



# SOVEREIGN

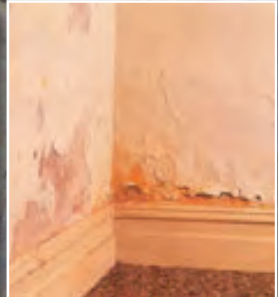
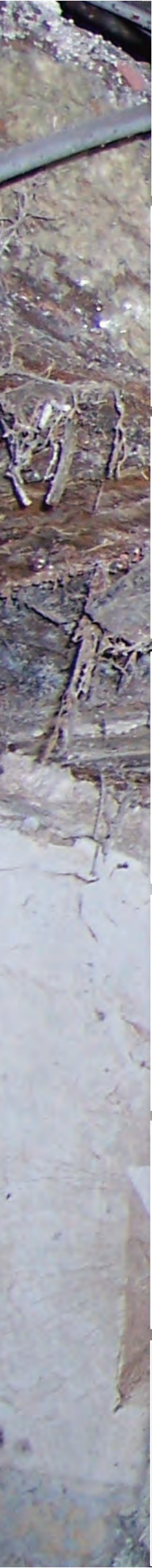


By Appointment to H.M. The Queen  
Building Materials Manufacturers  
Sovereign Chemicals Limited  
Barrow in Furness

## Renovation Manual









# SOVEREIGN Renovation Manual

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## DAMP ASSESSMENTS

When inspecting a building for rising damp it is essential to consider the possible presence of other sources of dampness. Even when the instructions given are limited to the assessment for rising damp, other problems should be highlighted if they are present and reasonably obvious to the surveyor.

Visual observations both externally and internally are important and may provide much of the information needed to arrive at a preliminary diagnosis. Nevertheless, a full understanding of the distribution of dampness in a structure will normally require the use of various moisture measuring techniques. Surveyors should be familiar with the use of such equipment and interpretation of results there from; in particular, the fact that electrical moisture meters give only qualitative readings in masonry which may be affected by salts. Quantitative estimates can be made using gravimetric or chemical methods and, in general, moisture contents in excess of 5% (w/w) in masonry will indicate the need for further investigation.

The following sections describe the common causes, and basic diagnostic features, of various types of dampness.

### Penetrating Damp

External defects may lead directly or indirectly to the presence of dampness on internal surfaces. Typical examples are faulty rainwater goods, and gaps around doors/windows. Plumbing leaks, especially in concealed pipes, should be considered if no external defects are found. Penetration of rainwater may also occur through permeable brickwork, open mortar joints or cracked rendering, especially on exposed elevations and solid walls.

If a dpc is present it should be checked for continuity and possible bridging by high ground levels/paths, abutting walls, external render, internal plaster, debris in cavities, etc.

Penetrating damp above ground level may be confused with rising damp where it occurs at low levels on external walls. Moisture profiles will generally be fairly uniform over the affected area, perhaps increasing towards the source of ingress (i.e. through the depth of the wall). Hygroscopic salts are not usually found unless they were already present in the structure or where the building is in a coastal location.

Hygroscopic salts can be introduced by flooding, particularly from seawater, so when inspecting properties, enquiries should be made about any history of flooding in the area.

# DAMP ASSESSMENTS

## Condensation

Condensation is particularly prevalent in or near kitchens and bathrooms; the classic underlying cause being warm, damp air coming into contact with cold surfaces. Physical features to note are liquid water on non-porous surfaces, often associated with mould growth (e.g. *Aspergillus* spp, *Penicillium* spp). The distribution of condensation is usually towards areas of poor air circulation, behind items of furniture and in corners of rooms or where cold surfaces arise, for example.

Condensation at low level may be confused with rising damp, although the moisture will usually be superficial and hygroscopic salts absent. The removal of wall coverings and/or plaster will often reveal a dry substrate underneath.

The special case of interstitial condensation (i.e. within a wall) poses particular diagnostic problems which may necessitate structural investigations to identify the cause.

*Note: "One off" measurements of atmospheric temperature and relative humidity combined with surface temperature readings may allow a surveyor to demonstrate that conditions are suitable for condensation to occur at the time of inspection. However, to build up an accurate picture of the role of condensation, more detailed information may need to be collected over an extended period.*

## Rising Damp

Rising damp is normally indicated by high free-moisture content in the base of the wall, reducing with increasing height. Often a "tide-mark" is visible, typically up to 1m above floor level, occasionally higher. Hygroscopic salts (particularly chlorides/nitrates) are almost invariably present in ground water and will therefore be found in walls and plaster suffering from rising damp. These salts normally concentrate in a band in the upper area of dampness and may cause electrical (conductivity) moisture meters to give spurious readings.

If a positive diagnosis of rising damp is being obscured by other faults the surveyor should recommend that the client remedies them first and then allows a period of time to elapse before further checks are made.

## DAMP ASSESSMENTS

### Hygroscopic Salts

Hygroscopic salts have the ability to absorb atmospheric water vapour.

Consequently, depending on the relative humidity conditions prevailing, structures which contain such salts may be intermittently “damp”, possibly even appearing as damp patches at times of rainfall and/or following rainfall, even though no external source of liquid moisture is present.

Ground salts, such as chlorides and nitrates, will normally be present as a result of rising damp or lateral penetrating damp below ground level.

However, widespread problems with chlorides in walls may indicate -

- The use of unwashed sand during construction
- Overuse of chloride-based mortar additives
- Salt water exposure (e.g. sea-water, de-icing salts on roads)

If necessary, plaster, etc. samples should be taken to establish if hygroscopic salts are present before deciding on appropriate action. Where possible, samples should not be taken from areas adjacent to chimney breasts, etc. since hygroscopic salts may accumulate as a result of soot deposits and flue condensation thereby complicating diagnosis.

## Special Factors

Dampness problems in buildings may be more or less obvious depending on a number of seasonal and other variables (e.g. water table height, wall temperatures, rainfall frequency, etc.) All of the above problems will normally leave signs of their historical presence even if the building has since dried out. In such cases, the client should be advised that the building was “dry” at the time of inspection, but problems may re-occur in the future.

A special case of particular relevance is where hygroscopic salts are present in plaster but the walls are otherwise dry and a remedial dpc has already been installed by another company. Under these circumstances the client should be advised to request a re-inspection of the dpc/plaster work by the original company (where possible) before making further recommendations.

Where the structure is statutorily Listed or is in a Conservation area, the local authority should be consulted before treatment is carried out.

