

Foundation Testing

Environmental Scientifics Group's Geotechnical and Energy Division is the leading independent provider of foundation testing services in the UK offering a comprehensive range of testing methods and data provision to the construction industry. ESG's fully accredited team perform a vital role in the design verification and quality control process required for the suitable installation of piled foundations.

With its experienced in-house resources, the ESG Foundation Testing team tailors its services to all the major UK piling companies. Offering a broad range of loading capacities, up to 30 MN, the Foundation Testing team can handle projects of any size providing clients with the assurance that they comply to exacting specifications. Additionally all work is maintained through management systems accredited to BS EN ISO 9001 (2008) and BS EN 14001 (2004).

Services include:

- Static pile load testing
- STATNATIC and dynamic load testing
- Pile instrumentation and monitoring including horizontal displacement monitoring
- Sonic echo and sonic logging integrity assessments
- Noise and vibration assessments



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ESG's wide ranging experience and expertise puts us at the forefront of piled foundation testing activities in terms of quality, experience, capability, resources and innovation and is supported by a network of personnel located throughout the UK who provide a rapid and personal service.

Our pioneering approach has provided a wide range of specialist testing services that has led to efficiency gains and considerable cost savings for clients. For example, we pioneered the introduction of STATNAMIC testing in the UK and have constantly developed equipment, systems and techniques used by the company today.

On-site projects are thoroughly planned and implemented and range from STATNAMIC and static load testing using kentledge, traditional reaction beam arrangements or our patented cranked beam system through to dynamic pile load testing and environmental (noise and vibration) monitoring.

Quality Assurance

Quality assurance is driven and maintained through management systems accredited to BS EN ISO 9001 (2008) and BS EN 14001 (2004). Our commitment to this means all foundation projects benefit from proven processes and controls for gathering the required data for load verification and integrity assessment.

Innovation

Our innovative approach is driven by industry demands for specialist services and techniques. Drawing on a successful track record, offering for example:

- Non-destructive methods, such as sonic echo integrity assessment, which provide quick on-site evaluations using the most modern data acquisition systems available to assist in determining the reliability of the foundation.
- Highly developed testing and data retrieval techniques such as CHUM (Cross-Hole Ultrasonic Monitor) for advanced integrity testing of deep foundations and other concrete structures.

- Similar effort is put into techniques for problem-solving. For example, to investigate defects within pile shafts ESG offer tomography imaging displayed as 2D or 3D models to alleviate the possible need for expensive, time consuming coring of the shaft.

The depth of our professional expertise, coupled with the most comprehensive foundation testing capability that places ESG at the forefront of the industry.

Individual contracts vary in size from foundation testing on individual buildings to multi-million pound large scale infrastructure projects.

Early Involvement

Foundation design requires pre-planning and testing is an integral part of this together with other factors such as ground stability. To support this, ESG undertakes inclinometer monitoring which is often used at the pile preparation phase to observe lateral movements within structures or to ascertain whether remedial works are required. We also put great credence in correct pile head preparation and layout as an important step towards achieving the highest quality test results possible.

It is the continuous development of equipment and techniques combined with solid know-how which forms the philosophy that has shaped our business over the years. This breadth of experience spearheaded by a high level of technical excellence combines to deliver the most complete, leading edge foundation testing service available to the construction industry, today.

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