PRECISION BRICKWORK LTD

BRICKWORK & MASONRY CONTRACTORS

RECEIVED
17 MAY 2007

COSTAIN LIMITED

227-233 TOTTENHAM COURT ROAD

AND

19-21A STORE STREET, LONDON

METHOD STATEMENT

AND

RISK ASSESSMENT

CLEANING & RESTORING FACADES

Registered Address: 49 Farnham Road, Fleet, Hampshire GU51 3HT
Tel: 07785 518991 or 07956 834937 Fax: 01252 620553 E-mail: peter@precision.fslife.co.uk
VAT Reg. No. 776641885 Registered No.: 4214682

STANDARD METHOD OF WORK

PREPARATION WORKS

Prior to the commencement of the cleaning operations, it is essential that all affected rain water gullies, hoppers and similar installations are cleaned out, then checked for defects to ensure that the fluids used during the work can be adequately drained off. The supply of mains water and its pressure will need to be established, although booster pumps can be provided to increase the pressure should the mains supply prove to be inadequate.
All windows and openings that may allow the ingress of water shall be suitably protected during cleaning operations using 100 gauge polythene and heavy duty masons tape.

MASON'S CLEANING

The method of cleaning recommended for elevation stonework and brickwork of the building involves the use of a general mason's cleaning process, this would be carried out on site in accordance with the requirements of
BS 8221-1 2000. We indicate below a general item of specification to cover this work.

METHOD

We would recommend that the cleaning operations be carried out in the following manner:

a. Application to the surface of the stone and brickwork of a fine nebulous water spray of clean cold water, initially to soften dirt deposits.

b. To apply specified chemical detergent such as Neolith 600 or equal approved to the brickwork surface using brushes. Dwell time according to degree of dirt and strictly in accordance with manufacturers recommendations.

c. Cleaning down of elevations using a fibre or phosphorous bronze brush to remove stubborn deposits where necessary.

d. Finally, cleaning down the exterior surfaces using clean cold water and water lance.

e. Where necessary and according to manufacturer's recommendations the application of a neutralising wash maybe required.

COSHH AND PRODUCT DATA DETAILS ENCLOSED:

1) Neolith 600

NEOLITH
CHEMICALS

NEOLITH 600

BRICK AND TERRACOTTA CLEANER

WHAT THE PRODUCT DOES

NEOLITH 600 is a cleaner formulated for the removal of dirt, carbon, algae. rust stains from brick work and terracotta.

PRODUCT DESCRIPTION

NEOLITH 600 is a pink aqueous liquid, it is corrosive and contains Hydrofluoric Acid (UN1790) (less than 10%). When adequately diluted the organic ingredients are completely bio degradable. This formulation has been in use for over 20 years.

SAFE HANDLING

At any time when this product is being transported, or being used, persons handling or carrying the product should have available a drum of clean water for use in emergencies and HYDROFLOURIC ACID ANTIDOTE GEL for immediate treatment of accidental splashes or burns. Containers should be stored in a safe place with caps secured, and a trained responsible person detailed for security in depots, in transit and on sites. Spillages must be dealt with immediately. Only competent persons should handle the product.

PRE CLEANING RECOMMENDATIONS

The masonry may require degreasing before application of NEOLITH 600. *Where this asterisk appears users should consult our document GENERAL TECHNIQUES AND MATERIALS FOR THE CLEANING OF MASONRY USING NEOLITH CHEMICALS for further details and information.

HOW TO USE THE PRODUCT

Establish the method and contact time, and dilution of NEOLITH 600 can be used by means of a test patch trial*. Using a fibre bristle brush work the product into the pre-wetted surface, starting at the top and working to natural breaks. A normal contact time of 5-15 minutes is desirable and dilutions of NEOLITH 600 if the performance is satisfactory. In this respect a degreasing increases the efficiency of the acid and often permits greater dilution of the cleaner. Pressure water jetting, using hot or cold water, should take 3 minutes/sq m to remove the surface debris.

COVERAGE

Approximately 3-4 sq m/lt.

MATERIALS TO BE AVOIDED

Glass, polished granite, glazed aluminium, zinc, bronze, brass, copper and lead*. The verification of any colouration changes should be observed during test trial work. Alternatively the NEOLITH LONG CONTACT METHOD can be used*.

The product is not suitable for use on limestone, Portland stone, Bath stone, marble, slate or calcited materials.

PROTECTION OF OPERATIVE

Chemical protective suits are needed along with PVC gauntlets, face shields, head cover also suitable footwear. A bucket of clean water for emergencies should be to hand.

Nobody must be allowed to pass

underneath or work under cleaning areas. Spillages must be washed down immediately. At the end of the work period, wash down all equipment eg. scaffolding and boards A Hydrofluoric burns kit should be at hand for the treatment of any acid burns. Only experienced operatives should handle this product. (see Treatment Sheet)

FIRST AID

See the full instructions given in the COSHH Data which follows.