All other possible causes of damp conditions should be noted. Particular attention should be paid to all possible contributing factors such as -

- Condensation
- Rainwater penetration through external walls
- Rainwater penetration around window frames and doors, etc
- Leaks from roofs, gutters and downspouts
- Lateral penetration associated with changes of floor/ground level and high external ground levels
- Faulty drains
- Internal plumbing leaks
- Mortar droppings or debris in cavity walls
- Bridging of a damp proof course
- History of flooding
- Linings which may cover up areas
- Aluminium foil, or other vapour barriers, being applied to walls and then overlaid with decoration, which may hide underlying conditions and affect electrical moisture meters
- Poor building practices

## CHEMICALLY INJECTED DAMP PROOF COURSES

The purpose of a chemically injected damp proof course is to provide a continuous barrier to rising damp across the length and breadth of a wall.

Where internal floor levels are lower than external ground levels, then unless the external ground level can be lowered sufficiently, tanking will be necessary.

Before installing a chemical dpc an assessment must be made to establish whether rising damp is present and if the walls are suitable for treatment. Where there is the lack of an effective damp proof course, then rising damp may be present.

Other possible causes of dampness such as penetrating damp and condensation will need to be investigated and eliminated. If necessary other problems should be rectified and a suitable drying out period allowed before a further assessment is made.

It should also be noted that the building may be dry at inspection, but has visible evidence of previous rising damp problems, e.g., survey taken in summer when the water table is low.

If after a survey there is a requirement for a chemically injected damp proof course, then an Initial Survey Report and Preliminary COSHH Assessment should be completed.

### Building Construction Considerations

It should be checked that the property is suitable for treatment by a remedial damp proof course method. Most types of wall structure can be treated using the systems described but the following may present difficulties which require special techniques or alternative remedial damp proofing treatments to be adopted -

- Walls of exceptional thickness, greater than 600mm.
- Rubble filled walls.
- Walls of impermeable materials, e.g., flint, granite, etc.
- Walls bonded in irregular or very narrow mortar courses.
- Walls of perforated or unusually bonded brick, e.g., rat trap bond.
- Walls constructed of local materials, e.g., clay, cob, etc.
- Party walls.

In these instances consideration should be given to using other techniques such as the Sovereign Hey'di K11 System in lieu of installing a damp proof course – see technical specification H8 on pages 35/36.



### General Procedure

After completion of a survey the contractor should produce an Initial Survey Report and Preliminary COSHH Assessment.

This assessment will stipulate the methods/chemicals to be used, taking into consideration the requirement for both remedial and precautionary works, including the potential risks to the public, the contractor and the environment. The work defined in the quotation must comply with the relevant current Sovereign Specification.

The senior operator will then use this risk assessment as a check off list to ensure all relevant precautions have been taken and that the assessment made initially is still viable.

Work can commence when the senior operator has signed that **ALL** the details are confirmed correct.

On completion of the work the senior operator will record the material and batch numbers used, the finishing time and, if applicable, the re-entry time, along with the whereabouts of warning notices. These details are formally recorded and are kept as a permanent record.

## INJECTION SYSTEMS TECHNICAL EXPLANATION

**Injection Cream**

This product is a blend of silane/siloxane cream emulsion that reacts with moisture to form a highly effective hydrophobic barrier against rising damp in masonry structures.

The Injection Cream is simple and easy to use. It is produced as a viscous cream and supplied in 5 litre buckets or 600cc “sausages”. Application is made using a Bulk Injector Gun into drilled holes in the appropriate mortar bed joint and does not leave unsightly staining.

After application the actives are absorbed into the mortar where they undergo hydrolysis to form a silicone resin water repellent.

The guns are calibrated to insert sufficient cream, i.e. one full pull on the trigger will insert the correct amount of cream for one 12mm hole in a 4½ inch brick, two pulls of the trigger for 9 inch brick, etc.

**Injection Fluids Using Water Based Technology**

Sovereign Chemicals Ltd was at the forefront in the development of water based injection fluid technology.

Sovereign Aquaject® is a water based solution that is supplied in concentrated form. It is available as either 5 litres or 700ml, both of which can be diluted with clean water to produce 25 litres of end use fluid.

The concentrated formulas reduce the amount of packaging and transport required compared to larger supplied containers of ready to use products.

**Injection Fluids Using Organic Solvent Carriers**

Sovereign Chemicals Ltd. led the way in developing and launching injection dpc fluids, therefore reducing labour time and costs for remedial damp proofing works particularly when compared to installing replacement physical dpc's.

The first products introduced were based on white spirit as the carrier solvent. Over the years this was improved by substituting the solvent for one with a low aromatic content thus reducing odour. Later development saw the introduction of high flash point solvents, so removing the hazard of flammability.

Today's solvent based systems have come a long way from the early products, and two options are available - Low Odour Injection Fluid and Envirotech® Injection Fluid. Envirotech® has the advantage of being based on a synthetic solvent that is odour free.

## INSTALLATION OF CHEMICAL DPC

The object is to create a continuous unbroken barrier to rising dampness across the full thickness and along the length of the wall.

Holes are drilled at the appropriate level – normally at least 150mm above external ground and preferably below the level of wall plates and joists of any suspended timber floor to protect the timber. It should be noted a chemical dpc alone will not prevent a fungal attack to timber.

Internal walls on solid floors are drilled as close to the floor as possible and the chemical damp proof course is applied using the chosen method/system.

Spacing and depth of injection holes will be appropriate to the system/methods employed.

In walls of impervious stone or brick, mortar course treatment is the recognised method of installation with chemical systems (although consideration could be given to using Sovereign Hey'di K11 System in lieu of installing a dpc – See Tech H8 Specification on pages 35/36).

Normally treatment will be from both sides of the wall, but where access is restricted or on thicker walls double drilling may be necessary with fluid systems whereas it will be simpler to treat the concealed areas in one operation from one side using Injection Cream. In any event the full thickness of the wall must be treated.

Vertical damp proof courses should be used to isolate treated walls from risk of bridging from other untreated areas or where ground levels change. These should be to a minimum height of 1metre above the horizontal dpc or 300mm above the damp/salt line, whichever is higher.

For advice contact the Technical Department.

Particularly wet walls should be left for approximately 3 days in summer and up to 14 days in cold conditions before plastering, to allow initial drying out of the wall surface and chemical dispersion.

Replace plaster contaminated with hygroscopic salts to a minimum of 1 metre above the dpc or at least 300mm above last signs of damp or salt whichever is the higher either using Sovereign Renderlite Renovating Plaster or a 3-4:1 sharp washed sand:cement render, incorporating Rendermix at 1:40 in the gauging water. Drill holes should be made good and for initial redecoration use breathable Sovereign Trade Emulsion paints. Wallpapering should be delayed as long as possible (minimum of 6 months in order to allow walls to dry out).

Replastering must not bridge the dpc. If the plastering is to be taken past the dpc, then the wall should be tanked before injection with Sovereign Hey'di K11 Tanking.

