to their needs.

We are the only firm that offers all load testing methods under a single source. Whether a Bi-Directional (Super-Cell®), conventional Static (ASTM D1143), Statnamic (ASTM D7383) or Dynamic (ASTM D4945) test, we will bring our expertise in load testing to you and your project. The speed and accuracy of the testing method has made BD SLT a valuable tool and the wealth of information produced is the reason so many engineers are now turning to this method.

Dependable Results:

During each test program, our Engineers collect high quality data from a multitude of state-of-the-art instruments using our proprietary testing and analysis software and hardware. Thousands of data points from each Super-Cell® test are analyzed by our team of engineers to develop results that give our clients the confidence they need to keep a competitive edge:

- Load and displacement
- Load distribution
- Segmental unit side shear (ty curves)
- Unit end bearing (py curve)
- Equivalent top load-displacement
- Creep limit
Using a hydraulically driven, high capacity, sacrificial pressure cell, pre-installed into the test pile, it is the only test to provide separate measurements of a pile's end-bearing and skin friction. Since the end-bearing and upward shear resistance are measured independently, there is no guesswork on how much load was carried by each component.

Profile Strain Analysis (optional) is accomplished with embedded strain gages and made more robust with the use of Thermal Integrity Profiling (TIP) to develop shaft shape with the inherent benefit of shaft integrity assessment. To complete the circle, Super offers Mini-SID inspection services to assure each shaft is up to its full end bearing potential.

The Super-Cell® is a high pressure hydraulic jack installed on the rebar cage and embedded into the foundation under test. The shaft above and below the Super-Cell provides reaction for loading. The hydraulic working fluid is water for simplicity and environmental safety. If used in production foundations, the Super-Cell® is easily grouted after test completion.

- Multiple sizes and capacities available
- Standard 10 inch stroke
- Operating pressures 30Mpa
- Each Super-Cell® is proudly assembled in India and calibrated in-house for quality and reliability

Why bi-directional static load testing matters:

Some of the most common problems encountered by contractors and engineers when undertaking pile testing are accuracy of load calculation, recording errors and the frequency of recording. Bi-directional static load testing is proven to be far more accurate and cost-effective than traditional load testing methods.

Benefits of Super Cell’s Bi-Directional Static Load testing:

- Provides separate end-bearing and skin friction measurements
- Eliminates the need for overhead beams or reaction piles
- Fast and highly accurate method
- Cost-effective in comparison to traditional testing methods.
Expensive vs Economical (30-50% cost-saving)
Slow and Tedious vs Fast and Simple
Large Work Platform vs Environmental Green
Limited Test Load vs Unlimited Test Load
Not for Offshore Piles vs For All Piles type
Dangerous vs Safe