ECOLOGY

When diluted the organic ingredients are bio degradable. Effluent, if washed into soil will break down rapidly. If the product is inadvertently sprayed onto plants/vegetation it should be rinsed off. Rinsing with water will prevent permanent damage to plants. Plastic sheeting could be used to protect such plant life. Using the 'NEOLITH ENVIRONMENTAL JETTING TECHNIQUE*' maximum dilution of the chemical is achieved and no damage has been found to fish when such debris enters rivers and streams but contractors are advised to consult the appropriate authorities before disposal of water waste debris.

DISPOSAL OF CONTAINERS

When empty, containers should be filled with water and then emptied and disposed of in an approved manner.

COSHH Data

NEOLITH 600

Hazardous Ingredients	Contains Hydroflouric Acid (less than 10%) (UN1790). Without correct protections this product can cause severe burns to the skin and damage the eyes. It would be toxic if swallowed.
Hazard Classification	Corrosive
Physical Data	A pink aqueous liquid containing chemicals to prevent iron stain migration.
Solubility	Totally soluble in water.
S.G. at 20*C	1.1205 to 1.1455
pH	less than 1
Flammability	Non Flammable
Fume Hazards	TLV 8 hours 3 ppm (HF). No fume hazards have been encountered when using this product behind close sheeted scaffolding.
Other Dangers	Must not be allowed to mix with NEOLITH 800 or NEOLITH RS1 or dangerous fumes will be given off.
Handling Precautions	Full body, hands, feet and face protection must be worn. A container of clean water, for emergency use, should be on hand. Operatives must have HYDROGEN FLOURIDE BURN ANTIDOTE GEL to hand.

NEED ADVICE ON NEOLITH?

Contact your nearest Neolith Service Centre for specialist advice and information from one of our technical advisors.

BARKING	020 8591 4210	LIVERPOOL	0151 546 5800
BIRMINGHAM	0121 525 9955	ROTHERHAM	01709 838308
GLASGOW	0141 445 6470	SALISBURY	01722 325424

A DIVISION OF THE FLOWPLANT GROUP OF COMPANIES

TREATMENT SHEET FOR HYDROFLOURIC ACID BURNS

For Skin Burns

1 First Aid

1.1 Immediately wash the burnt area with copious amounts of water for 1 minute.

1.2 Apply calcium gluconate gel on and around the bum and massage it in with clean fingers (should calcium gluconate gel not be immediately available, continue washing with water, until it is available).

1.3 Continue to massage in the gel, using repeated applications until 15 minutes after the pain in the burn has subsided, or until medical treatment is available.

2 Medical Treatment

2.1 Continue inunction with repeated applica tions of the calcium gluconate gel until 15 minutes after the pain has completely subsided. This may require several hours but so long as improvement in the lesions and symptoms is occurring, massaging with the gel should be continued.

In cases where a thick necrotic coagulum has formed, it may act as a barrier and prevent the penetration of the gel. This will be indicated by lack of improvement. In these cases, the necrotic tissue should be exercised and the gel massaged into the base of the burn taking usual aseptic precautions.

2.2 If the burn fails to respond to the calcium gluconate gel, injection of a sterile 10% solution of calcium gluconate (Sandoz) into and under the burn, should be considered. Relief of pain is an indication that sufficient solution has been injected. Because of this an anaesthetic should not be given except in situations where the skin is tightly adherent to the underlying tissues, for instance, the finger pads or in subungual finger and toe burns when splitting or removal of the affected nails may be required. In these cases, a general anaesthetic should be given as local anaesthesia is contra-indicated.

2.3 Subsequent magnesium oxide paste dressings are not indicated but if dressings appear to be required, use the gel for 24 hours.

2.4 After the gel or injection treatment has relieved the pain, it may recur later, especially in the case of burns from dilute acid. The patient should be advised to return for further treatment if the pain recurs.

2.5 Treat symptomatically.

3 General

3.1 In large area skin burns, systemic administration of calcium and/or magne sium may be necessary. Six effervescent calcium tablets (Sandocal tablets, Sandoz each containing 400mg calcium and 20mg ascorbic acid) should be given in water by mouth every 2 hours until admit ted to hospital. The hospital should be reminded that serum calcium and/or magnesium may have to be replaced intravenously if indicated either by clinical signs eg. carpoped al spasm, or by electrolyte monitoring (which should be done frequently) and it calcium gluconate is to be given intravenously it should be administered slowly.

EYE SPLASHES

1 First Aid

1.1 Irrigate with isotonic saline or water for at least 10 minutes

1.2 Obtain medical treatment.

2 Medical Treatment

2.1 Continue irrigation with isotonic saline or water, until the severe pain of the bum is relieved.

2.2 Instil several drops of sterile calcium gluconate 10% solution (Sandoz).

2.3 Treat symptomatically.

SPILLAGES

Dilute with plenty of water or cover with soil/sand and dispose of the debris in an approved manner.

