

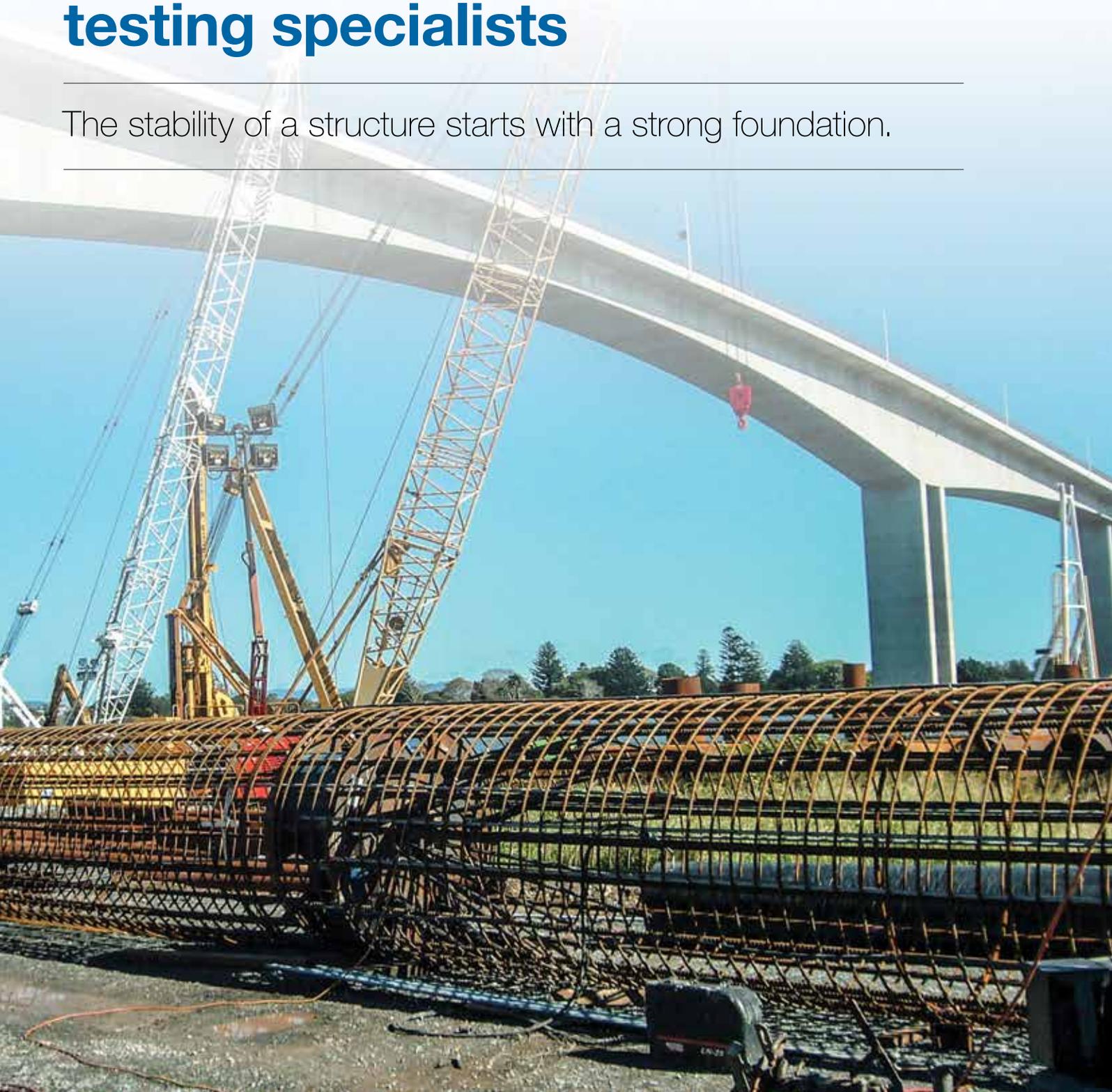


# Foundation and pile testing specialists

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The stability of a structure starts with a strong foundation.

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# Driving innovative and cost-effective testing solutions to provide safer, faster and highly accurate results.

James Fisher Testing Services instills significant confidence in the long-term performance of foundations, delivering fast and highly accurate on-site verification services.

