

STATS Consulting

- An independent comprehensive consultancy service from inspection/defect assessment through to supervision of remedial work

STATS Materials Laboratories

- In-house UKAS accredited examination and testing on a wide range of construction materials

Concrete structures may suffer from various forms of deterioration. Before effective repairs can be carried out it is necessary to determine the cause and extent of the problem.

Investigation and Testing

To gain maximum benefit from an investigation it is necessary to have a good understanding of the potential deterioration mechanisms and the strengths and limitations of the possible investigation methods, which include:

- half-cell potential surveys
- resistivity surveys
- core sampling
- concrete dust sampling
- covermeter surveys
- monitoring cracks and structural movement
- visual surveys
- delamination surveys
- ultrasonic pulse velocity measurements
- reinforcement sampling
- chloride, sulfate & alkali content testing
- strength of concrete
- chemical attack of concrete
- petrographic examination of concrete

Specification and Supervision of Repairs

There will often be a range of repair options and the most appropriate solution depends on the required service life of the structure, the acceptability of further repairs in the future and the availability of finance. Options may include:

- strengthening measures
- concrete repairs
- protective coatings
- electrochemical treatment i.e. cathodic protection re-alkalisation; desalination
- waterproofing systems
- decorative treatments



Alkali silica reaction in a bridge pier



Frost attack in a cold store



Reinforcement corrosion in a car park

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