DISPOSAL

Ensure adequate dilution before discharge to drains.

FLOWPLANT GROUP Ltd.

SUPPLIERS OF NEOLITH CHEMICALS

Flowplant Manufacturing Ltd., Gemini House, Brunel Road, Churchfields Ind., Est., Salisbury, Wilts, SP2 7PU

MATERIAL SAFETY DATA SHEET

Formula Ref:1200404 Issue No 1 Mar 2005

1. Product Name: NEOLITH 600 **Intended Use:** Construction Industry; Masonry Cleaner

2. Chemical Composition/Information on Ingredients:

Hazardous Ingredient	Index No	% w/w range	OEL/MEL	Hazard
Hydrofluoric acid	009-003-00-1	5 to 10	STEL 3 ppm	C,T+,R35,26/27/28
Phosphoric acid	015-011-00-6	10 to 20	n /a	C, R34

3. Hazard Identification:

Toxic by inhalation, in contact with skin or if swallowed. Corrosive causes severe burns.

4. First Aid Measures:

EYES:	Immediately rinse with clean water for 15 minutes. Obtain urgent medical attention.
SKIN:	Drench immediately with water. Remove any contaminated clothing and launder before re-use. Apply Calcium Gluconate gel. Seek urgent medical attention.
INGESTION:	Do not induce vomiting. Wash out mouth with water and give water to drink. Obtain urgent medical attention.
INHALATION:	Remove to fresh air and seek urgent medical attention if symptoms persist.

5. Fire Fighting Measures:

EXTINGUISHING MEDIA:	Foam, carbon dioxide or dry powder.
SPECIAL EXPOSURE HAZARDS:	Toxic fumes.
SPECIAL INSTRUCTIONS:	Wear breathing apparatus.

6. Accidental Release Measures:

For large spillage evacuate personnel. Wear personal protection (see sect. 8)

Do not allow to enter storm drains or water courses. If this occurs inform authorities.

Spillages: Absorb or contain. Transfer to drums or salvage tank.

7. Handling and Storage:

Avoid contact with eyes and skin. Avoid breathing mist or spray. Keep away from aluminium and other light alloys.

8. Personal Protection:

GOGGLES	Safety glasses, goggles or full-face visor.	APRONS	Yes if danger of splashing.
GLOVES	Impervious gloves (Neoprene, pvc)	RESPIRATORS	Yes if STEL or OEL is exceeded
OVERALLS	Yes if danger of splashing.	BARRIER CREAM	Recommended .

9. Physical and Chemical Properties:

APPEARANCE	Pale straw mobile liquid.
ODOUR	Acidic
pH	<1
SG	1.3 (typical).
FLASH POINT	Not applicable.
SOLUBILITY	Soluble.

10. Stability and Reactivity:

Stable under normal conditions. Avoid contact with alkalis, aluminium and other light alloys. Reaction with strong alkalis generates heat. Will react with aluminium and other light alloys to produce flammable hydrogen gas.

11. Toxicological Information:

EYES:	Toxic: Severe burns resulting in serious damage if first aid is not prompt.
SKIN:	Toxic: Causes severe slow healing burns.
INGESTION:	Toxic: Severe burns and damage to gastro intestinal tract.
INHALATION:	Mist or Spray: Toxic: Severe irritation. Effects may vary with concentration.

12. Ecological Information:

AQUATIC TOXICITY	Toxic.
BIODEGRADABILITY	Readily biodegradable.
MOBILITY	Not persistent in the environment

13. Disposal Considerations:

Use only licensed waste disposal companies.

Rinse empty containers with water.

Damage empty containers if disposed of via local waste.

14. Transport Information:

UN	2922	CLASS	8,6.1	TRANS CAT	2

UN Description: Toxic liquid, Corrosive NOS contains Hydrofluoric acid.

15: Regulatory Information:

SYMBOL:	TOXIC & CORROSIVE
RISK PHRASES:	R35, 26/27/28 Very toxic by inhalation, in contact with skin or if swallowed. Causes severe burns.

SAFETY PHRASES:	
	S26, In case of contact with eyes rinse immediately with plenty of water and seek medical advice.
	S35, 36/37,45. This material and its container must be disposed of in a safe manner. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell seek medical advice immediately (show the label where possible.

16.Other Information:

Refer to section 1. No other usage is recommended unless advised in writing by **Flowplant Manufacturing Ltd.**

GENERAL TECHNIQUES AND MATERIALS FOR THE CLEANING OF MASONRY USING NEOLITH CHEMICAL PRODUCTS

PRELIMINARY CONSIDERATIONS

It is first necessary to identify all the building materials involved such as granites (polished/unpolished; sandstones (red, cream and buff); brick, terracotta and brick-type tiles; calcited stones (including Portland, BATH, limestone, marble and slates;) glass; P.V.C.; aluminium; iron work and paint protected surfaces.

