CLEANING OF BRICKWORK

GENERAL PRECAUTIONS

Staining can mar the appearance of brickwork, but incorrect cleaning can cause permanent damage. Therefore, any method of cleaning should be tested in a small unobtrusive area and left for as long as possible, but at least a week, to see the results before the whole job is tackled.

These techniques are intended for 'do-it-yourself' work in removing relatively small areas of staining. A specialist contractor should be engaged for cleaning large areas of brickwork, for example cleaning industrial grime from a building.

Preferably use wooden scrapers and stiff fibre brushes to avoid damaging the bricks. Where chemicals are used, the brickwork should be thoroughly wetted with clean water to prevent it from absorbing the chemicals, and then rinsed thoroughly with clean water afterwards. Adjacent features such as metal windows and the area at the foot of the wall should be protected from splashing chemicals.

In places that are not possible to make a mess or where the stain is very localised, most of the cleaning liquids can be applied as a poultice by thickening them with an inert filler such as talc, bentonite or powdered chalk.

Many of the recommended chemicals are caustic or poisonous,. Therefore every precaution should be taken, with protective clothing and goggles worn. Volatile solvents should only be used indoors under conditions with good ventilation.

Cleaning techniques may differ for clay and calcium silicate bricks. It is therefore, important to identify the brick in question and the type of stain or deposit before any cleaning is undertaken.

CLAY BRICKWORK

Remember to thoroughly wet the brickwork with clean water before applying any chemical, and wash down with clean water afterwards.

LICHENS & MOSSES

These can be killed with a solution of copper sulphate (1kg to 10 litres water), or alternatively, a proprietary weed killer. Vegetable growth is mostly indicative of damp brickwork and will usually reappear if this basic cause is not cured. (Green staining that does not respond to this treatment is likely due to vanadium salts from within the bricks.)

LIME

Follow treatment recommended for 'Mortar'.

VANADIUM GREEN

Wash down with a solution of the sodium salt of ethylene diamine tetra acetic acid (1 part to 10 parts water) or a 10% caustic soda solution. Do not wash the wall with clean water afterwards. (Hydrochloric acid should never be used on vanadium stains since it 'fixes' them and turns them brown. Such brown stains can sometimes be removed using a strong caustic soda solution, but there is risk of damaging the bricks.)

PAINT

Apply commercial paint remover or a solution of trisodium phosphate (1 part to 5 parts water by mass). Allow the paint to soften and remove with a scraper. Wash the wall with soapy water and rinse with clean water

OIL

Sponge or poultice with white spirits, carbon tetrachloride or trichlorethylene. Good ventilation is essential indoors.

CALCIUM SILICATE BRICKWORK

LICHENS & MOSSES

These can be killed with a 10% copper sulphate/water solution, or a proprietary weed killer. There will usually be an obvious black residue of dead material which should be removed by scrubbing with water. Vegetable growth is generally indicative of damp brickwork and may reappear if this basic cause is not cured.

LIME BLOOM

Lime bloom streaks may arise from the autoclaving process, and will tend to mask the colour of the brick. The recommended cleaning process is as follows:

- Wet 1-2m² of brickwork with clean water.
- Scrub wetted area thoroughly with a diluted solution of a proprietary acid cleaner (I part cleaner : 20 parts water).
- Then immediately wash down with clean water

PAINT

Apply commercial paint remover or a solution of trisodium phosphate (1 part to 5 parts water by mass). Allow paint to soften and remove with a scraper. Wash the wall with soapy water and rinse with clean water. In very bad cases, it may be necessary to grind off the face of the brickwork in affected areas.

OIL

Scrub with an oil emulsifying detergent in water. Dry thoroughly. If necessary, poultice with white spirits, carbon tetrachloride or trichlorethylene. Good ventilation is essential indoors

CHECK LIST

DO Protect bricks and unfinished brickwork from becoming saturated during construction.

DO Ensure that all safety measures are taken when handling and using chemicals, with first-aid measures immediately available.

DO Identify the nature of the masonry to be cleaned and type of stain / deposit to be removed.

DO Carry out trials on small areas of masonry, well before the main cleaning operation starts

DO Ensure that the masonry is adequately wetted before surface application of chemicals, and unless stated to the contrary, remove all traces of the chemical afterwards.

DO Allow efflorescence to disappear naturally whenever possible.

DO Ensure a high level of ventilation when chemicals are used in a confined space.

DO Protect vulnerable metalwork and other materials and plants from chemical liquids, fumes and spray.

DO NOT Clean brickwork exposed to hot sunlight.

DO NOT Use wire brushes or other abrasive methods on brick faces.

DO NOT Allow chemicals and / or washings to contaminate surrounding areas

CLAY BRICKWORK

RUST OR IRON
Wash down with a solution of oxalic acid (1 part to 10 parts water by mass). (Brown staining that does not respond to this treatment, particularly at the junction of the brick and mortar, is likely due to manganese).

SMOKE & SOOT
Scrub with a household detergent. Stubborn patches can be removed from the brick pores using a poultice based on trichlorethylene. Good ventilation is essential indoors

TAR
Except where bricks are liable to surface damage, remove excess with a scraper. Scrub with water and an emulsifying detergent. If necessary, sponge down or poultice with paraffin. Do not wet brickwork with water first.

TIMBER (BROWN OR GREY)
These stains are due to water spreading tannin or resin from the timber across the bricks and mortar, and can normally be removed by scrubbing with a 1:40 solution of oxalic acid in hot water.

WATER
Water running frequently down a brick surface produces pattern staining. This can be removed by scrubbing after wetting with a high pressure mist spray of cold water. If this is not effective, the treatment recommended for mortar should be followed

EFFLORESCENCE
(White crystals or white furry deposit) This usually disappears rapidly from new brickwork with wind and rain. Brushing/sponging down the wall at height of efflorescence also helps. The brushed off salts should not be allowed to accumulate at the base of the wall, as they may be carried back into the brickwork by subsequent rain.

CALCIUM SILICATE BRICKWORK

RUST
Wash down with a solution of oxalic acid (1 part to 10 parts of water by mass).

SMOKE & SOOT
Scrub with a household detergent. Stubborn patches can be removed from the brick pores using a poultice based on trichlorethylene. Good ventilation is essential indoors

TAR
As much as possible should be removed, first by scraping, then by scrubbing with water and an emulsifying detergent. Allow to dry, then, if necessary, poultice with paraffin. Do not wet brickwork first.

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