Where there are internal solid floors then the plaster should be stopped at least 25mm short to prevent possible bridging.

Where remedial damp proofing work is to be carried out to a party wall then the 1996 Party Wall Act, takes effect and must be complied with. In such circumstances the wall could be treated using Sovereign Hey'di K11 Grey as an alternative method of treatment and in lieu of installing a dpc – see Tech H8 Specification on pages 35/36 - which does not invoke this act.



# INJECTION SYSTEMS REQUIREMENT

## Injection Cream

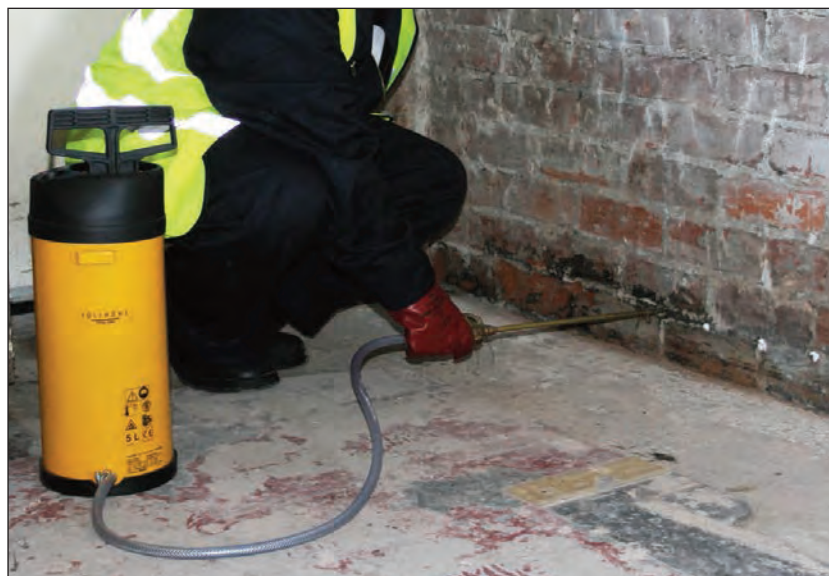
Typically the following scale is suggested as a reasonable assessment of the amount of material required;

**115mm brick**  
10m/0.9 litres or  
1½ x 600cc “sausages”

**230mm brick**  
10m/1.9 litres or  
3 x 600cc “sausages”

**345mm brick**  
10m/2.9 litres or  
5 x 600cc “sausages”

Application of Injection Cream is made using the gun application of injection cream into drilled holes of 12mm diameter in the mortar. Full pulls on the trigger in accordance with wall thickness, i.e. 1 full pull for 4½ inch brick, 2 full pulls for 9 inch brick, etc.



# INJECTION SYSTEMS REQUIREMENT

## Fluid Based Material

(Water and Solvent based materials)

The most accurate method of determining the amount of Sovereign Injection Fluid required to complete a particular contract is to physically inject a test section and accurately measure the volume of fluid used and the time required to obtain full saturation.

Although desirable, this method is not always economically feasible or practically acceptable before a tender has been approved. The following scale is suggested as a reasonable assessment of the amount of fluid required for estimating purposes based on many years practical experience, using most of the common types of bricks found throughout the country. Local variations can be expected.

**115mm brick**  
16.0 metres/25 litres

**230mm brick**  
8.0 metres/25 litres

**345mm brick**  
5.5 metres/25 litres

Sovereign Injection Pumps are available for both 240 and 110 volts. To prevent cross contamination/gelling, the pump should be flushed through before and after use with white spirit which can be re-cycled for the same purpose.

Set initially at low pressure and increase to optimum pressure until the fluid can be seen to saturate the substrate and mortar course. A change in tone of the pump is an indication that the pressure seal has been breached, e.g. fluid is being lost into cavity, etc.

To minimise the possibility of over pressurising the substrate or mortar joints, the injection pressure can be adjusted as required up to 150 psi.



## PRINCIPAL METHODS OF INJECTION

**There are three principal methods of injection -**

### Hand insertion Injection Cream

In solid walls holes 12mm in diameter should be drilled at the base of the perpend and at a spacing of 100mm to 120mm in the chosen mortar course to terminate 15 – 20mm from the far face of the wall being treated.

Solid walls are normally treated from one side but may be treated from both sides. Cavity walls may be treated from one side or both leaves may be treated as if they were separate walls.

The cream should be installed using the bulk injector gun. The brass lance should be inserted to the full depth of the hole. Pull the trigger of the injection gun whilst slowly withdrawing the lance. It is important that the holes are completely filled with cream.

### High-pressure Fluid Injection

Holes of 10mm diameter should be drilled as follows:

- In brickwork either horizontally or angled downwards with two holes per stretcher and one per header;
- In masonry at nominal intervals of 120mm;
- In porous masonry at intervals of 120mm to 150mm;
- In the associated mortar course where the masonry is too dense to be injected, provided the mortar is able to accept the high injection pressures.

**Holes should be drilled to a depth of 65mm to 75mm as follows:**

- Solid walls up to 120mm thick should be drilled and injected from one side.
- Solid walls up to 230mm may be drilled from both sides and injected, or may be drilled and injected from one side, with the drill holes being extended and reinjected.
- Solid walls over 230mm should be drilled and injected from one or both sides, with the drill holes being extended and reinjected progressively, with incremental drilling of 100mm to 120mm in brickwork or 150mm in masonry.

When the face of the masonry is not visible, either the initial insertion rate and relative depth of each newly drilled section should be used to time subsequent injections at greater depth, or the volume injected should be measured.

When double or triple drilling is conducted, the injection lance should be sealed beyond any vertical mortar joints to ensure good pressure retention (sudden drops in recorded pressure usually indicate fluid loss through cracks or fissures).



### Low-pressure Fluid Injection

Holes of 10mm diameter should be drilled at nominal intervals of 160mm, either horizontally in the masonry units/mortar joints or at an angle of depression of up to 45°, to reach the mortar bed joint at the level of the intended dpc. Holes should be drilled and injected similar to that for the high pressure method of installation.

Cavity walls should be treated as if each leaf is a separate solid wall. If access is only possible from one side, a sequential drilling process should be used. If cavities are filled with debris at or above dpc, they should be raked/cleaned out to prevent bridging of the inserted dpc.

Random rubble filled walls should be first treated as for cavity walls. Then the rubble-filled cavity should be drilled and treated separately. As an alternative treatment to injecting random rubble filled walls, consideration could be given to carrying out damp proofing works using the Sovereign Hey'di K11 System in lieu of installing a dpc – See Tech H8 Specification on pages 35/36.