The degree and type of soiling present needs consideration. Heavily soiled surfaces, particularly those with carbon black deposits, may need more detailed or repeated degreasing.

It is then necessary to identify the names of the products suitable for use in each specific case, also the alternative techniques which can be used, with considerations for time and efficiency, costs, environmental requirements and safety.

It is important that operatives are adequately trained and experienced; familiar with correct procedures and have correct equipment on site including first aid materials.

When selecting the techniques and appropriate Neolith and British Flowplant Group products, verify that the chemicals being used will not adversely affect other materials nearby or underneath. Washed down debris disposal must comply with local authorities requirements ie. the debris from paint removal operations may need containment, polished granite and glass needs suitable protection, good ventilation is essential and in normal external use the Neolith range of chemicals have been tested behind close sheeted scaffolding to ensure that no hazards arise from dangerous fumes.

Chemicals on any site should be the responsibility of some designated person with respect to safe storage and handling. Any spillages should be dealt with immediately, nobody should be permitted near to or underneath any areas being cleaned. At the end of each day the area, scaffolding boards, equipment etc should be washed down.

TEST TRIALS

Before any extensive work is undertaken a suitable test patch area should be cleaned to establish that the selected method and chemicals give a satisfactory result. Repeated test patch trials may become necessary to establish desired contact times for various products and/or if repetition of treatments are required.

NORMAL CLEANING TECHNIQUES FOR MASONRY

The basic technique established over many years has five stages carried out in order:-

1. To pre-wet.
2. To degrease and prepare the surface for the acid cleaner.
3. To power jet off the surface debris.
4. To clean using the appropriate acid based product.
5. To power jet off the surface debris.

The purpose of pre-wetting is to fill the pores in the masonry and mortar with water so as to prevent deep chemical absorption and retain the agent on the surface where its cleaning action is needed and from where it can be removed more efficiently later.

A cold water jet is normally used and each square metre of surface washed and wetted for about 30 seconds after which a short time is allowed (5-10 minutes) for surface water to drain down. This jetting also removes dust and loose organic matter from the masonry face. This should be carried out on all types of masonry except prior to using organic solvent based paint stripper or silicone water repellent or solvent based degreasers.

SURFACE PREPARATION AND DEGREASING

If this stage is omitted then the efficiency of the acid based cleaner will be reduced and the results may be patchy. Heavy black surface carbon soiling may require repeated degreasing treatments or extended contact times and this will be evident from the first test patch trial. Care would be necessary regarding the contact times on sandstone etc. Hydrofluoric acid containing chemicals left on the surface of some masonry, for long periods, can lead to colour changes or to white deposits forming. Only weak acids are necessary for neutralisation on clean masonry or calcited stone.

For cleaning exterior masonry we recommend a selection of one of the following:-

These agents can be applied on any type of prewetted stone, brick or concrete etc as shown in the table, following the safety precautions given in the individual product data sheets.

Thickened (viscous) Neolith products are applied by brush and worked well into the surfaces leaving an even and thick coating of the product.

Non viscous products can be applied by low pressure spray units but considerable addit-

ional dangers are involved and so spray application is not a preferred technique.

NEOLITH HDL

Viscous fluid - essentiql for use on black carbon soiled masonry. Minimum normal contact time 1 hour (also see later the NEOLITH LONG CONTACT METHOD). Coverage rate approx. 1 litre to 2-3m sq.

NEOLITH 425

Non viscous fluid for general masonry degreasing. Contact time 1 hour. Coverage rate 1 litre to 3-4m.

Work to a distinct mortar joint horizontally and vertically to a down-pipe, window or corner so as to give a natural breaking off point when applying cleaning chemicals.

SELECTION OF APPROPRIATE ACID BASED CLEANER

Normally chemicals are applied to areas already wetted following a degreasing operation if not, then pre-wetting will be required before application of the acid based cleaner. Care must be taken. Acid based cleaners should not be used on calcited stone as this would have adverse affects on such stone. Frequently after degreasing the surface of calcited stone is then clean and only weak acid neutralisation (NEOLITH 907) is necessary. On types of masonry which are more difficult to clean some contractors prefer to use stronger acid formulations with shorter contact times (eg. NEOLITH YBSAC, NEOLITH 625HD, NEOLITH 625SS, NEOLITH RS1). Alternatively Neolith can offer the LONG CONTACT METHOD where strong acids, such as Hydrofluoric, are not to be used.

Formulations containing Hydrofluoric acid should not be used on pre-cast concrete or normal concrete as white marks can be formed. These materials would however be cleaned by the normal degreasing process. Neolith recommend that acid cleaning agents be used as dilute as possible for efficient cleaning.

Any acid cleaning agent applied to masonry which causes fizzing on the surface of the stone should be examined carefully to see if an alternative gentler product can be used. A short summary relating to each agent is given below. Application should be by brush.

