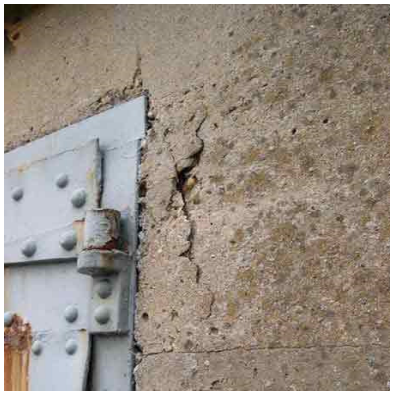
2010

Rowan Technologies Ltd - Concrete Inspection Case Studies

Rowan Technologies Ltd have extensive experience of both historic and modern concrete structures. We offer a comprehensive concrete inspection and consultancy service. The following case studies are just some of the projects that Rowan Technologies Ltd have been involved in.

For more information, please visit www.rowantechnologies.co.uk or call 0161 748 3644

Tynemouth Priory, Tyne and Wear
Concrete Inspection, Consultancy and Repair Strategy



The coastal defences at Tynemouth date back to the 1880s and have recently been granted listed building status. English Heritage intended to carry out conservation works and Rowan Technologies undertook a study of the concrete to determine how best this could be done.

Core sampling for laboratory analysis including carbonation testing, chloride and sulphate determinations, render analysis, concrete strength and uniformity as well as cement type were all completed. A full embedded metal survey and detailed defect mapping were also carried out by Rowan Technologies, and a full workscope for the repair and conservation of the concrete was developed and costed.

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Conisbrough Castle Staircase
Concrete Inspection and Repair Strategy

In 2009, Rowan Technologies was asked to assess the concrete staircase at Conisbrough Castle. The staircase provides access to the Castle keep and has suffered from corrosion of the concrete reinforcements. A full inspection of the staircase was undertaken, including a concrete cover depth survey, concrete strength and uniformity tests and carbonation depth testing. Samples were also taken for laboratory analysis. Full defect drawings were also completed.

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St Chad's Church, London
Concrete Inspection, Repair Costings

Constructed in 1957, St Chad's Church in Vange is a reinforced concrete structure with a brickwork infill. The reinforced concrete beams, windows and pillars have suffered corrosion, delamination and spalling of the concrete over the past 50 years as a result of time-related deterioration processes.

Rowan Technologies assessed the extent of the damage to the concrete, specified repair options and obtained budget costs. Detailed defect mapping was completed as well as concrete samples being taken for laboratory analysis to determine the causes of deterioration.

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The Listening Mirrors, Kent
Like - for - Like Concrete Repairs

The three early warning sound mirrors on the Kent coast were built using reinforced concrete in the late 1920s and the early 1930s to detect the distant sounds of enemy aircraft approaching from over the English Channel. The reinforced concrete has deteriorated in the marine environment and many parts of the structure are suffering from corrosion of the reinforcements and the delamination of the concrete cover.

Rowan Technologies undertook a series of trials of various repair and rehabilitation methods to assess their suitability for these monuments. This included 'model' patch repairs of the damaged concrete on a like-for-like basis, to achieving a similar texture and surface finish to the original.

2010

Leazes Park, Newcastle
Concrete Inspection and Repair Strategy

Built in the late 19th Century, the concrete terrace at Leazes Park in Newcastle has suffered from long term degradation.

Rowan Technologies carried out a detailed investigation of the terrace and developed repair strategies for it's conservation. The work included quantification of the extent of the degradation, the nature of the damage and repair/replacement options. Concrete sampling for chemical analysis, detailed defect mapping and a full metal survey were completed. This took into account the terraces age, architectural and structural significance, as well as its future durability.

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The Hollings Building, Manchester
Concrete Repairs Consultancy

Known locally as the 'toast-rack', this Grade II listed reinforced concrete structure has suffered general deterioration in some areas.

Rowan Technologies advised the client on the best repair methods for the different areas. These included colour-matched anti-carbonation elastomeric coatings, polymer modified repair mortars and surface treatments.

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St Hugh's Church, Scunthorpe
Concrete Inspection

This Grade II listed church was built between 1938 and 1939. The frame was constructed from reinforced concrete with brick infill. The concrete has suffered corrosion of the internal reinforcements resulting in delamination and loss of fabric in some areas.

Rowan Technologies undertook an assessment of the damage to the concrete (including detailed defect drawings), carried out concrete sampling for laboratory examination to determine the cause of the deterioration and advised on budget repair estimates.

2010

McMullen's Brewery, Hertfordshire
Concrete, Embedded Steel and Wooden Floor Inspection

The listed buildings of McMullen's Brewery in Hertford were being developed commercially in 2010. Rowan Technologies Ltd was contracted to carry out an assessment of the iron framing and the surrounding concrete to the original brewery buildings, which date from the 1890s. Contamination levels were measured in both the concrete and wooden floors.

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Beeston Castle Footbridge, Cheshire
Concrete Inspection

The modern reinforced concrete bridge, providing access to Beeston Castle's inner gatehouse, had been deteriorating for some time. Rowan Technologies were contracted to complete a full inspection of the staircase, including concrete strength and uniformity tests, carbonation depth testing and a full concrete cover depth survey. Samples were also taken for laboratory analysis.

2010

St John the Evangelist Church, Fareham
Concrete Inspection, Repair Strategy and Budget Cost

St John the Evangelist Church in Fareham has a modern reinforced concrete tower, which is clad in cast stone blocks. The concrete reinforcements have been suffering from corrosion in recent years, leading to their expansion and ultimately the cracking of the concrete and stone façade. Rowan Technologies completed a full concrete inspection including strength testing, a cover depth survey and chemical analysis. Detailed defect mapping was included for obtaining budget repair costs.