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# Condition 3 Material Specification and Methodology

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| Project Name: | **India House** | Report drafted by: | **Vicky Saunders** |
| Job No: | **4545** | Material | **Mortar for Brickwork and Terracotta** |
| Client: | **The Guinness Partnership** | Report Number | **1** |
| Contractor: | **Recclesia c/o Casey** | Revision | **A** |

## 1. Project Overview

This Method Statement sets out the procedure for repointing the masonry for India House which is a
Grade2*listed building in Manchester, ensuring compliance with historic building conserv ation
principles, BS 7913:2013, and Historic England guidance. The works prioritise retention of original fabric, appropriate mortar composition, and minimal visual disturbance.

India House was built in 1906 for Lloyds Packing Warehouse and the original use was as a shipping warehouse. Currently India House is residential apartments.

The use of traditional materials and methods is essential to preserve the fabric and prevent water ingress.

There has been recent repair undertaken to the terracotta features at roof level, leadwork and roofing around the terracotta features, but more remediation work is required to the roof, as water ingress is occurring.

The structure is designed in Edwardian Baroque Style, with a steel frame with elaborate buff terracotta work and red brick work walls, with a slate roof with large terracotta features on the roof levels. The building is seven-story.

## 2. Purpose

To carry out necessary repointing works safely and sympathetically, preserving the structural integrity, with appropriate
porosity, and aesthetic character of the listed building while preventing damage to original bricks and terracotta.
To this purpose it is essential to understand the existing mortars.

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The building mortar has been tested, and early cement has been identified in the original samples taken. This is supported by historical evidence in Michells Building Books which cites the use of cement during this period.
An historic mortar analysis has been carried out by M Wormersleys Ltd. Terracotta was bedded on a stronger mix, as the original mortar analysis shows.

The mix for the new mortar must not enable water to be pulled in and it should not exceed the original mortar's ability to pull in water. If an incorrect mix is used on the new mortar, it would remain saturated, grow moss and the mortar would start to leach lime, stain and allow water ingress. The latest pointing is an NHL 3.5 mix; it is staining, has moss growth and water ingress is evident.

Different mortar, if exposed to water, perform differently, and matching the appropriate mix to the existing condition is paramount.

Capillary suction and vapour permeability needs to be the main consideration in the specification.

**3. Scope of Works**

- Elevations have been surveyed to identify repointing. All the NHL 3.5 pointing to the face of the terracotta is to be removed. The NHL 3.5 mortar mix has been applied to the surface of the joint and is on the face of the terracotta pieces.



Fig 1: Example of terracotta repointing in NHL3.5 Northeast Elevation

- Limit repointing to red brickwork
areas demonstrating weathering, failed mortar, or moisture ingress. Sound historic mortar shall remain undisturbed.



Fig 2: Example of lighter over pointing onto original black mortar to red brickwork. Pointing generally in good condition, minor failed areas. Northeast Elevation

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- Match new mortar in composition, colour, and texture to original materials, informed by sampling and analysis.

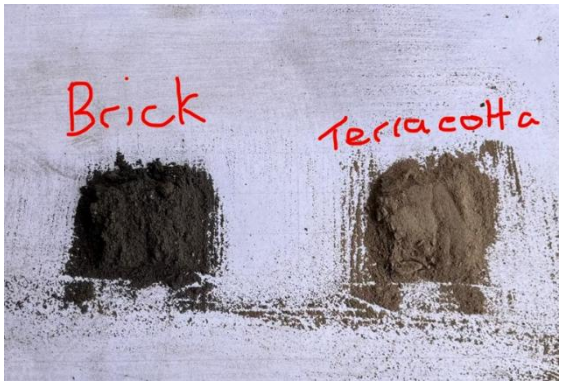



Fig 3: Samples of colours

Image shows the mix proposed to best match the original mortar colours

- Repoint using mortars compatible with original construction.

**4. Materials**

- **Mortar**: Cement mortar mixed from a 1:1:6 mix would draw 1 gram a minute and release 0.23 grams of moisture an hour, closely matching the performance of the original mortar with suitably graded washed sharp sand aggregate size graded to match the joint width.
- **Water**: Clean potable water.
- **Tools**: Hand chisels, pointing trowels, soft brushes, and dust extraction-connected angle grinders if minimal mechanical intervention is required.



Fig 4: Removal of mortar by hand on Northeast elevation for sample

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- **Personal Protective Equipment (PPE)**: Safety boots, gloves, P3 dust respirators, eye protection

## 5. Methodology

### 5.1 Preparation

1. Survey and mark areas requiring repointing.
2. Protect adjacent surfaces, including windows, sills, and decorative features.
3. Ensure scaffolding and access comply with health and safety regulations.

### 5.2 Removal of Existing Mortar

1. Where cement or inappropriate mortar exists, carefully rake out joints using hand tools to avoid damaging soft bricks or stones.
2. Where unavoidable, lightly score joints with an angle grinder fitted with a dust shroud and extraction to limit vibration and dust.
3. Joints should be raked out to approximately three times the joint width or a nominal 20mm depth, maintaining a square cross-section.
4. Vacuum out all loose debris and dust.

### 5.3 Joint Preparation

1. Thoroughly soak exposed joints with clean water to prevent premature drying and shrinkage of new mortar.
2. Ensure surrounding masonry is damp but not saturated.

### 5.4 Repointing

1. Apply cement mortar in two layers (butt layers), filling joints completely up to the surface.
2. Compact each layer carefully using wood or plastic battens to eliminate voids.
3. Texture the surface to match historic mortar finish, avoiding recessed or strap pointing.

### 5.5 Finishing

1. Brush off excess mortar gently.
2. Keep newly repointed areas moist for initial curing if necessary.
3. Inspect all joints to ensure uniformity and compatibility with surrounding fabric.

## 6. Health, Safety, and Environmental Considerations

- All work conducted in accordance with COSHH regulations where appropriate.
- Minimise dust creation and manage debris responsibly.
- PPE must be worn at all times during masonry and mortar handling.

## 7. Quality Control

- Samples of new mortar should be approved prior to commencement.

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- Final inspection will confirm visual match, mortar adhesion, and absence of damage to historic fabric.
- Recording and photographic documentation of works applied is recommended to inform future maintenance.

**8. Outcomes: Photographic evidence of repointing samples**

Fig 1:

Red brick sample panel



Fig 2:

Terracotta sample panel



**9. References**

- Historic England, *Repointing Brick and Stone Walls* (HEAG144)
- BS 7913:2013 *Guide to the Conservation of Historic Buildings*
- Listed Building Maintenance Guidance, Communities NI
- Case-specific pre-works survey reports and mortar analysis.

This Method Statement ensures that repointing is executed in a manner that **respects historical fab ric**, **preserves visual authenticity**, and **maintains the structural and porosity characteristics of the masonry**.