NEOLITH YBSAC

For use on Yellow Stock brick is a very strong viscous product, viscous coverage 3m sq/l. Contact should be 15 minutes or less, special care is needed in hot weather, because of possible fume hazards.

NEOLITH 625HD

For use on unpolished granite, sandstones which are very heavily soiled, such as balustrades, porches and balconies. It is a very strong acid cleaner, viscous, with coverage 3m sq/l.

NEOLITH 625SS

For use on cream/brown sandstone and if diluted 50-50 or more may be used on bricks, terracotta and unglazed baked tiles. This product has been in use over 20 years with very satisfactory results. Ingredients prevent iron stain migration. Not viscous, coverage 3-4m sq/l. This product complies with BS 6270 recommendations for sandstone cleaning formulations.

NEOLITH RS1

For use on red sandstone, in addition to cleaning it prevents efflorescence formations. Viscous, coverage 3m sq/l.

NEOLITH 600

For use on brick, terracotta and unglazed baked tiles. Ingredients are balanced for best results. Non viscous, coverage 3-4m sq/l. Contact time normal 7-10 minutes not longer than 30 minutes.

NEOLITH 666

For cleaning sandstone, unpolished granite, brick, terracotta and unglazed tiles. The product acts more slowly and may require repeated application. The pH of the product is about 4 and washdown debris more readily acceptable in the environment. Viscous, coverage 3m sq/l.

POWER JETTING OFF OF SURFACE DEBRIS

The most efficient and suitable technique found from our research and experience is the NEOLITH ENVIRONMENT JETTING METHOD.

The chemically coated masonry is jetted off using preferably hot water but cold water will suffice.

A maximum recommended pressure of between 1,200-2,000 p.s.i. with a 45 degree fan jet, 3-4 gal per minute, is held 12-15" away from masonry surfaces and directed at an angle along the face so as to wash along the surface. Lower pressures may be used if so desired. Jetting operations should start at bottom corner of a cooled surface and the spray jet be moved very slowly horizontally working upwards slowly, taking at least 1 minute for first washing down of 1 m sq of surface area.

When all surfaces have been washed in this way then further washing time of 2 minutes per m sq should be given.

In our experience washdown debris produced

by this technique is not harmful to the roots or plants, nor to fish in rivers. Where surface debris is likely to run into rivers then further washdown methods may be required for additional safety, for instance the use of a spray bar underneath the area being cleaned.

Contractors are advised to contact local authorities with regard to acceptability of waste waters into surface or sewer drains.

It is hazardous to masonry if water and jetting operations are being considered, should air temperatures fall (or be likely to fall) to less than 2 degrees centigrade. Freezing of water soaked masonry can result in spalling.

THE NEOLITH LONG CONTACT METHOD

This method offers an alternative technique whereby granites, sandstones, brick and terra-cotta can be cleaned without the use of Hydrofluoric acid formulations. Several treatments are often necessary to achieve a good standard of cleaning and the masonry being cleaned retains its full surface colour.

The process consists of:-

1. Pre-wetting (see previous comments).
2. Application of Neolith HDL by brush as a thick coating, well brushed into the masonry. The surface is then left for 90 minutes after which it is re-brushed over using more Neolith as necessary and left for a further 90 minutes. The total contact time is 3 hours. It is found that using longer time periods is not advisable as salts tend to be left in the masonry. It is better to jet off and re-treat.
3. Pressure water jet off the surface (see previous comments). This constitutes one, long contact treatment and it should be repeated until the desired degree of cleaning is obtained. Usually 3-5 treatments are necessary.
4. After the final jetting the surface needs to be neutralised using Neolith 907, applied by brush and jetted off after 15-20 minutes.

Prior to the Neolith discovery, cleaning masonry such as granite, sandstones and brick was always considered to require Hydrofluoric acid agents. This alternative method is time taking but avoids the dangers of such acid agents and retains the full colour of cleaned stonework.

ADVICE RELATING TO TEST PATCH TRIALS

Having selected the method and chemicals to be used and undertaken the test patch trial, should the degree of cleaning not be satisfactory then we suggest first, a review of the chemicals being used, the contact times being used and the necessity for repeating the degreasing treatments. A second test patch trial may then need to be carried out.

The following points should be reviewed

1. Has the structure been adequately degreased? Acid cleaners have a much reduced efficiency if the surface is not fully degreased.
   Consider using Neolith HDL if other degreasants have been involved.
2. Consider longer contact time with the Neolith HDL (see notes under the NEOLITH LONG CONTACT METHOD). We draw attention to our findings that we can clean masonry by repeating the NEOLITH LONG CONTACT TREATMENTS.
3. Is the correct acid based product being used? Refer to the table and product summaries.
4. Has the building been treated with some unusual material?
   Silicone treated masonry applied on dirty surfaces may trap in the dirt and then chemical cleaning becomes very difficult.
5. Alternative treatment methods may need to be considered eg.
   (I) Paint the masonry
   (II) Use abrasive methods - (the Health and Safety Executive in their inspectors report no. 26 state that even wet grit blasting produces 20 times the permitted level for most silica and wet grit methods). Abrasive treatments should be reviewed carefully for such hazards under the COSHH regulations.

