

A close-up photograph of a person's hands working on a brick wall. The person is wearing a dark, long-sleeved shirt. Their right hand is holding a dark-colored hand tool, possibly a scraper or a small trowel, and is applying it to the mortar joint between two dark grey bricks. Their left hand is resting on the top surface of the brick being worked on. The background is a blurred wall with a window. The overall scene is well-lit, highlighting the texture of the bricks and the mortar.

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FACING BRICK MAINTENANCE &  
REPAIR PROCEDURES

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# FACING BRICK MAINTENANCE AND REPAIR PROCEDURES

## Table of Contents

1. Introduction
  2. Purpose
  3. Scope
  4. Maintenance Procedures
    - 4.1 Initial Prevention Steps
    - 4.2 Routine Cleaning
    - 4.3 Preventive Maintenance
  5. Repair Procedures
    - 5.1 Minor Repairs
    - 5.2 Major Repairs
  6. Weather and Environmental Considerations
  7. Documentation and Reporting
  8. Roles and Responsibilities
  9. Training and Evaluation
  10. Review and Updates
- 

## 1. Introduction

This document outlines the procedures for maintaining and repairing facing bricks in buildings or structures. Proper maintenance helps maintain the aesthetic and structural value of facing bricks, especially in areas with harsh weather or exposure to pollution.

## 2. Purpose

The purpose of this document is to:

- Ensure facing bricks retain their visual appeal.
- Prevent damage and deterioration due to environmental factors.
- Provide guidelines for cleaning, maintenance, and repair to prolong the lifespan of facing bricks.

## 3. Scope

This document applies to all exterior facing bricks used in walls, facades, and other architectural features. It covers maintenance tasks, routine inspections, and both minor and major repairs. These procedures can be applied to residential, commercial, or industrial brick structures.

## 4. Maintenance Procedures

### 4.1 Initial Prevention Steps

The initial stage of preventing brick staining and damage is proper workmanship and storage of the bricks. Bricks to be used should be properly stored on-site and protected, from external elements and site dirt, in a dry area.

When laying bricks, the bricklayer should be able to keep the bricks free of mortar smears and capable of producing tidy joints that are sufficiently filled- preventing the potential for water to pool and cause damage. It is further recommended that any finished brickwork is covered to prevent any dirt from remaining site work disturbing the finished walls.

### 4.2 Routine Cleaning

Routine cleaning prevents build-up of dirt, grime, and pollutants, which can cause facing bricks to lose their colour or degrade over time.

#### **Frequency:**

Clean facing bricks annually, or more frequently in areas exposed to heavy pollution or moisture.

#### **Materials:**

Use mild detergents, soft-bristled brushes, and low-pressure water hoses.

#### **Procedure:**

- Dry brush the brick surface to remove loose dirt.
- Apply a mild cleaning solution and gently scrub the surface.
- Avoid high-pressure washing, which can damage the brick or mortar joints.
- Rinse thoroughly and allow the surface to dry.

### 4.3 Preventive Maintenance

Preventive maintenance addresses potential issues before they lead to significant deterioration.

#### **Inspection:**

Perform visual inspections biannually to identify any cracks, efflorescence (salt deposits), spalling (flaking), or discoloration on both brickwork and mortar.

Inspections of areas of potential water ingress should also be assessed as this may lead to repeated appearance of efflorescence.

#### **Dirt:**

It is recommended that any surface dirt or grime is removed using a stiff bristle brush, if this is ineffective, an appropriate detergent should be used alongside the stiff bristle brush.

When cleaning the brick surface of dirt and/or grime from the brick surface, it is recommended that:

- the work is not carried out during low temperatures, to avoid potential freezing damage,
- metal bristled brushes and metal tools are NOT used, to prevent surface scuffing or damage,
- high pressure washing is not used, to avoid surface damage.

### **Efflorescence Removal:**

If efflorescence appears, remove it with a dry brush and avoid using water, as it can exacerbate the issue.

For stubborn deposits, use a solution specifically produced for removal of efflorescence and always follow instruction outlined with the product. It is recommended that any solution selected for use should be tested in a hidden or discreet area prior to use, to assess any potential for damage to brick work as well as its effectiveness. The areas treated should also be assessed after application to judge whether corrective treatment is required.

### **Sealants and Coatings:**

If a sealant has been deemed necessary to use, apply a breathable water-repellent sealant every 3-5 years to protect against moisture. Prior to full application, any sealant selected should be applied to a small, discreet area of the wall to assess suitability.