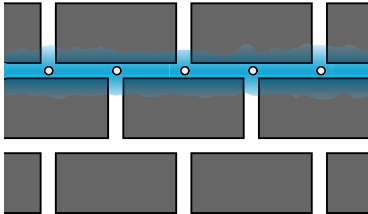
The injection should be conducted at pressure until fluid exudes out of the masonry/mortar beds to form a continuous band along the dpc line.

The above mentioned methods are equally effective if our instructions are carried out in full.

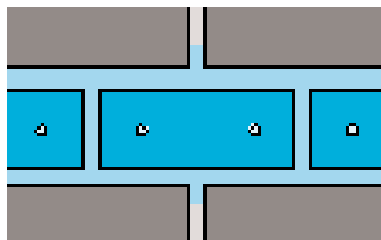
# PRINCIPAL METHODS OF INJECTION

## Drilling Patterns for dpc installation

When using Injection Cream select the mortar course at the correct height and drill 12mm diameter holes into joints at the top and base of each perp joint



When using pressure injection two 10mm diameter holes/brick are normally recommended.



If the brickwork is particularly dense three holes/brick may be required to equalise the distribution of the fluid, thereby achieving total saturation of the injected course.

### Dense Brickwork

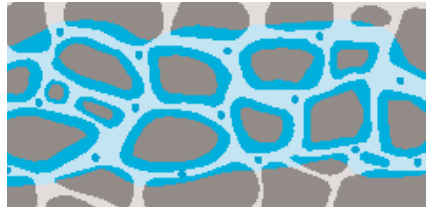
Some bricks, e.g. engineering bricks, etc. do not on occasions allow the passage of water, yet rising damp still occurs. It will be found that in these cases the moisture is rising through mortar joints.

The density of this brickwork will also not normally allow good saturation by the chemical dpc system. In these cases it is acknowledged that mortar course treatment is the accepted method.

## Stone Walls



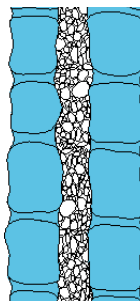
In coursed or dressed stonework the dpc should be installed at the appropriate selected level. Drilling and injecting into stone or mortar will depend upon the chemical system used and on the nature of stone encountered.



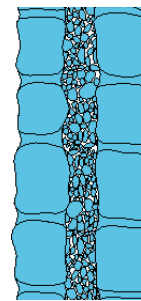
For random stone walls with a rubble infill dpc treatment should be installed into the mortar courses and follow the appropriate selected level as closely as practicable. However, due to the random nature of the wall the drilling pattern will also appear random, being above and below the selected level.

The dpc will be installed in two distinct stages. The first stage involves treatment of the mortar courses in the outer leaves of stone. The second stage involves drilling extended holes into the rubble infill and injecting using the chosen chemical system.

### 1st Stage



### 2nd Stage



Plan section view through wall at dpc level

# INJECTION METHODS

*These are example scenarios and the principle applies to most situations -*

## Using Injection Cream

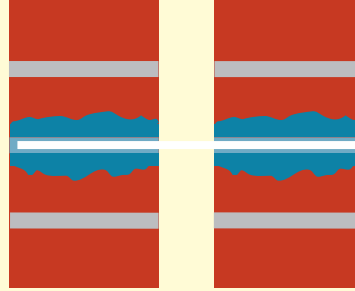


**4½" (115mm)  
Brickwork**



**9" (230mm)  
Brickwork**

Generally solid brickwork walls can be drilled and treated from one side only using a single operation. The selected mortar course should be treated at the prescribed centres and appropriate depth.



**Cavity wall**

Cavity walls can also be treated from one side only in a single operation or each leaf could be treated separately from either side. When carrying out treatment from one side, drill completely through the chosen mortar course and into the second leaf to the appropriate depth, i.e, to within 15-20mm of far face of wall, then fully fill off with Injection Cream.

*Note: Always ensure the cavity is clear prior to treatment.*



# INJECTION METHODS

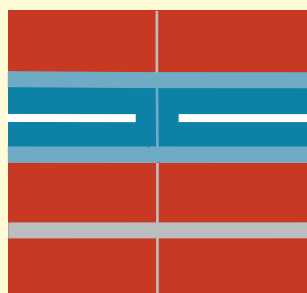
## Using Pressure Injection Fluids

Drill the brick to a depth of 75mm and inject.

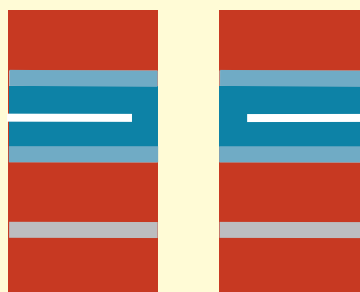


4½" (115mm)  
Brickwork

Drill the brick to a depth of 75mm, from each side, and inject.



9" (230mm)  
Brickwork

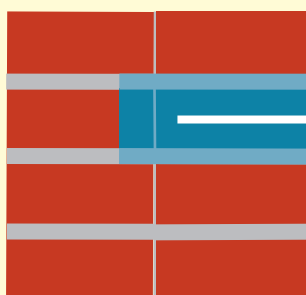


Cavity Wall

Drill the brick to a depth of 75mm, from each side, and inject.

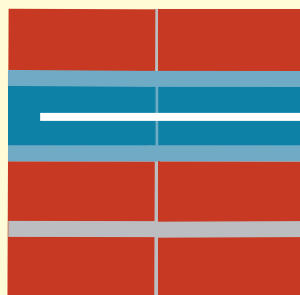
*Note: Always ensure the cavity is clear prior to treatment.*

### 1st stage



9" (230mm)  
Brickwork

### 2nd stage

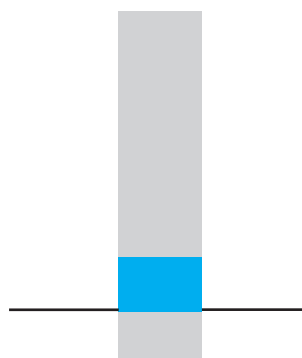


9" (230mm)  
Brickwork

This wall can be pressure injected from one side using a double or sequential drill and inject method.

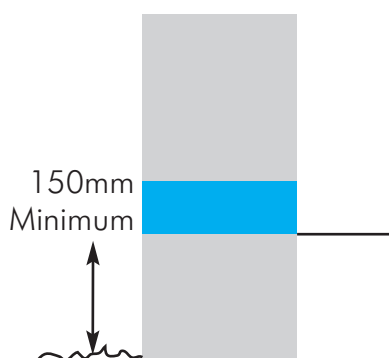
Drill the first brick leaf to a depth of 75mm and inject. Re-drill through the same hole to a depth of approximately 190mm. Ream out original hole in the first leaf of brickwork using a slightly larger drill bit. Insert injection rod through first leaf and seal into mouth of hole in second leaf and inject. It is important to calculate the time it takes to inject/saturate the brick on the visible side to determine injection times on the inaccessible side of wall.

