IST Institute of Spring Technology

Independent Testing Services

IST offers unique, independent, ISO 17025 accredited facilities for determining the fitness for purpose of springs by offering testing services for each stage of the production value chain – material, design and manufacture.

Our extensive static and fatigue test labs allow testing of all spring types in a wide range of materials and sizes under a range of conditions, and our experienced and knowledgeable staff has access to state of the art facilities for metallurgical analysis.

IST's unique combination of technical know-how, experience and knowledge of how springs operate allows us to offer a second to none testing service to our members and non-members alike.

Testing Capabilities

Load testing to 100 kN
Torque testing to 100 Nm
Fatigue testing up to 40 kN
Failure investigation
Metallurgical analysis
Hardness testing
Tensile testing
Corrosion testing
Mechanical testing

Quality advice and support, when you need it

Load and Torque Testing

IST's independent load and torque testing service offers a range of tests, for both spring and non-spring components.

Load testing: Our calibrated range is 0.4 N to 100 kN in both compression and extension. We also offer non-axial load testing.

Torque testing: We can test from 0.005 Nm to 100 Nm, including manufacture of custom fixturing where necessary.

Fatigue Testing

IST provides an independent, dedicated spring fatigue testing laboratory. We perform life cycle proof testing, with the following services available:

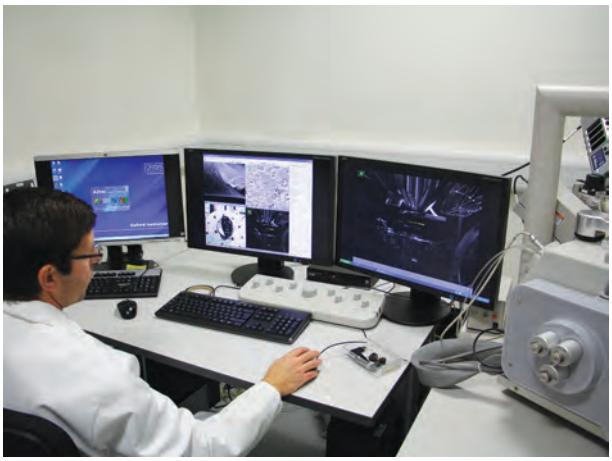
- Up to 40 kN load, with stroke up to 250 mm
- Cycle rates of 50 Hz / 3000 rpm (maximum safe speed of test depends on spring design)
- Testing at up to 180^{o} C or sub-zero temperatures
- Load testing before and after is available

Torsion fatigue testing is also available, including conventional torsion, spiral and clock spring types.

Failure Analysis

IST undertakes detailed failure analyses to determine the underlying cause of a product's failure and provide recommendations to prevent reoccurrence. Analysis could be a result of material defects, fracture, errant heat treatments, overloading, fatigue, corrosion, embrittlement, environmental damage or other reasons. We can also provide chemical analysis to check your raw material's composition.

We offer a visual inspection at no cost, and can then recommend whether further investigation is worthwhile.



Corrosion Testing

To determine either a material or coating's environmental resistance, we offer salt-spray corrosion testing of springs or other products to ISO 9227 NSS parameters.

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