As the leading, independent provider of foundation and pile testing services, James Fisher Testing Services (JFTS) verifies design parameters thereby instilling significant confidence in a foundation's ultimate long-term performance under load.

Our breadth of resources allows us to deliver a rapid response, with minimal disruption to on-going work within the test location and results instantly available on-site. Our experience and expertise enables us to provide practical advice on the best testing methods for your project needs.

Using only the latest innovative products, we cater for a broad range of loading capacities and offer a wide range of non-destructive testing methods to meet the industry's exacting requirements. The real-time distribution of invaluable data facilitates informed decision-making, improving overall project performance in terms of safety, productivity and asset protection.

## Our scope of foundation testing includes:

- Below ground corrosion assessment
- Bi-directional static load testing
- Cross hole sonic logging
- High strain dynamic pile testing
- Low strain integrity pile testing
- Static load testing
- Parallel seismic testing

We can also provide a fully integrated geotechnical monitoring service which includes ground movement monitoring, noise and vibration monitoring, landslip monitoring, tunnel monitoring and building movement monitoring.



## A trusted brand and international partner

JFTS is the new corporate identity of two industry leading organisations – Testconsult and the monitoring division of Strainstall. This new organisation brings together a cross-disciplinary team of experts with over 50 years' experience in construction and infrastructure management.

JFTS supports complex infrastructure projects throughout the asset lifecycle, from base line materials and foundation testing, to the design and installation of long term monitoring solutions and periodic structural investigation. Cutting edge data management capability assists asset owners and operators to make timely and cost effective decisions throughout an asset's lifespan.

Expanding on our traditional operations, JFTS boasts an international presence with locations across the UK, Ireland, the Middle East and Malaysia. We can also draw upon the significant resources of the wider James Fisher group to offer a truly global service and an unrivalled ability to meet the constantly developing needs of the markets in which we work.



## Specialist foundation testing equipment

We design and manufacture our own range of specialist foundation testing equipment in-house, driving innovative and cost-effective solutions to deliver improved operational performance for our customers worldwide.



## Committed to quality and safety

JFTS is committed to delivering high quality solutions throughout all of its operations. We ensure best practice and compliance with industry regulations, as evidenced through our industry accreditations and memberships. We are committed to delivering the highest standards in order to meet our customers' exacting requirements.

## Foundation testing services

Our range of highly accurate pile testing services verifies critical foundation design parameters and identifies corrective actions.

### High strain dynamic pile testing | SIMBAT



**Our high strain dynamic pile testing offers a fast and cost-effective method of determining the performance of pile foundations.**

Using the SIMBAT technique, testing includes a number of features that enable data validation, including the specially designed optical theodolite. The prime advantage of dynamic load testing is the speed of testing and its low cost. Typically up to ten piles can be tested per day with preliminary results available immediately.

### Low strain integrity pile testing | TDR2



**We are a specialist provider of advanced pile integrity testing services used to assess the condition of concrete pile foundations.**

Using the latest portable system, the TDR2, we are able to provide advanced interpretations of data measuring pile length, pile head stiffness and pile shaft mobility. Analysis can be carried out instantly on-site and in normal conditions we can easily test up to 60 piles per day, increasing to 200 where access is particularly good.

### Cross hole sonic logging | SCXT3000



**Cross hole sonic logging provides a full and thorough investigation of the quality and consistency of concrete bored piles.**

JFTS uses the latest SCXT3000 sonic logging system to test, view and store critical data on the structural soundness of concrete. We offer a high-end analysis service which includes 2D and 3D tomography reporting for fast visualisation of foundation defects.



### Below ground corrosion assessment | BGCMAF



**Using our own specially developed equipment we provide a below ground corrosion assessment service as an alternative method to traditional excavation techniques.**

Traditional excavation methods can be a costly and time consuming means of assessing underground corrosion. JFTS' alternative technique, using our own specially developed equipment, provides a more efficient and less intrusive way of evaluating corrosion rates.

### Parallel seismic testing | PARAS



**Our parallel seismic testing service is regarded as the only reliable method for checking the durability of foundations beneath existing structures.**

Occasionally doubts about the integrity and length of concrete and sheet piling, only arise after the structure is complete and pile heads are no longer accessible for testing. The parallel seismic test and the PARAS seismic test system have been developed by JFTS for testing in these situations.