## Examples of Remedial dpc position/level



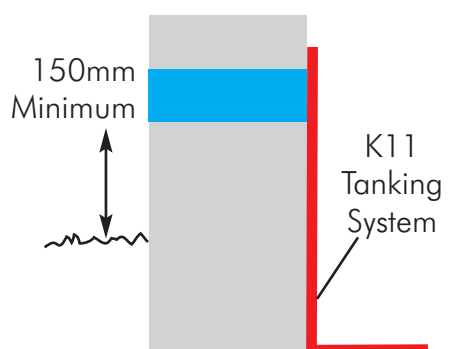
**Internal dividing wall**

Install the dpc as close to the solid floor as possible.



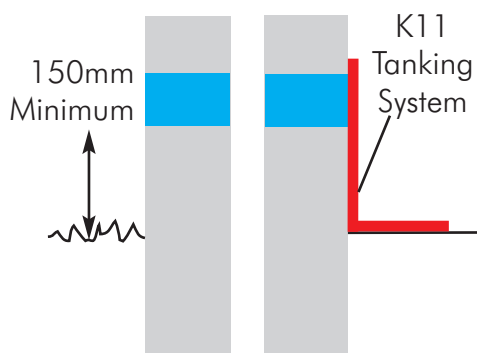
**External solid wall**

The dpc must be installed a minimum of 150mm above external ground level and as close to internal solid floor level as possible



**External solid wall with high external ground level**

Consider lowering external ground level and treating as previous. Where this is not possible then install the dpc a minimum of 150mm above ground level and tank the interior using the K11 system.



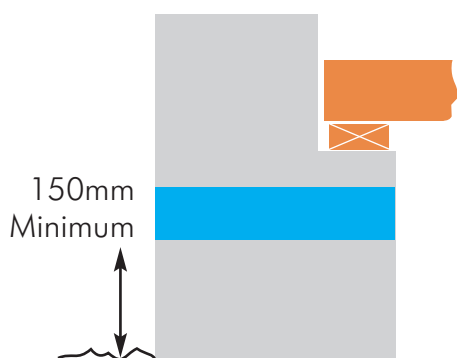
**External cavity wall with ground and floor level the same**

The dpc must be installed a minimum of 150mm above external ground level. It should be at the same level in both leaves. Internally the area of wall below dpc level must be tanked using the K11 system. See page 19 for further details regarding cavity wall treatment.

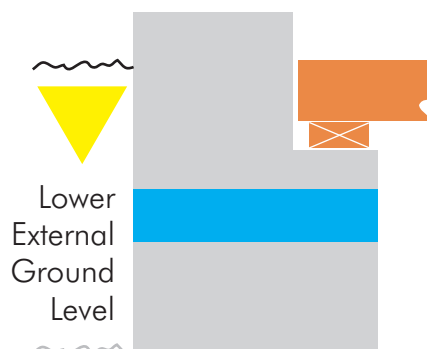
*Note: Always ensure the cavity is clear prior to treatment.*

## INJECTION METHODS

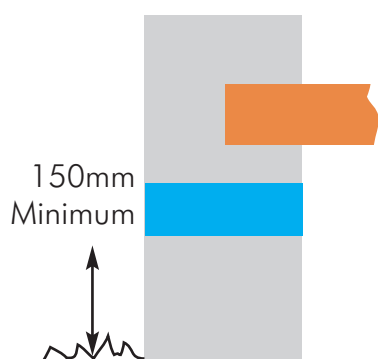
## Examples of Remedial dpc position/level (cont.)

**External wall**

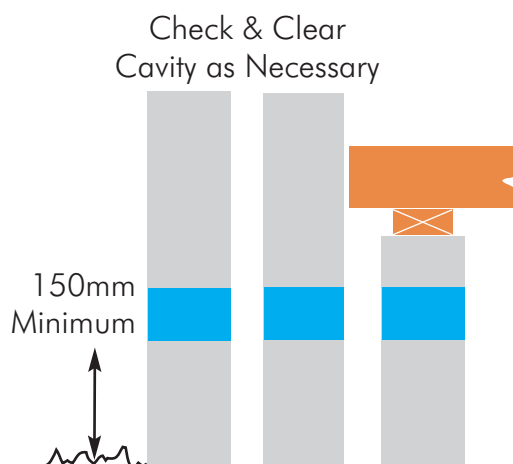
Ideally the dpc should be below suspended flooring timbers. Ensure the timbers are fully isolated/preserved as required. This same principle applies where the joists are sat in sockets within the wall.

**External wall with high external ground level**

Ideally external ground level should be lowered and the dpc installed below suspended flooring timbers. Where this is not possible install the dpc a minimum of 150mm above external ground level and ensure timbers are fully isolated/preserved.

**External wall**

Install the dpc below suspended flooring timbers. Ensure the timbers are fully isolated/preserved as required.

**External cavity wall**

Ideally the dpc should be installed below suspended flooring timbers. Ensure the timbers are fully isolated/preserved as required.

*Note: Always ensure the cavity is clear prior to treatment.*



## INJECTION METHODS

Where suspended timber floors are present the timbers, particularly those in contact with walls, should be inspected to ensure they are sound and free from fungal decay. If problems are identified they should be reported and the necessary repairs carried out, ensuring that any sound retained or replacement timbers are adequately isolated/protected and suitably preserved. Even when there is no sign of fungal decay on exposed faces, the concealed sections of timber should be regarded as being at risk. The use of a Sovereign Moisture Meter should be employed to assist inspection and assessment.

Where possible the dpc should be installed below the level of flooring timbers. Where a dpc must be installed above a timber floor, the risk of fungal decay to the flooring timbers must be reported, and full isolation/protection and preservative treatment recommended.

Solvent based materials must not come into contact with asphalt floors. Where properties with existing asphalt floors are to be injected, use Sovereign Injection Cream or Sovereign Aquaject® Injection Fluid.

Cavity walls should be treated as though each leaf is a separate solid wall. So far as possible internal and external injection should be on the same level. This is essential in solid walls, but construction may make injection at different levels necessary and possible in some cavity wall constructions.

In cavity wall installation it is important that the cavity is clear and that no bridging at levels above the injection line by mortar or debris is allowed. Where necessary cavities should be cleared of blockages in order to prevent moisture from bridging an effective dpc.

Damp proof membranes incorporated beneath a solid floor should be tied/linked into the walls and damp proof course to prevent bridging. This can be achieved by using the Sovereign Hey'di K11 Tanking System.

