

Helping Deliver
Sustainable Projects

Product Testing

We operate a world leading independent testing laboratory based on a 5.5 hectare campus with a 3,600m² indoor facility.

Testing for weather tightness is carried out on Cladding and PV panels.

Weathertight buildings are air tight buildings. Air tightness is a key element in ensuring building sustainability.

This relies on good design, quality construction and high performing building components.

Testing carried out by our independent laboratories validates actual performance versus the design specification.



Site Operations

Site testing acts as a quality check to ensure construction performance matches the design requirement. On site testing services includes:



Water tightness

Air tightness

Thermography

Envelope audits

- UKAS accredited
- 5.5 hectare campus
- 3,600m² indoor facility
- Notified body for CE marking





National Assembly for Wales



Stonehenge Visitors Centre

BREEAM support and testing

Sustainability is nothing new for the Technology Centre. As far back as 2003, we provided BREEAM support at an early stage to the National Assembly for Wales project.

The Richard Rogers designed building opened in 2006 and achieved BREEAM Excellent, then the highest ever award in Wales.

In addition, the Technology Centre experts provided UKAS accredited air tightness and weather tightness testing.

Air tightness testing

The new Visitor Centre at Stonehenge, provides facilities befitting its World Heritage Site status.

The Technology Centre were commissioned to provide air tightness testing and advice. Airtight buildings conserve energy and thus reduce CO₂ emissions. Testing is compulsory under Part L building regulations. For this project the air permeability target was much lower than the legal requirement, so our engineers performed regular audits to ensure the airtight line was maintained.

Our UKAS accreditation covers air tightness testing for both dwellings and non-dwellings.

The scheme fulfilled a long standing ambition of English Heritage to improve the facilities. The new Visitor Centre, positioned 1.5 miles away from the ancient monument, is sensitive to the historical landscape.

A low key visitor transport system transports visitors from the new facility to a drop-off point close to the stones.

Owing to the unique nature of the site, an archaeological consultant was engaged for the scheme.



Heart of the City Offices



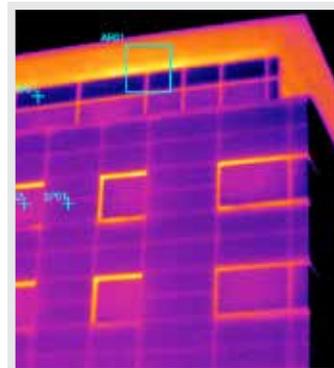
Co-op Headquarters

Energy management

Energy is one of today's key issues. Challenging carbon emission reduction targets are forcing a rethink of traditional ideas, requiring innovative solutions.

For this building, a series of investigations, including Thermography and CIBSE TM22 reports, were carried out to establish a baseline for improvements. This exercise identified a 20% reduction in CO₂ emissions. Half-hourly metering was installed in 27 locations with the data being accessed remotely.

Reductions in electricity consumption delivered a 59 tonnes reduction in CO₂ emissions in a 4 year period. A similar exercise at our own premises has reduced our CO₂ emissions by 168 tonnes between 2008 and 2013.



The world's greenest new building

The Co-op HQ has been described as the world's most environmentally friendly building with an unprecedented BREEAM score of 95.1%.

Façade testing for this outstanding project was carried out at our world class product testing and research facility. The sample was subjected to a rigorous testing regime including:

- Air permeability
- Static and dynamic water tightness
- Impact
- 50 year wind loading

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In addition, we performed acoustic tests (airborne and flanking) on façade elements.



Testing sample under construction



Battersea Power Station

Cathodic Protection

What could be more sustainable than retaining an existing Grade II listed building? That is exactly what is happening at Battersea Power Station. The development will transform this great industrial monument into the centrepiece of Battersea's redevelopment.

Battersea Power Station is one of London's most iconic buildings. The station was designed by Sir Giles Gilbert Scott in the 1930s and remains one of the largest brick structures in Europe.

The Technology Centre have been contracted to design and install a Cathodic Protection (CP) system to protect the steel frame in the Wash Towers.

CP is electro-chemical process for preventing corrosion and the application for steel frame buildings was first developed by our engineers.

WHAT MAKES CP SUSTAINABLE?

Sustainability is balancing economic, environmental and social issues. The case for Cathodic Protection is simple:

- More cost effective than other methods
- Less waste and reduced CO₂ emissions (resource efficiency)
- Reduced pollution

Battersea Power Station is being redeveloped by a consortium of SP Setia Berhad; Sime Darby Property and Employees Provident Fund.

Research

Our sustainability experts have been involved in several key projects including:

ZERO CARBON HUB

The Zero Carbon Hub is an independent non-profit public/private partnership, established to take day to day operational responsibility for coordinating delivery of low and zero carbon new homes.

In 2010 the Technology Centre were commissioned to carry out investigative work into the air permeability of dwellings.

More recently, we have been involved in a programme to close the gap between design and as-built performance.

WRAP

We have been active in waste research projects funded by the Waste & Resources Action Programme (WRAP) since 2004.

Projects include the Construction Support and Construction Sector research frameworks. The latter shifted the focus of research further from waste and onto resource efficiency.

We worked in partnership with TRL on these projects which formed part of the governments halving waste to landfill objective.

PASSIVHAUS

We are engaged with one of the UK's largest Passivhaus projects delivering air tightness testing and a Code for Sustainable Homes assessment.



