



The TEST HOUSE



The Test House is the East of England's leading provider of testing services to industry. Located just outside Cambridge, our UKAS-accredited testing laboratory is able to accept and perform tests on parts of any size – both metallic and composite materials, and regular and complex geometries.

We can conduct dozens of types of standardised tests, examining every aspect and property of a specimen. And when standard tests don't go far enough, we can create bespoke custom jigs, fixtures and testing rigs capable of imparting a precise type of stress into a part.

Mechanical, non-destructive and metallurgical: we combine approaches and methodologies to deliver solutions to problems from right across industry. We've worked with international companies from sectors including oil and gas, marine, power and construction – completing projects ranging from failure analysis to corrosion testing.

Our engineering expertise extends to in-house specimen manufacture – we can work with you to establish precise specifications, carry out detailed modelling and then construct prototypes according to your needs.

The Test House is a subsidiary of TWI, world leaders in joining technologies, and through this connection we are also able to provide expert weld procedure and welder qualification approvals.

Whatever your requirements, however specific your testing needs – we can help.



# THE TEST HOUSE

A full service provider

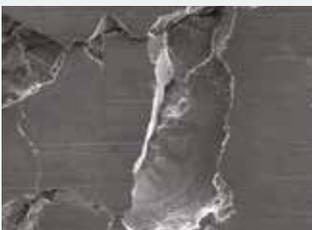
The Test House offers a complete testing service. With engineers experienced in solving problems from across multiple industry sectors, and the ability to conduct a full range of test types, we avoid any need for subcontracting and complete our projects entirely in-house.

Information on our equipment and the services we provide from our UKAS-accredited laboratory can be found on these pages.

## METALLURGICAL AND FAILURE ANALYSIS

Strictly confidential service in secure facility, encompassing forensic analysis, report authoring and consultancy:

- **Corrosion testing** - intergranular and pitting corrosion testing to ASTM A262/BS EN ISO 3651 and ASTM G48
- **Surface analysis** - including scanning electron microscope (SEM) and energy-dispersive x-ray spectroscopy (EDX) analysis
- **Fractography**
- **Sample preparation**
- **Micro and macro specimen examination**



## MECHANICAL TESTING

Mechanical tests can be carried out on existing equipment or on a custom-made jig:

- **Tensile** - we provide proof load testing in tension, compression and shear. Tensile and compression testing uses test machines of 100kN and 600kN capacity
- **Impact** - to measure the toughness and impact resistance of a material. We offer Charpy testing to BS EN ISO 148-1 and ASTM E23
- **Bend** - to measure ductility. We are able to perform three-point flexural tests on components
- **Hardness** - to measure a material's resistance to a compressive force. We provide Vickers (low-load at 0.2, 0.5 and 1kg; standard at 5, 10 and 30kg); Rockwell HRB and HRC; and Brinell 1/30 HB tests
- **Weld procedure qualifications**



## NON-DESTRUCTIVE TESTING

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Non-destructive testing services accredited by UKAS and ASNT. We work with you to select the right test types and develop an optimum methodology. Expert witness verification also available.

- **Manual ultrasonic testing**
- **Magnetic particle inspection (MPI)**
- **Dye penetrant inspection (DPI)**
- **Radiography and radiographic interpretation**
- **Digital radiography**
- **Weld procedure invigilation and qualification**
- **Welder test invigilation and qualification**

## MANUFACTURING AND TEST SPECIMEN PRODUCTION

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Bespoke manufacture service encompassing design, fabrication and finishing. All manufacturing carried out in compliance with relevant international standards:

- **Specialised custom jigs, fixtures and testing rigs**
- **Specimens built to exact specifications** (eg. Charpy and fracture toughness test specimens incorporating electron-beam-welded extensions and friction-welded Z specimen extensions)
- **Multiple-axis computer numerical control (CNC) milling centre**
- **Contract machining** - with CNC wire and plate electrical discharge machining centres
- **Large capacity saw** - with a 1.1m height and 1.2m width capacity

## 25 YEARS' HISTORY

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The Test House was established in 1990 to provide mechanical testing services to support the research activities of its parent company, TWI.

In the years since we have expanded our capabilities considerably, and now deliver trusted services and consultancy to clients around the world.

Substantial investment in new testing equipment necessitated a move to larger premises, so in 2015 we moved into our new purpose-built facility alongside TWI at its Great Abington headquarters. Now with greater capacity and capability than ever, we continue to build on our success.

## GET IN TOUCH

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Contact us to find out more about the services available at The Test House and to discuss your requirements – we will be happy to work with you to identify the best approach.

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