FURTHER CONSIDERATIONS

1. EFFLORESCENCE

Before pre-wetting masonry, preliminary pointing to ensure the structure is adequately water tight, is customary. Water soaked areas, such as those under broken guttering or down points, often effloresce after cleaning. Also after cleaning it is common for re-pointing to then be carried out. Mortar materials, especially those containing lime, can lead to efflorescence formations which are frequently blamed on the cleaning treatments and can take many years to weather away, often the efflorescence formed is calcium materials from the lime mortars.

Neolith cleaning products have been formulated in order to reduce and prevent efflorescence formations, also NEOLITH 10 can

be used on efflorescing non-calcited surfaces and this makes efflorescences soluble so they can be removed.

2. WATER REPELLENT TREATMENT (ALGAE GROWTH PROTECTION)

After cleaning, the removal of oils, greases and dirt from the masonry surface reduces the water repellency. Using caustic based degreasants or acid based formations idlls all living organisms including algae and pores. Masonry which wets easily will support algae growths and on buildings cleaned by chemicals or by abrasive methods the appearance of green organic matter on the cleaned stone is objectionable. No long term algaecide treatment is known at present.
The NEOLITH ALGAECIDE SYSTEM offers protection for up to two years.
Treatment of the masonry with silicones (NEOLITH 76) can render the surface water repellent and can reduce future soiling. The protection coating is considered effective for 10 years, but cannot be removed when it has been applied. Water repellent surfaces being drier resist algae growths.

3. CLEANING MASONRY INSIDE BUILDINGS

Interiors usually require weaker and diluted chemicals. Strong acids are not normally used. The problems often are related to the handling and/or disposal of washdown debris as suitable drains are often not available.
Soiling matter is usually body grease and smoke contamination which respond easily to diluted degreasant processing.
Treatment equipment must be a closed system which picks up washdown debris, or alternatively small areas will need to be protected and then processed.
Simple protection by adhesive tape fixing to a plastic sheet to the base of a wall and large enough to contain washdown debris may be necessary. Liquid running on to the plastic can then be removed by mopping or directed into containers and then removed.
Taking due care, low pressure "garden" spray applicators can be used to pre-wet, apply the diluted chemical and wash off.
The greater the dilution of the chemicals needed, (which test patch trials show satisfactory) the easier the washdown treatment becomes and this reduces efflorescence formations.
Chemicals can be applied by brush if so preferred.

SUGGESTED CHEMICALS FOR TEST PATCH TRIAL.

NEOLITH HDL
This is the strongest agent and may require repeated washing off treatments to adequately remove the debris and salts.
It should be used diluted wherever possible as it is a powerful degreasant for stone and brick.
NEOLITH 425
This is a powerful degreasant and is slightly more economical in use. It should be used diluted where possible for cleaning stone or brick.
NEOWASH
Contains less caustic than HDL and 425 but has better "cutting" power on greasy surfaces than has NEOLITH 275 - use dilutions where possible.
NEOLITH 275
Is a gentler degreasant which can be used for painted surfaces, ceramic and vinyl tiles and masonry surfaces being safer in use than caustic based degreasants (NEOLITH HDL and 425). Dilutions should be used where possible.
NEOLITH 39N
This agent contains no acids, alkalies or salts and is safe for use on any masonry surface also on most paintwork and vinyl/ceramic tiles. It gives the best cleaning powers possible for a simple detergent.
After degreasing with one of the former agents other than NEOLITH 39N, washed down surfaces should be neutralised by applying NEOLITH 907 diluted the same amount as is the degreasant. After 10 minutes the surface should again be washed down to remove the surface debris.
The technique of using the NEOLITH ENVIRONMENTAL JETTING method is recommended to remove the debris in as dilute a form as is possible.
Efflorescences appearing after drying will need further washing down with clean water.

REMOVING ALGAE FROM MASONRY

Chemical cleaning with caustic based degreasants and strong acids kills living surface organisms. If chemical cleaning is not to be carried out masonry surfaces may be freed from algae and lichens by pressure water jetting, allowing 30-40 minutes to drain down and then brushing on NEOLITH 800.
This can be left on the masonry for 3-8 hours - it kills the organisms and the spores. Afterwards the surface may be power water jetted off, taking care not to allow run down waters into fish pools etc. The treatment does not leave algaecide agents in the masonry.

