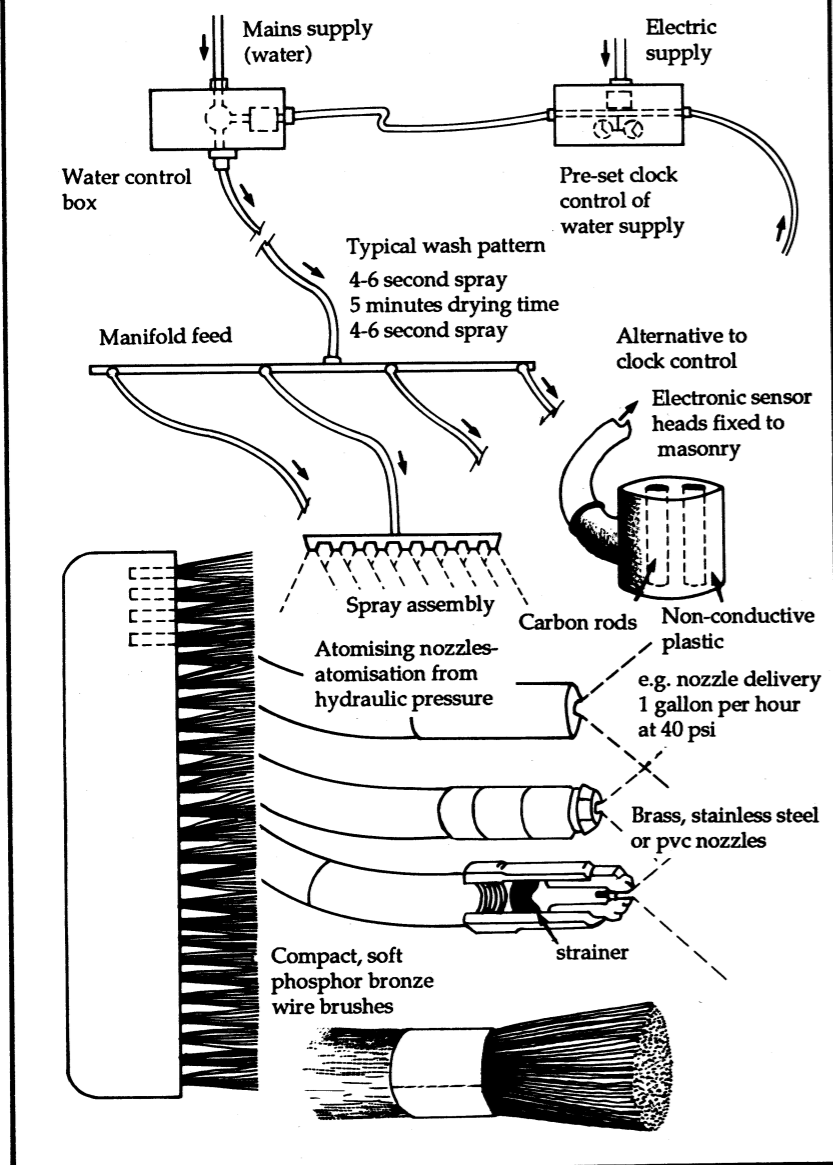


CLEANING STONE

The methods for cleaning stone are basically similar to those for cleaning brick, but it is vital that you identify the type of stone to be cleaned. Stones vary in their resistance to cleaning and there are some very soft stones used in buildings in Surrey. The softer the stone, the greater the risk of damage when cleaning. The iron content of the stone could also be important when assessing the risk of staining. Consideration must also be given to how the removal of dirt will affect the weathering qualities of the stone and what remedial works might be necessary to both the fabric and the jointing of the surface. It is advisable, for example, to put in new stones after cleaning so that staining risks are kept to a minimum.

Intermittent ("pulse") washing system



Washing : the dirt that forms on limestone and marble is generally soluble in water, and washing with lances, bucket and brush and wet packs are all recognised methods of cleaning. The dangers of oversaturation include staining and the washing out of joints. No washing should take place in winter months because of the danger of the freezing water causing further damage.