## INJECTION METHODS

**Abutting Walls**

Where an efficient damp proof course exists in part of the property, e.g. new extensions, the injected damp proof course must overlap to ensure that no bridging occurs. If the wall to be injected has an abutting wall it is essential that a vertical damp proof course is injected, again to stop bridging. This should be to a minimum of 1m above the horizontal dpc or 300mm above the damp/salt line, whichever is higher.

It is advisable on every contract, having decided where the injected course is to be, to follow that course around the property where possible and note any areas where vertical damp proof courses may be required, e.g. abutting walls, changes in levels, etc. This can prevent many future problems.

**Making Good After Injection**

Ensure the carrier solution has evaporated.

Follow Sovereign Re-Rendering Specification. Where plaster will be applied below the level of the injected dpc, then the wall must be tanked with the K11 System, otherwise moisture will bridge around the dpc and back into the plaster. Do not allow plaster to bridge onto a solid floor unless K11 is applied below dpc and onto the floor.

Replace skirtings after treatment as necessary.

These should be pre-treated with an appropriate Sovereign Timber Preservative.

Paint walls with matt emulsion paint only.

Emulsion paint treatment should ideally not take place until one month after completion of the re-rendering.

Once a dpc has been inserted, the moisture in the wall from the previous rising damp problem will take 6-12 months to evaporate. It is important therefore that walls are allowed to “breathe” and wallpaper or other barriers to evaporation are not applied until the walls are dry. For thick, random stone walls drying out times will be increased – sometimes up to several years.

When a property has had a Chemical Damp Proof Course installed, no immediate difference is seen in the level of moisture in the wall. The evaporation rate will be approximately 1 month per 25mm thickness. Obviously this amount of moisture has to evaporate from the surface and the moisture will migrate to the warmest surface which is usually internal. If no rendering was specified, evaporation would take place from the brick/stone surface without inconvenience. It is most important to ensure that the re-rendering is not sensitive to moisture, (highly absorbent plaster, e.g. gypsum based lightweight plasters or similar, could 'blow' and eventually, on drying out, complete areas of plaster could collapse).

**Sovereign Re-rendering Specification has the following advantages:-**

- Allows normal drying out.
- Prevents moisture from spoiling decorations.
- Minimises the risk of condensation.
- Prevents salt migration into new plaster.

Two specifications have been developed to meet these provisions. The first uses a sand:cement rendering as the first coat. This rendering incorporates Sovereign Rendermix. This product acts as a moisture barrier thus allowing evaporation to take place without migration of moisture and associated ground salts into the final, porous plaster coat. Rendermix also has fungicidal properties and acts as a plasticiser.

The second specification utilises Sovereign Renderlite Renovating Plaster which is thermally very effective and also possesses water resisting and fungicidal properties. For further details refer to the "Specification for re-rendering internal walls of properties previously treated with the Sovereign Injection Damp Proof Course", a copy of which is included in this manual, and the relevant technical literature on BBA Certificate 05/4251.

It is acknowledged that these systems are not universally acceptable and often the Company is asked if a sand:lime:cement rendering would serve a similar purpose. A 1:3 cement:sand mix is considered equivalent to a 1:1:6 cement:lime:sand for general purposes. Under these circumstances, the company would, if given prior notice, be prepared to accept a specification using this type of mix. Any such variation from standard practice should be recorded on the guarantee form, including dry lining which is preferred in some areas, e.g. Scotland, to re-rendering.

In extreme cases efflorescence may appear on the wall during the drying out period, but this can easily be removed by brush without causing any problems. Efflorescence is normally seen as a dry, white, fluffy covering on the wall and should not be confused with fungal growth. After complete drying out, normal wall papering can commence.

## HEAVY SALTING TREATMENT SPECIFICATION

Remove plaster to a height of 300mm beyond the last signs of damp/salt. Leave open as long as possible to allow initial drying of the wall.

All contaminated mortar joints should be raked out to a depth of at least 12mm and re-pointed using either Sovereign Sulphate Resistant Ready Render or sulphate resistant cement:clean washed sharp sand, 1:4, mixed with Sovereign SBR Bonding Agent:water 1:3 as gauging. Allow to cure.

Apply a first application of Sovereign Hey'di Antisulphate diluted 1:1 with clean water. Leave overnight and repeat with neat Antisulphate the following morning. Allow to soak in.

NB. Antisulphate will make soluble salts insoluble prior to rendering or plastering.

Apply a bonding coat consisting of 1 part SBR Bonding Agent to 1 part water, mixed with sulphate resistant cement until a thin slurry consistency is achieved. Brush on a thin coat (approximately 1mm) to the wall which has been pre-wetted with clean water. Allow to cure. Repeat this step, but ensure plaster is applied whilst bonding coat is still tacky. This bonding coat will improve adhesion dramatically and is also sulphate resistant.

Replaster using either Sovereign Sulphate Resistant Ready Render or clean, washed, sharp, sand:sulphate resistant cement 3-4:1 gauged with 1:3 Sovereign SBR Bonding Agent:water as the backing coat. Where physical or chemical damp proof courses are present, then care should be taken not to overlap below this level and cause moisture to bridge around the dpc. If necessary tank below the dpc using Sovereign Hey'di K11.

Subsequent cementitious render coats can be applied as normal. However, it may be worthwhile considering the use of Sovereign Renderlite Renovating Plaster as the top coat, in order to help overcome a condensation situation.

Skim as normal.



The following notes may be of use in dealing with the aftermath of localised flooding. It is based on our experience in dealing with flood damage at Towyn and Llandudno in Wales in the early 1990's through to floods in York and Carlisle, Gloucester, Worcester, Sheffield, Hull and more recently Cocker mouth.

Our brief is to provide a specification that will resolve the problems, but also to minimise the costs involved, especially in regards to shortening the time necessary for alternative accommodation.

### General

After flooding, ground salts, bacteria and detritus will contaminate the plaster. Ground salts are hygroscopic and as such will continue to attract moisture indefinitely. The problem will be exacerbated where seawater flooding has occurred, or foul water is involved. The background masonry is also likely to have become saturated with water and contamination.

The plaster should be removed as soon as possible after flooding, as this will aid the drying process.

**For a 'fast turnaround' the following procedure becomes financially viable.**

Utilising the following specification will allow internal finishes to be applied before the masonry has dried. In fact once the plaster has been removed renovation can begin immediately as the Sovereign Hey'di K11 System is designed to be applied to damp surfaces. Therefore a property can be reoccupied much more quickly than conventional treatment methods, saving great expense at re-homing householders and the cost of hiring driers and dehumidifiers.

### Re-Plastering Incorporating SOVEREIGN HEY'DI K11 GREY TANKING onto walls where the moisture content is still unacceptably high

Remove plaster to 300mm beyond the last signs of damp or salt.