RECOMMENDED TECHNIQUE FOR GRAFFITI REMOVAL

1. Apply the selected paint stripper (ensure no splashes/contact with UPVC frames) and leave for the appropriate time.
2. Power water jet off the surface using hot water and containing the paint debris as this may contain lead etc. A one inch layer of sand spread around the base of the masonry, or large plastic sheet is recommended for this purpose.
3. If marks still remain either allow to dry and re-treat or apply brushed on coat of NEOLITH HDL and leave for at least 1 hour, to remove oil residues left after oil based paints are removed.
4. Power jet off the debris using either hot or cold water.
5. Select the appropriate acid for cleaning or neutralising that type of masonry and apply taking due note of recommended contact time.
6. Power water jet off the debris.

THE PROTECTION OF SELECTED MATERIALS

It is necessary to prevent some chemical formulations from coming into contact with materials that they can damage.

Three methods of protection are available:-

1. USE NEOLITH TAK PRO-PEEL
   This covers the surface with a plastic film which can later be removed by peeling it off. The product is applied onto dry smooth surfaces by roller or brush, to form a complete film some 0.5 to 1 mm in thickness. This protection is suitable for glass, polished granite, anodised aluminium and galvanised metal. It is not suitable for rough surfaces nor on UPVC. The coating will need to be replaced if longer than 6 months elapses.
2. Use water proof adhesive tape and fix polythene sheets to this to provide a shield suitable for use on glass, polished granite, painted surfaces - aluminium, zinc and galvanised metals - but not for rough absorbent masonry.
3. Use a spray bar giving a fine water jet every 5-6 inches apart which washes continually over the surfaces to be protected. This is not normally used for glass or polished granite but is used where chemical run down and wash waters pass over calcited stone.

Also see WATER REPELLENT TREATMENT and ALGAE GROWTH PROTECTION.

REMOVAL OF OIL AND GREASE STAINS FROM STONE AND CONCRETE

Chemical degreasants (NEOLITH HDL; NEOLITH 425; NEOLITH 275) will reduce many oil deposit marks. For heavy stains see the data sheet for NEOLITH 77.

THE CLEANING OF ALUMINIUM, COPPER, BRONZE AND BRASS AND GREEN COPPER STAINS OFF CALCITED STONE

Consult the data sheets for NEOLITH 438 and NEOLITH COPPER CLEAN 63.

THE REMOVAL OF PAINT AND GRAFFITI

Neolith offer a range of paint strippers for various functions.

NEOLITH 60

is the cheapest, quickest acting, product effective on the widest range of paint resins. It contains Methylene Di-chloride which can give off dangerous fumes in confined spaces. It is non-flammable, and is applied only onto dry (not pre-wetted) surfaces, by brush - left for 15 minutes, worked over with more NEOLITH 60 and left a further 15 minutes prior to hot water jetting off. Hot water vaporises the Methylene Di-chloride, but paint debris may need to be contained and disposed of in a safe manner. The product must not be allowed to dry or the softened paint film re-hardens.

NEOLITH PAINTOFF AND GRAFFITI REMOVER

is applied only on dry surfaces and is slightly more expensive, slower acting, non-flammable and whilst the fumes are non-hazardous - the smell may be nauseating unless good ventilation is present. The product attacks most paint resins and ballifell pen marks. Reaction time is about 2-2½ hours before hot water jetting off the debris. Waste disposal method needs consideration as with other paint strippers.

NEOLITH BALL AND FELT PEN GRAFFITI REMOVER

is applied only on dry surfaces and is moderately priced. It acts upon mainly ball and felt pen marks although some paint resins are softened. It is highly flammable and requires care in storage and handling because of the fire hazards. Contact time is normally 1 hour.

TABLE OF PRODUCT SUITABILITIES

The Neolith products suitable for use on named surfaces are indicated below:-

A=Avoid and Protect D=Requires Dilution R=Recommended ?=only if masonry Graded "A" is not present N=Suitable for Neutralising only