Mechanical : it is similarly important to identify with accuracy the stone to be cleaned in order to determine the resistance to cleaning. Mechanical cleaning can be considered as a last resort, but not for very soft "spalled" or flaky surfaces.

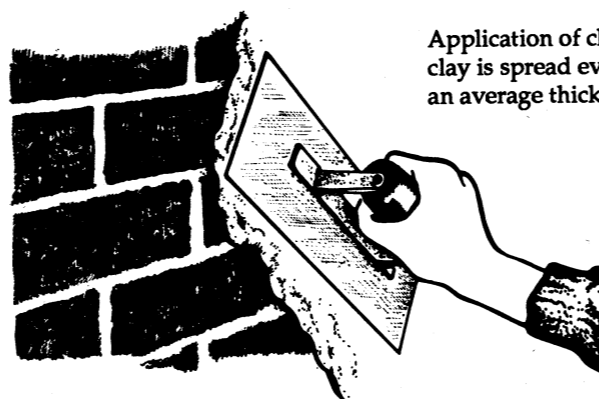
Chemical : this offers perhaps the best potential for some of the softer stones used in Surrey, and a weak acid concentration in repeated applications can be effective on sandstones. There are dangers of iron staining and formation of surface silica, but if handled correctly, these problems can be overcome. The key points to remember are :

- 1 Always pre-wet the surface.
- 2 Use minimum acid concentrations.
- 3 Minimum contact periods should be ensured.
- 4 Always wash off thoroughly.
- 5 Consider pre-washes and neutralizing washes.

Poultice cleaning can be very effective for soft surfaces and comes in a proprietary form, based on methylene chloride. It is applied with a blanket and covered with cling film or plastic film to retard drying and allow more time for the agent to work.

CLEANING WOOD

On exterior surfaces of timber framed buildings there should be no need to clean, other than by brushing to remove loose dirt. Black paint and tar applied previously should be left to weather off and be regularly brushed. For painted weatherboard, standard paintstrippers and hot air stripping can be used, with care, to prepare the surface for fresh painting. Interior woodwork panelling and staircases are best cleaned with poultices and pastes, rather than using scrapers, which can damage cornice mouldings and carvings. Interior beams should not be sand blasted or otherwise stripped as this removes patina and can obliterate carpenter's marks or other surface markings which are part of the character. Gentle brushing should deal with surface dirt. Soot deposits on roof timbers should on no account be removed as these are an important indication of the historical evolution of the building.



Application of clay poultice: the wet clay is spread evenly with a float to an average thickness of 15 - 20mm

Dry poultice ready for removal: the clay has separated from the wall indicating that its usefulness is over. Wire mesh embedded in the clay on application aids adhesion and removal



FURTHER ADVICE

For further advice contact your Local Planning Authority before work begins as they will be able to draw your attention to any special requirements necessary for instructing your contractor. They should also be able to provide information on the Historic Building Grants available and give details of the other leaflets in this series.



Advisory Leaflet 8

CLEANING OF HISTORIC BUILDINGS



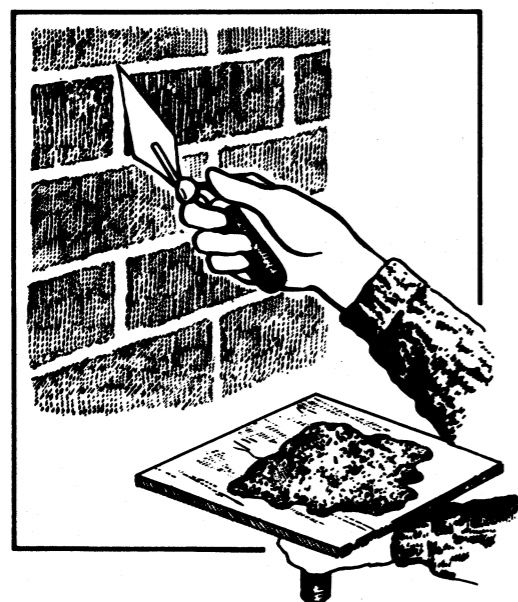
There have been many technical advances in the cleaning of buildings in the past twenty years, but regrettably there have also been many damaging mistakes.

This leaflet aims to explain to owners the options available for the cleaning of historic buildings and to point out the dangers involved.