Apply Sovereign Masonry Sterilising Wash, which is usually diluted with water prior to use in the ratio of 4 parts water to 1 part Masonry Sterilising Wash. Rinse off with clean water. (However, where infection by bacteria may be heavy then the concentration can be increased to the point where the Wash is used neat. Alternatively a second/third application may be applied).

## REMEDIAL WORK AFTER FLOOD DAMAGE

Apply a first application of Sovereign Hey'di Antisulphate diluted 1:1 with clean water. Leave overnight and repeat with neat Antisulphate the following morning.

Allow Sovereign Antisulphate to soak in and apply a bonding coat consisting of 1 part Sovereign SBR Bonding Agent to 1 part water, mixed with fresh Ordinary Portland Cement (OPC) until a thin yoghurt like consistency is achieved. Brush on a thin coat to the wall (approx. 1mm) then apply backing render while this is still tacky.

Use Sovereign Sulphate Resistant Ready Render, gauged with 1:4 Sovereign SBR Bonding Agent:water. Apply a tight backing render coat, typically 8 – 10mm, and leave overnight.

Next day apply a coat of Sovereign Hey'di K11 Grey gauged with 2 parts Sovereign SBR Bonding Agent to 1 part water. The K11 slurry should have a thick, creamy consistency and should be brushed on at 1.5 to 2.0kg per m<sup>2</sup> as a continuous coating. The background render must be kept damp during the application of the K11.

Allow to dry and finish with either:

**A** Sovereign Sulphate Resistant Ready Render, gauged with 1:4 Sovereign SBR Bonding Agent: water. Scratch up and allow to fully cure.

**B** Sovereign Renderlite Renovating Plaster gauged with 1:4 Sovereign SBR Bonding Agent: water. Scratch up and allow to set for a minimum of 24 hours.

In either case it is important that the Ready Render/Renderlite is applied on to a tacky bonding coat.

Skim using Sovereign Renderlite Finish Plaster.

Unless the tanking medium has overlapped onto the floor, then the plastering should finish 25mm above the wall/floor joint to prevent possible bridging from the floor.

The tanking system will prevent dampness within the body of the wall penetrating the new plaster whilst at the same time allowing the masonry to breathe and dry out allowing decoration to be made earlier, but bear in mind the plaster will only be drying from one direction.

Where the masonry has been dried out and a dryness certificate has been issued we recommend the following procedure for re-plastering.

### STANDARD RE-PLASTERING - DRYING IN SLOW TIME

Remove plaster to 300mm beyond the last signs of damp or salt.

Apply Sovereign Masonry Sterilising Wash, which is usually diluted with water prior to use in the ratio of 4 parts water to 1 part Masonry Sterilising Wash. Rinse with clean water. (However, where infection by bacteria may be heavy then the concentration can be increased to the point where the Wash is used neat. Alternatively a second/third application may be applied).

Leave open and allow the surface to dry.

Apply a first application of Sovereign Hey'di Antisulphate diluted 1:1 with clean water. Leave overnight and repeat with neat Antisulphate the following morning. Allow to soak in.

NB. Antisulphate will reduce salting problems and provide a suitable surface for re-plastering. To optimize the effect of Antisulphate the substrate should be over-coated within three days.

Prior to re-plastering apply a bonding coat consisting of 1 part Sovereign SBR Bonding Agent to 1 part water, mixed with fresh Ordinary Portland Cement (OPC) until a thin yoghurt like consistency is achieved. Brush on a thin coat to the wall (approx. 1mm). Plaster up while this is still tacky.

This bonding coat will improve the adhesion dramatically and is also sulphate resistant.

Re-plaster using:

**A** Sovereign Sulphate Resistant Ready Render, gauged with 1:4 Sovereign SBR Bonding Agent: water. Scratch up and allow to fully cure.

**B** Sovereign Renderlite Renovating Plaster gauged with 1:4 Sovereign SBR Bonding Agent: water. Scratch up and allow to set for a minimum of 24 hours.

Where physical or chemical damp proof courses (dpc) are present, then care should be taken not to overlap below this level and cause moisture to bridge around the dpc unless the area below the dpc has been tanked using K11.

Skim using Sovereign Renderlite Finishing Plaster.

### Floor Screeds

Some floor screeds may require removal and re-screeding. Advice on screeding is available from Sovereign Technical Department and written specifications for individual properties are available on request to BS8204:1993.

If the existing tanking system has failed then consideration should be given to tanking with Sovereign Hey'di Cementitious Tanking Systems. These systems will withstand hydrostatic water pressure and written individual specifications are available upon request.

## SUBMITTING ESTIMATES

Any estimate submitted, whether it be for rising damp or timber treatment associated with this, must be accompanied with full details or other factors which are contributing to the effect without necessarily causing it. All additional defects which are found during the survey must be included in detail on the estimate with a rider that until these faults have been rectified the efficiency of any treatment cannot be ascertained or guaranteed.

Sovereign Survey Forms may be obtained from Head Office and are designed to simplify estimating and also to enable the client to understand the defects which require attention. Correct surveying and estimating are equally important as correct injection, and should always be treated as such.

**When an estimate is found to be acceptable it is imperative that the client has been given full details of:-**

- The disturbance likely to be caused. Whilst every effort will be made to minimise dust etc., no liability will be accepted for such damage.
- Where and how treatment is to be carried out.

- A written COSHH Risk Assessment should be carried out to ensure the materials used are suitable and that operators, third parties and the environment will not be put at risk.
- Anticipated time on site.
- Sovereign Re-rendering Specification. This should be passed on if the contractor has not estimated for this portion of the work. In this case the contractor should obtain a written statement from the plasterer that our specifications have been followed.
- The Party Wall Act 1996, is effective and is to be complied with. Dept. of Environment Booklet (97 PBD 008) explains how the system works. The safety precautions and requirements are applicable to both sides of the party wall. Party walls must be injected/treated for the full thickness if they are to be subject to guarantee. Technical H8 Specification, which utilises the Sovereign Hey'di K11 Grey System, can be considered as an alternative remedial treatment in lieu of installing a damp proof course, which does not invoke this act.



# WORK METHOD STATEMENT (W.M.S.)

## Work Method Statement (W.M.S.) For Damp Proof Course Installation

Address of Property:- .....

.....

Date: ..... Ref:- .....

Contact Name:- ..... Tel No:- .....

Materials to be used are stipulated on survey report and preliminary assessment dated .....

If a party wall is involved then the 1996 Party Wall Act must be complied with.

Associated Risks The following tasks are considered hazardous:-

Hacking off plaster, mixing sand:cement, plaster, finishing plaster, cementitious tanking systems, preparing substrates for tanking, repointing, cleaning timbers, cutting timbers, drilling walls, removing insulation, removing rot infected timber (spores), etc.

