Royal College of General Practioners.
The Conservation of the Ceramic faience Piers Treatment methodology.

March 2021

Treatment Methodology.

Prepared for: Russell Merry on behalf of the Royal College of General Practioners.

Prepared by: Tracy Jeffreys Senior Conservator Campbell Smith and co.

Date: 20th of March 2021

Ref: Conservation Clean, stabilisation and repair to the Ceramic faience Piers, The Royal college Of General Practioners.

Please find attached the methodology for your kind attention for the recently surveyed Doulton Piers belonging to the Royal College of General Practioners architectural interior.

With regards to your question ‘if we require a sample tile’. In the spirit of limited intervention, we find that preparing several colour matched recipes insitu gives us the best results.

Apologies for the brief explanation of the fixing arrangements available. The problem is that so many different anchoring systems were in use during the early part of the 20th century.

Essentially once we remove the loose tiles, we will be in a position to be give you an accurate specification.

Please let me know if you need anything else or further information.

My best wishes

Tracy

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Conservation Clean, stabilisation and repair to the Ceramic faience Piers, The Royal college Of General Practioner.

Outline

The following methodology follows a preliminary condition assessment made at site and is in line with the structural condition report prepared by Barry C. Smith in April 2019 by Mint Structures.

Description

Listing No: Grade II*

Date: 1906-1908

Architect: A. Beresford Pitte (1861-1934)
Designer: W. J. Neatby (1860-1910).
Construction company: Foster and Dicksee of Rugby.

Location: 30 Euston square, Kings Cross, London

Style: Modern Style

Classification: Architectonic.

Construction: Concrete, UC steel column clad with modular decorative ceramic faience.

Material: vitrified matt glazed, stoneware body

Dimensions: N/A

Fixing Arrangement: Metal detected at centre section, indicating limited anchor system.

Geographic origin: London. U.K

Provenance

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Back stamped.

Description

A series of columns integral to the extant 1908 interior.

The columns are clad with Royal Doulton's architectural Carrara ware in pale yellow and sage green and were created by the designer W. J. Neatby.

The architectural ceramic is a stoneware with a matt vitreous glaze.

The brown and yellow dado tiling on the adjoining corridors and rooms walls are also by Doulton.

Reference: ('The London, Edinburgh, and Glasgow Assurance Building, London', *Architectural Review*, 23 (1908) March, pp169-176')

(Carrara ware was Royal Doulton's trade name for a single fired vitreous glazed stoneware, produced in 1880 and used for architectural between 1888 to 1939).

Condition

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- General layer of surface detritus with some invasive underglaze staining and persistent detritus.
- Glaze fit shows a high degree of evidence for moisture expansion/substrate expansion.
- Localised stress fractures apparent to the modular cornice possible substrate expansion.
- Abrasive and mechanical damage typically concentrated on lower levels.
- Blistering indicative of moisture expansion.
- Water dissolution through the clay/glaze matrix example of trapped water within the concrete system.
- Inadequate, photo-oxidised and degraded remedial and cosmetic repairs.
- Damage caused by Incompatible material replacements.
- Open joints with failed grout.

Applied Conservation Work

While it is understood that material decay in architectural faience is complex. The most common and the primary form of material failure in architectural

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faience can be attributed to water related issues. This can include ferrous ‘jacking’ or thermal expansion within the designs armatures / anchors as well as the stress exerted through the inevitable material expansion of the clay body. In order to establish the structural condition and potential mechanisms of decay each of the ceramic piers will receive a preliminary non-destructive investigation and inspection of the architectural ceramics’ assemblage and material condition; using a moisture meter, metal detector and thermal imaging camera. The piers will be assessed for the presence of metal and moisture which will help qualify the approach to the conservation and repair.

This methodology is based on the assumption the ceramic material has a moisture reading below 18%. And that the area is dry and the ceiling above is well maintained.
A reading above this will mean the moisture levels will need to be reduced for any remediation of the tiles decoration to be beneficial.

Treatment and Work plan

Cleaning and Protection

- Preliminary dry clean using vacuum cleaner and soft brushes to remove all friable and loose surface detritus.
- Identify all fragile areas and hollow sections and face up with rag tissue and a reversible acrylic dispersion to prevent further loss.
- Introduce a dehumidifier and maintain the existing RH constant while wet cleaning is in progress.
- Wash with a non-ionic surfactant and water using micro resin sponges to remove persistent detritus.
- Remove stubborn, integrated stains with a combination of a bespoke Ph compatible sol gel and micro steam cleaner.

Stabilisation

- Conduct NDT survey and map and record each pier. Establish moisture parameters are met.
- Record label and remove all loose, detached and broken faience units.
- Using a mixture of B44 to increase hydrophobicity and increase the glass transition of the B72 acrylic resin. Use the adhesive acrylic resin to adhere a reversible nylon mesh scaffold to support each prepared ceramic units reverse

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before reinstating.

- Solvent wash and Inject all micro fissures and fractures with B44/B72 acrylic resin to stabilise and consolidate the ceramic tiling. Solution Percentages TBD insitu.
- Establish the fixing arrangement and make allowance for a combination of 3 fixing arrangements.
- Poured/shuttered concrete substrate: Allow to stabilise concrete substrate using an inert silica dispersion.
- Insert a combination of blind fixings using carbon/and or fibre glass fibre armatures and/or anchors to reset large modular tiling into the existing concrete substrate.
- Insert with stainless steel fixings (dry fix) a nylon mesh frame on to the concrete substrate and use to re-bed small units using a compatible hydraulic lime-based bedding mortar.
- Steel UC with anchor system. Reinstate and replace/provide additional support using stainless steel fixing arrangement TBD based on the assessment of the original design.

Repair and reinstatement

- Remove deleterious epoxy resin repairs using a combination of solvents poultice and fine sculpting tools including rotary and diamond micro tools.
- Identify and allow for the production of a series of suitable conservation grade compatible repair recipes to match the existing sections. i.e., U.V stable acrylic resin system.
- Mould and cast replacements using compatible conservation grade materials with good resistance to photo-degradation and moisture expansion.
- Prepare negative silicone moulds of all lost large modular units and cast using i.e., the jesmomite light weight acrylic resin casting system. Match hue using light fast pigmented repairs, cast and replace.
- Remodel positive sections of loss $\geq$ 5.0 cm W x 8mm D using modelling wax. Remove wax exemplars and prepare negative silicone moulds following exact topography cast and replace, adhere with acrylic adhesive and hone in repairs.
- Apply a U.V filtered synthetic matt glaze to complete the repair.
- Regrout using ‘soft’ nano grout all failed areas.

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