

Conservation of Heritage Buildings

STATS Consulting

- On-site condition evaluation and monitoring
- Designated non-destructive testing and/or material sampling

STATS Materials Laboratories

- UKAS accredited materials testing and data analysis
- Interpretation of defects and recommendation of treatments

Historic Fabric and Structure

Buildings and monuments are the most notable evidence of our continuing history. All buildings suffer the consequences of age, with the fabric and building structure slowly altering and eventually deteriorating.

Prior to undertaking repairs, a thorough understanding of the fabric and building structure must be attained in order that informed decisions can be made concerning its preservation.

Heritage Consultancy

STATS recognises that special consideration is warranted for the retention in status of our building heritage and is able to provide a tailored service to identify mechanisms of decay, and assess their impact on material performance.

By understanding the delicate balance between building repair and preservation of character, STATS' team of scientists and engineers can ensure that potentially expensive mistakes can be avoided in specifying repair and restoration works to both ancient and modern structures.

The Materials

- natural stone and slate
- concretes and other cementitious materials
- mortars of all ages
- block and brickwork masonry
- terracotta tiles and all ceramics
- plasters, renders and other finishes
- paints and coatings
- timber



Condition of historic masonry



Assessment of a stone corbel



Weathering of stonework

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INVESTOR IN PEOPLE



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Material Fabric Assessment

- visual surveying by specialist inspectors
- non-destructive testing
- borescope surveying
- dye testing for identification of surface cracking
- petrographic examination of constituent materials
- chemical analysis for deleterious materials
- monitoring of deterioration mechanisms

Laboratory Techniques

- microscopical examination
- fluorescence microscopy
- photospectrometry
- wet chemical analysis
- scanning electron microscopy and micro-analysis
- microanalysis based chemical mapping of surfaces
- X-ray diffraction
- X-ray fluorescence analysis
- infrared analysis
- gas chromatography
- thermal analysis
- laser ion mass surface analysis

Typical Investigations

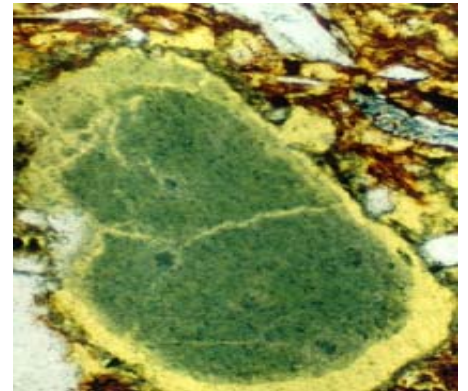
- condition surveys, sometimes by rope access
- identification of salts and other deleterious materials
- constituent identification and resourcing
- material and colour matching for restoration work

Typical Problems

- staining and encrustation by foreign materials
- discoloration of original constituents
- weathering mechanisms
- degree and extent of damage
- previous inappropriate remedies



Rope access survey of Westminster Bridge stonework



Relict lime in old brick identified using microscopy



Lead coated metal fixings in old stonework



Material identification: terracotta statues

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