### Bi-directional static load testing



**Our bi-directional static load testing (BDSLTL) method is a truly innovative and highly effective static load testing technique.**

The speed and accuracy of the testing method has made BDSLTL a valuable tool and the wealth of information produced is the reason so many engineers are now turning to this method. Using a hydraulically driven, high capacity, sacrificial pressure cell, the test provides separate measurements of a pile's end-bearing and skin friction - the only available test to do so.

# Delivering improved asset safety and ensuring long-term performance

JFTS' static load testing is the most fundamental form of pile load test and is considered the benchmark of pile performance.

Static load tests can be used to determine the settlement that can occur at a working load, or a multiple of it, and can also be used to verify the ultimate bearing capacity of a pile.

## There a number of different static load test methods:

- Maintained load test - each increment of load is held constant for a specified period of time or until the rate of settlement falls below a specified value
- Constant rate of penetration (CPR) test - this method is usually conducted for determining the ultimate bearing capacity of a pile, the load is applied to the pile in order to maintain the rate of penetration at a constant speed
- Tension test - similar to maintained load test, except the purpose of this method is to determine how the pile will perform under a tensile load
- Zone testing

## Zone testing

We are the leading industry expert in zone load testing. Zone testing is a method of static load test usually conducted after ground improvements made by dynamic compaction, soil stabilisation, vibro concrete and stone columns. Suitable for both short and long-term testing, it is the only method suitable for after ground remediation works.

## Features and benefits of JFTS' zone testing:

- Project managed by highly experienced and fully certified staff
- Exceptional safety record
- Up to the minute data streamed from site
- Detailed and customised graphical reporting



# Case studies

## Delivering industry first in Singapore



**JFTS successfully pile tested a 10,000 tonne load – the highest capacity ever tested for Dongah Geological Engineering Co. Ltd in Singapore.**

The pile test was conducted at the confluence of different soil formations, making it challenging to design a test which could acquire meaningful data.

JFTS was able to overcome this difficulty using BDSLT together with its experience and understanding of customer requirements.

## Wind farm ground improvement verification



**JFTS ensured project safety during ground improvement works at a remote and exposed wind farm site.**

JFTS was asked to verify ground improvements initially made using vibrated stone columns through a peat stratum using its static load test (SLT) monitoring system. The loading process reached 50% of the maximum test load before the test was suspended due to excessive differential settlements across the test position. By testing in advance the project averted a potentially dangerous situation before the cranes began their lifts.

## Structural monitoring of the Burj Kalifa Tower



**JFTS delivered a six year monitoring contract on the Burj Khalifa Tower in Dubai – the tallest man-made structure ever built.**

Initially contracted to undertake preliminary pile tests to ensure the piles could bear the weight of the enormous structure, JFTS went on to supply and install a structural monitoring system designed to monitor the structure's performance as construction progressed. This provided important ongoing data on the structural behavior of the tower during the initial commissioning period.

## Sonic logging at Crossrail



**JFTS provided sonic logging on a range of deep piled foundations and diaphragm walls at four different underground stations as part of the prestigious Crossrail transport scheme in London.**

The foundation testing contract win, followed four years of materials testing on the same project. Using JFTS' latest SCXT sonic logging equipment, technicians were able to log a four tube pile profile in around 15 minutes, providing a fast and efficient testing service for the client.



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**Bristol**

Unit 10,  
City Business Park,  
Easton Road,  
Bristol,  
BS5 0SP

**T:** +44 (0) 1761 414939

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**Harlow**

Bruton House,  
Stadium Way,  
Harlow,  
Essex  
CM19 5FT

**T:** +44 (0) 1279 729 029

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**Portlaoise**

Zone 5, Unit D  
Clonminam Industrial Park  
Portlaoise  
Ireland

**T:** +353 (0) 5786 64885

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**Warrington**

Ruby House  
40 A Hardwick Grange  
Warrington  
Cheshire  
United Kingdom  
WA1 4RF

**T:** +44 (0) 1925 286 880

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**E:** [enquiries@jftesting-services.com](mailto:enquiries@jftesting-services.com)

**W:** [www.jftesting-services.com](http://www.jftesting-services.com)