This is one of a series of leaflets prepared jointly by Surrey County Council and the eleven District Councils to provide advice, without prejudice, for the owners of, and those working with, historic buildings.

SIMPLE RULES OF THUMB FOR CLEANING A BUILDING

- 1 If in doubt whether you require Listed Building Consent for the cleaning of your building, contact your Local Authority Conservation Officer .
- 2 Take expert advice on the need for cleaning and the best method to be used. Remember, cleaning should be only part of a wider programme of surface repairs, and should not be considered in isolation.
- 3 Always use a reputable and experienced contractor. Ask for examples of previous work if the cleaning technique involves more than just water.
- 4 Make sure you accurately identify the materials to be cleaned. Old brickwork is softer than new, special "rubbed" bricks require special consideration. If yours is a stone building, then get expert advice on identification of the stone as the resistance to cleaning may vary.
- 5 Take great care to protect areas not to be cleaned, e.g. doors, windows, wooden cornices and other decorative features. Remember, dust and debris associated with the cleaning can penetrate inside and damage fittings.



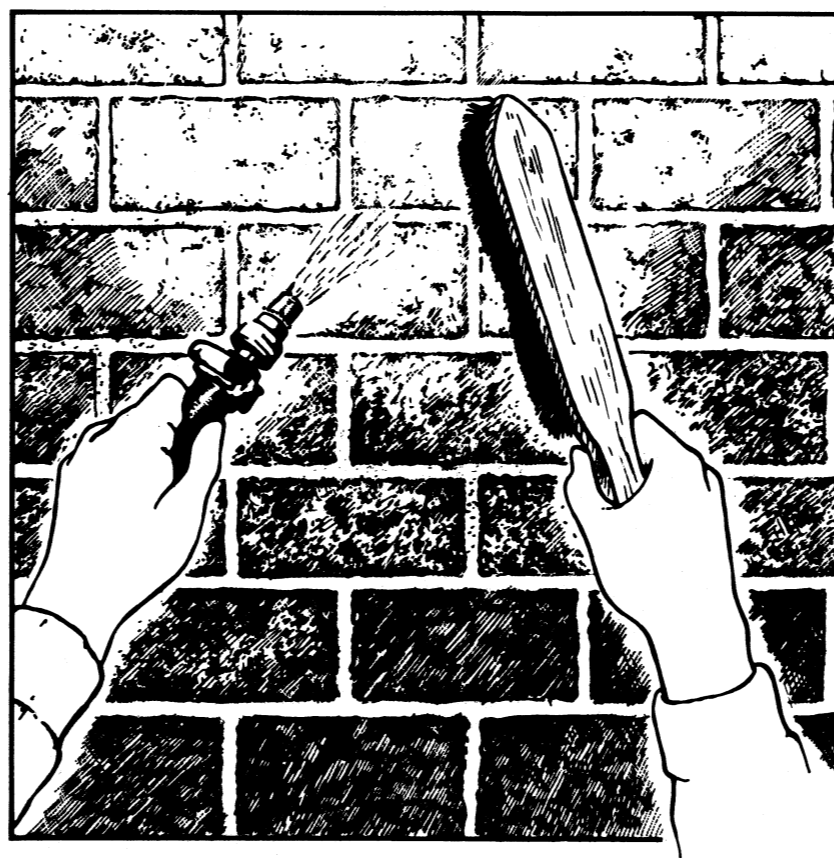
Pointing fine joints and cracks with non-shrink mortar before cleaning. Preparation of this kind is essential and should precede the start of any cleaning operation

DO I NEED CONSENT TO CLEAN MY BUILDING?

As a result of a recent High Court decision, the Secretary of State for the Environment has issued an amendment to the legislation on listed buildings. It is considered that simple cleaning of a listed building using water would not normally require Listed Building Consent, but other methods, or more extensive restoration work might well need consent.

WHEN DO I NEED TO CLEAN MY BUILDING?