	YBS4/C	625HD	625SS	RSI	666	600	325	10	39N	425	HDL	907	60 PAINT STRIPPING ACTIVITY	PAINTOFF PAINT STRIPPING ACTIVITY	BALL & FELT PAINT STRIPPING ACTIVITY	77	76	NEOWASH	PEELABLE COATINGS	ALGAECIDE BLUE & WHITE	800	R12	63	TANFIX 1 & 2	438
Type of Masonry																									
Polished Granite	A	A	A	A	A	A		R	R	R	R	N	R	R	R	R	A		R		R				
Unpolished Granite		R	R		R			R	R	R	R	N	R	R	R	R	R		A	R	R				
Sandstone Cream		R	R		-R			R	R	R	R	N	R	R	R	R	R		A	R	R			R	
Buff		R	R		R			R	R	R	R	N	R	R	R	R	R		A	R	R			R	
Red		A	A	R	R			R	R	R	R	N	R	R	R	R	R		R	R	R				
Brick Red	A	A	D		R	R		R	R	R	R	N	R	R	R	R	R		A	R	R			R	
Yellow	R	A		R	R			R	R	R	R	N	R	R	R	R	R		A	R	R				
Terracotta	A	A	D		R	R		R	R	R	R	N	R	R	R	R	R		A	R	R				
Non-Glazed Baked Tiles	A	A	D		R	R		R	R	R	R	N	R	R	R	R	R	D	A	R	R				
Concrete	A	A	A	A	A	A	R	R	R	R	R	N	R	R	R	R	R		A	R	R				
Rendered Surfaces	A	A	A	A	A	A	?	?	R	R	R	N	R	R	R	R	R		A	R	R				
Reconstituted Stone	A	A	A	A	A	A	?	?	R	R	R	N	R	R	R	R	R		A	R	R			R	
Cement Tiles	A	A	A	A	A	A	?	?	R	R	R	N	R	R	R	R	R		A	R	R				
Portland/Bath	A	A	A	A	A	A	A	A	R	R	R	R	R	R	R	R	R		A	R	R		R		A
Limestone	A	A	A	A	A	A	A	A	R	R	R	R	R	R	R	R	R		A	R	R		R		A
Marble	A	A	A	A	A	A	A	A	R	R	R	R	R	R	R	R	R		A		R		R		A
Slates	A	A	A	A	A	A	A	A	R	R	R	R	R	R	R	R	R		A	R	R		R		A
Glass	A	A	A	A	A	A			R	R	R		R	R	R	R	A		R						
RVC									R				A	A	A	A	A	D	A						
Aluminium	A	A	A	A	A	A	A	A	R	A	A		R	R	R			A	R	A	A	A		A	R
Iron	A	A	A	A	A	A	A	A	R				R	R	R			R	R			R			A
Zinc & Galvanised	A	A	A	A	A	A	A	A	R	A	A		R	R	R			A	R	A	A	A	A	A	A
Copper & Bronze Brass	A	A	A	A	A	A	A	A	R	R	R		R	R	R,			D		A	A		R		
Paint									R	A	A		A	A	A			D	A		R				A
Lime & Salt Efflorescences	A	A	A	A	A	A	?	?											A					A	A
Glazed Tiles	A	A	A	A	A	A			R				R	R	R			D	R						
Internal Masonry	A	A	A	A	A		?	?	R	D	D	N	R	R	R			D			R				

P R O D U C T S

ALGAE & MOSS REMOVAL
NEOLITH 800

ALUMINIUM CLEANING
NEOLITH 438

BRICK CLEANING
NEOLITH 600
NEOLITH 625SS
NEOLITH 666

BRICK DEGREASING
NEOLITH 425

CEMENT REMOVAL
NEOLITH 325

CONCRETE CLEANING
NEOLITH 325

CONCRETE DEGREASED
NEOLITH 425

COPPER, BRASS & BRONZE CLEANER
NEOLITH 63

GRAFFITI REMOVAL
NEOLITH 60
NEOLITH HDL
NEOLITH 907

EFFLORESCENCE REMOVAL
NEOLITH 10

ENGINE & PLANT
EQUIPMENT DEGREASING
NEOLITH 77

GARAGE OR CONCRETE
FLOOR CLEANING
NEOLITH 275

GRANITE CLEANING
(UNPOLISHED)
NEOLITH 625SS

GRANITE CLEANING
NEOLITH 425

LIMESTONE CLEANING
NEOLITH HDL
NEOLITH 907

MACHINERY CLEANING
NEOLITH 77
NEOLITH 275

MARBLE CLEANING
NEOLITH 425
NEOWASH

MILDEW REMOVAL
NEOLITH 800

MORTAR REMOVAL
NEOLITH 325

PAINT REMOVAL
NEOLITH 60
NEOLITH HDL
NEOLITH PAINTOFF

PRECAST CONCRETE CLEANING
NEOLITH HDL
NEOLITH 907

RUST INHIBITOR
NEOLITH R12

RED SANDSTONE CLEANER
(HEAVY SOILED)
NEOLITH RS1

SANDSTONE CLEANING
NEOLITH 625SS

SANDSTONE CLEANING
(HEAVY SOILED)
NEOLITH 625HD

SANDSTONE DEGREASING
NEOLITH 425

STAINLESS STEEL CLEANING
NEOLITH 438

TERACOTTA CLEANING
NEOLITH 600
NEOLITH 625SS

TERACOTTA DEGREASING
NEOLITH 425

UPVC, ANODISED AND COLOURED
ALUMINIUM
NEOLITH 39N

VARNISH REMOVAL
NEOLITH 60
NEOLITH PAINTOFF

VEHICLE WASHING, CERAMICS ETC
NEOWASH

VEHICLE AND PLANT
MACHINERY WASHING
NEOWASH

WATER REPELLANT
NEOLITH 76

YELLOW BRICK CLEANER
NEOLITH 600
NEOLITH RS1

YELLOW BRICK CLEANER
NEOLITH YBSAC

YELLOW BRICK CLEANER
NEOLITH 425
NEOLITH HDL