



JAMESTOWN COURTYARD

PLANNING & LISTED BUILDING CONSENT APPLICATION

PAINT CLEANING STRATEGY

JANUARY 2025

Rev A

RAILPEN

STUDIO GHAZAL



RESTORING ORIGINAL FINISHES

OVERVIEW

- ▶ Airpressure and grit cleaning have been tested as a method of cleaning and removing unwanted finishes
- ▶ Specialist supplier tests and advice has been sought, including an assessment and recording of the expected results.
- ▶ The brickwork has undergone a lot of changes over the years, with some bricks being added or omitted, some being painted or rendered, and some having different colors or finishes.
- ▶ Gentle and discreet tests have been carried out in order to inform the appropriate methods to cleaning the brickwork

EXCESSIVE PAINT LAYER STRIP OUT

- ▶ Poulitice paint and varnish remover specifically formulated for removing multiple layers of old toxic lead paint from various surfaces.

FINE GRIT CLEANING SAMPLES:

- ▶ MK Blaster is an experienced restoration company that provide building restoration services across Hertfordshire and London.
- ▶ MK Blaster is using grit cleaning using two particle sizes: Medium glass particle sizes are graded particles between 0.2 and 0.5mm, and Fine particle size that is between > 0.2
- ▶ To ensure the integrity of the building fabric, it is recommended that the pressure be kept low and slowly adjusted in all the proposed tests.

LOWER GROUND FLOOR

GRIT CLEANING PROPOSED APPROACH

[MK BLASTER]

- ▶ Use a mild paint stripper to be brushed a coat of paint stripper on first which will soften the paint up.
- ▶ Remove stripped paint gently with plastic scrapers and then very gently remove just the paint residue with the fine blasting. This will ensure that they are blasting the bricks for a lot less time and with less pressure.
- ▶ Fine media might require more pressure to achieve similar results to a medium grade on a lower pressure setting. A medium grit on a very low pressure can be applied gentler to ensure the integrity of the building fabric.
- ▶ The ongoing work to be assessed with the aid of test patches and to keep track of variables, such as softness of bricks and type/amount of paint to be removed.
- ▶ An experienced blaster will navigate the requirements above and avoid extended exposure to a specific media.

THIRD FLOOR

DRY ICE CLEANING PROPOSED APPROACH

[MK BLASTER]

- ▶ Dry ice cleaning is a non-abrasive technique that uses dry ice (solid CO₂) to remove paint. It is a three-phase process that involves firing dry ice under appropriate pressure.
- ▶ Contractor will use a fan-style nozzle and direct the nozzle towards the beams from about 4 inches away. The dry ice is used at a rate of 20kgs/25KGS per hour.
- ▶ The pressure and dry ice will be altered, and be used with a scrambler, which is a mesh nozzle that reduces the dry ice pellets into a snow for gentler cleaning.
- ▶ The equipment used will have the pressures and ice flow adjusted to allow the most sympathetic clean appropriate to the surface being cleaned. Pressures used are usually 7bar.

OVERVIEW

1. Grit Cleaning to Lower Ground floor External walls, Soffits and Internal columns
2. Dry Ice Cleaning to Third floor external walls



LOWER GROUND



THIRD FLOOR

TESTS:

The following tests were carried out

1. Cleaning and exposing original finishes sample for brick soffits fine particle grit cleaning
2. Internal Column - Cleaning and exposing original finishes sample for walls and columns (above waterproofing) fine particle grit cleaning
3. External Column - Cleaning and exposing original finishes sample for walls and columns (above waterproofing) fine particle grit cleaning
4. Third Floor - Cleaning and exposing original finishes sample wall with Dry ice



1



3



2



4



SUMMARY

The existing paint cleaning strategy for Jamestown Courtyard employs two distinct approaches tailored to different areas:

- ▶ For the Lower Ground Floor, a fine grit cleaning method will be used on external walls, soffits, and internal columns. MK Blaster will implement a careful process that begins with applying a mild paint stripper, followed by gentle removal using plastic scrapers. The final stage involves fine blasting with carefully controlled pressure to protect the building fabric. Test patches have demonstrated that this method effectively reveals the original brickwork while preserving its integrity.
- ▶ For the Third Floor, a non-abrasive dry ice cleaning technique will be employed on external walls. This method uses solid CO₂ under controlled pressure (typically 7 bar) with a fan-style nozzle positioned 4 inches from the surface. A specialized scrambler mesh nozzle will be used to convert the dry ice pellets into snow for gentler cleaning, with consumption rates of 20-25kg per hour.

Test results across four sample areas have validated that this is the best approach:

1. Brick soffits responded well to fine particle grit cleaning. Internal and external columns showed successful paint removal above the waterproofing line.
2. The third floor wall sample demonstrated effective results with dry ice cleaning.

The strategy prioritizes the preservation of original materials while addressing the various surface conditions throughout the building. Special consideration has been given to the historic brickwork, which has undergone multiple modifications over the years.

The cleaning methods have been specifically chosen to accommodate these variations while ensuring the building's architectural integrity is maintained throughout the restoration process.

This careful approach aligns with listed building requirements and demonstrates a thorough understanding of the structure's historic significance and material sensitivity.