The decisions whether to clean and how to clean will depend on the materials in your building and the type and amount of soiling involved. Heavy soiling on some stones can retain water and hold agents harmful to the fabric. Lighter soiling, whilst unsightly in some cases, will probably not be very harmful. A partial clean may be all that is necessary, and it must be remembered that you will not be able to obtain a totally clean finish. With some of the problems experienced with very "thorough" cleaning programmes, leaving well alone is a valid option on both brick and stone buildings. If contemplating cleaning, test clean an inconspicuous patch of the building to establish the problems that may result and the further treatments that may be necessary.



WHAT IS THE BEST METHOD OF CLEANING MY BUILDING?

When dealing with brick or stone there are generally three recognised methods of cleaning :

- 1 Washing, preferably not in the winter months.
- 2 Mechanical.
- 3 Chemical.

The choice of method will depend on the material you are dealing with, and a combination of one or more methods may be considered. However, each method has its drawbacks and combination treatments should only be used by experienced contractors. The cleaning of ironwork, lead, glass and other materials are specialist tasks and further advice should be taken.

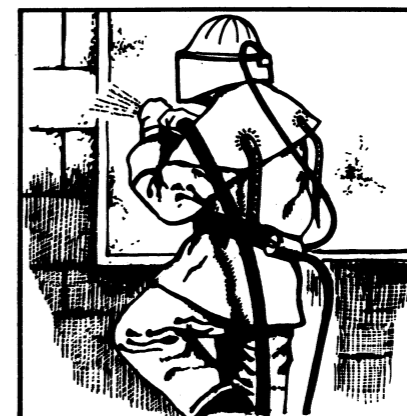
CLEANING BRICK

Washing : the principle is simple. Using water to soften the dirt you can then brush it away with a soft phosphor bronze brush. If the dirt is stubborn, pulsed water sprays are effective. It is important not to abrade the surface by brushing with hard brushes and it must be remembered that on special "rubbed" bricks, even a soft bristle brush can cause damage.

The main problem with washing is the danger of staining so use a minimum amount of water and do not let it run down the building. Remove the water as soon as possible.

Mechanical : TO BE AVOIDED ON BRICK UNLESS THERE IS NO ALTERNATIVE. The commonest problems associated with mechanical cleaning are discing and scouring of the surface which encourages re-soiling and accelerates decay.

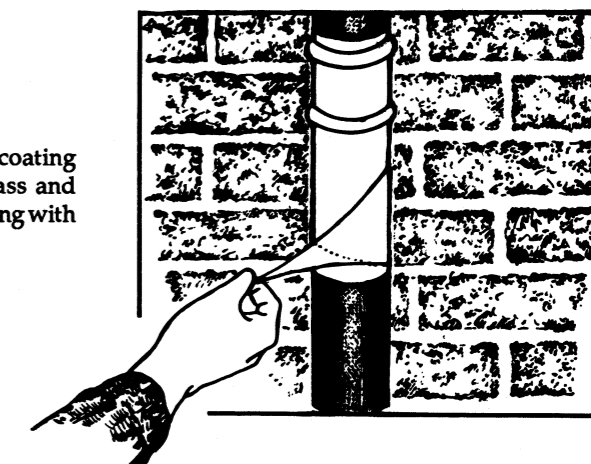
Chemical : this is basically the use of solvents and can be one of the most effective methods of cleaning brick. The use of hydrofluoric acid in a weak solution, if applied correctly, leaves no salts on the surface. The acid solution is used on a pre-wetted surface and should only be in contact with the surface of the building for no more than 5 minutes. On no account should it be left longer, and thorough washing off is essential. The acid is a dangerous substance; it will etch most surfaces including human flesh, and only a suitably experienced contractor should handle it.



Cleaning with a solution of hydrofluoric acid

Special problems : graffiti, old stains, oil and grease can be removed from brick by using specialist solvent packs based on a methylene chloride stripper in a poultice. Pencil air abrasives can be used to break up "shadow lines," and graffiti barriers can then be used to protect sound surfaces which are only occasionally subject to this vandalism.

Peelable plastic coating for protecting glass and paint while cleaning with chemical



FAIENCE AND GLAZED BRICK

Similar cleaning methods can be applied. When washing, a neutral ph soap can be used. With chemical cleaning the solvents are usually alkaline, but these should only be used by an experienced contractor. THEY SHOULD NOT BE USED ON ORDINARY BRICK.