Sealants should be monitored regularly and if there are cracks or de-bonding, the sealant should be replaced and removed.

### **Weed and Vegetation Control:**

Remove any vegetation growing near the brick surface, as roots can weaken mortar joints and allow water ingress. When removing any vegetation, in particular Ivy and similar climbing plants, the vines should be cut away as opposed to "pulling" straight from the wall- this can cause damage to the mortar and/or brickwork, as the shoots are embedded in the voids of the wall.

## **5. Repair Procedures**

### **5.1 Minor Repairs**

Minor repairs address small areas of damage or wear, such as minor cracks or missing mortar.

#### **Repointing:**

- Use a pointing tool to carefully remove damaged mortar without damaging surrounding bricks.
- Apply new mortar, ensuring it matches the original in colour and composition, to maintain visual consistency.
- Avoid working in extreme temperatures, as this can affect mortar curing.

#### **Crack Filling:**

- For minor cracks, use a flexible sealant that matches the colour of the brick to fill the cracks.
- Ensure the area is clean and dry before application.

## 5.2 Major Repairs

Major repairs are required for larger areas of damage, deep cracks, or cases where bricks are significantly damaged.

### **Brick Replacement:**

- Carefully remove damaged bricks using a hammer and chisel or mechanical cutting device, taking care not to disturb surrounding bricks. It should be determined through visual inspection whether singular damaged bricks are to be removed, or if surrounding bricks should be included in the replacement.
- Clean the space and apply fresh mortar to the bottom and side surfaces of the cavity, carefully placing to minimise staining surfaces of existing brickwork. The mortar used should match the colour and texture of the existing mortar, as much as possible. If using perforated bricks, the perforations should also be filled.
- Apply mortar to the top face of the replacement brick and carefully insert into the cavity, ensuring that the replacement brick is level with the existing bricks and flush with the surface of the wall.
- Once the new brick has been inserted and positioned appropriately, use a pointing tool or trowel to fill the remaining space with mortar, to ensure that there are no voids between bricks and the joints are sufficiently filled.
- Once the mortar has been applied, use the pointing tool to point the mortar joints in the same fashion as the existing mortar.
- Clean mortar smears on replacement brickwork.

### **Spalling Brick Replacement:**

- Spalled bricks should be replaced to prevent moisture from seeping into the structure.
- Follow the same procedure as above for brick replacement, but take extra care to seal any exposed surfaces.

## 6. Weather and Environmental Considerations

Weather and environmental conditions play a significant role in the maintenance of facing bricks.

### **Freezing Climates:**

In cold climates, water entering cracks can freeze, expand, and worsen brick damage. Schedule inspections before and after winter months to address any water damage.

### **High Humidity:**

In areas with high humidity, inspect for mould and algae growth. Clean and treat these areas with a mould-resistant solution as needed.

### **Polluted Areas:**

Facing bricks in urban or industrial areas may be prone to discolouration due to air pollution. Regular cleaning can help prevent build-up.

## 7. Documentation and Reporting

### **Inspection Records:**

Keep a log of each inspection, noting any observed issues such as cracks, efflorescence, spalling, or discoloration.

### **Maintenance Logs:**

Record all cleaning, sealing, and minor repairs, including date, materials used, and personnel responsible.

### **Repair Reports:**

Document all major repairs, including a description of the damage, steps taken for repair, and any recommendations for future prevention.

## 8. Roles and Responsibilities

Define specific roles and responsibilities for maintenance and repair tasks, including:

### **Maintenance Supervisor:**

Oversees inspection and maintenance schedules and ensures adherence to the maintenance plan.

### **Maintenance Technicians:**

Conduct cleaning, minor repairs, and assist with larger repair tasks.

### **Building Manager:**

Coordinates with maintenance teams to schedule repairs with minimal disruption to occupants.

## 9. Training and Evaluation

### **Training:**

Provide training to maintenance personnel on brick care and repair techniques, including safe handling of cleaning chemicals and repair tools.

### **Evaluation:**

Conduct regular evaluations of maintenance activities to ensure consistency and quality.

## 10. Review and Updates

This document should be reviewed annually or whenever there are updates in brick maintenance techniques, new cleaning products, or changes in building regulations. Revisions should be documented, and all relevant personnel should be notified of updates.