Safety glasses, gloves and dust masks are minimum protection to be worn.

### Control Of Exposure

1. Remove electrical apparatus; extinguish gas equipment (and pilot lights). Fully isolate and cover electrical junction boxes. All fires to be extinguished.
2. Ensure maximum ventilation is available.
3. Any spills should be cleaned up immediately and the materials used disposed of correctly.
4. Wear appropriate protective clothing (see completed COSHH Risk Assessment). Respirator not required but recommended in enclosed spaces with little or no ventilation.
5. Confirm Pre-Operation checks have been completed.
6. Soap and water should be available to wash off skin contamination.
7. Anyone appearing to be affected should be taken into the fresh air to be given first aid and medical attention sought.
8. All used and unused containers should be disposed of correctly.
9. Warning Notices to be posted.

## REPORT &amp; PRELIMINARY COSHH ASSESSMENT

Name:- ..... Address of Property:-.....  
 Date:- .....Ref:- .....  
 Surveyor:- .....Tel No:-.....

**Contract Details – General****PRIOR TO CONTRACT COMMENCING THESE DETAILS ARE TO BE CONFIRMED BY SENIOR OPERATIVE ON SITE**

No senior citizens/babies/people with respiratory problems/pets to be on site during operations or into areas treated for .....hours Confirmed .....

Permission from adjoining properties. Letter dated .....

Work on party walls. **Compliance with 1996 Party Wall Act**

Party structure notice dated ..... Reply dated .....

**Safety precautions apply to both sides of party walls.**

Name ..... Tel No ..... Confirmed .....  
 Power supply available YES/NO Generator required YES/NO Confirmed .....  
 Water on site from .....(location) Confirmed .....  
 Master Product Safety Data Sheets held on site ..... Confirmed .....  
 Our liaison telephone number ..... Confirmed .....

**Pre-Operation Checks To Treatment Areas**

Gas supply/Pilot light off/Gas isolated during any drilling. Confirmed .....

Electrical Junction Boxes – To be confirmed off and protected against ingress. (Use appropriate approved lighting for products used). Confirmed .....

Warning notices to be posted. Confirmed .....

Ensure maximum ventilation during the contract.

Areas to be sheeted/isolated, including storage heaters which must be removed, or switched off, covered and sealed with polythene. Confirmed .....

Asphalt floors/bitumen dpc/flooring incompatibility. Confirmed .....

Food preparation areas covered/isolated. Confirmed .....

Type of roof and lining ..... Confirmed .....

Evidence of bats. Contract not to commence. Report to English Nature Confirmed .....

All debris and insulation etc. removed.

Water tanks position ..... to be covered for a minimum of 14 days (timber preservation treatment). Confirmed .....

Responsibility for following:-

Store goods .....

Fixtures and fittings removal .....

Floor coverings .....

Dust sheets .....

**Pre-Operational Check Completed and Correct**

Name:- ..... Signature:- .....

Date:- .....

# REPORT & PRELIMINARY COSHH ASSESSMENT

## ANY PRECAUTIONARY TREATMENT TO BE CONFIRMED REQUIRED BY THE CLIENT

### Damp Proofing or Timber Treatment

#### Proposed Remedial Treatment Details

Sub Ground Floor .....

Product .....

Batch No..... Amount .....

Ground Floor .....

Product .....

Batch No..... Amount .....

First Floor .....

Product .....

Batch No..... Amount .....

Roof Void .....

Product .....

Batch No..... Amount .....

#### Precautionary Protective Treatment Details

Sub Ground Floor .....

Product .....

Batch No..... Amount .....

Ground Floor .....

Product .....

Batch No..... Amount .....

First Floor .....

Product .....

Batch No..... Amount .....

Roof Void .....

Product .....

Batch No..... Amount .....

Above Remedial Treatment is justified ..... Surveyor

Above Precautionary Treatment requested ..... Client

### Precautionary treatment to be carried out at client's instructions

None of the Sovereign Chemical products used are listed in schedule 1, 4 and 5 of the COSHH. Regulations. (Products with Maximum Exposure Limited (MEL's) or products requiring Monitoring Exposure and Medical Surveillance).

### Pre-commencement Checks

**Timber Treatment** use respirator with A1P2 filter.

**Chemical DPC** respirator not required but recommended in areas of poor ventilation (for solvent based fluids).

Commencement Time ..... Finish Time .....

Re-entry Time.....  
(to treated areas).

### Ensure Warning Notice indicates re-entry time

Operators Name(s).....No. of hours on Contract .....  
Name(s).....No. of hours on Contract .....  
Name(s).....No. of hours on Contract .....

### Equipment Required on Site

Use appropriate approved lighting for solvent or water based product. Alternatively, use an Explosion Proof Hand Lamp, which is suitable for both solvent and water based products.

Respirator, Filter Type ....., Goggles, Safety Glasses, Dust Mask, Hard Hat, Coverall, Gloves, Ear Defenders, First Aid Kit, washing materials (soap, etc.).

This assessment must be kept as a permanent record.

Sovereign Chemicals Limited accepts no responsibility for **YOUR** Risk Assessment

## NOTIFICATION TO TENANTS/OCCUPIERS

**TO WHOM IT MAY CONCERN**

Re Chemically Injected Damp Proof Course to be carried out at:-

.....

.....

.....

Dear Sir/Madam

A chemically injected damp proof course is to be installed at the above property.

Prior to commencing this contract an initial assessment was made in order to comply with the Control of Substances Hazardous to Health Regulations (COSHH).

Before the contract commences the Senior Operative will confirm that the assessment is still viable.

The product to be used is:-

- (a) Sovereign Injection Cream, a silane/siloxane cream emulsion.
- (b) Sovereign Aquaject®, a true solution, water based product.
- (c) Sovereign Envirotech®, a synthetic fluid which has no odour.
- (d) Sovereign Low Odour Injection Fluid, which has a low odour

Warning notices will be posted to treated areas, which are to be thoroughly ventilated. Electrical circuits and potential sources of ignition, including open fires, within treated areas, should be isolated for a maximum of 36 hours after completion of work, unless Sovereign Aquaject®/Sovereign Injection Cream has been used.

Should there be any reason whatsoever giving cause for concern, then please contact:-

..... on telephone number .....

Yours faithfully



# 1996 PARTY WALL ACT SUMMARY

*This act is based upon the London Building (Amendment) Act 1939 and extends those principles to England and Wales.*

## Summary

The Party Wall Act 1996 also covers foundations, etc. The following extracts are relevant to the installation of a chemical damp proof course and fundamental from a Contractor's viewpoint.

Confirm there is rising damp to the party wall which allows the owner to act within 2(2)(b) which is to make good, repair, or demolish and rebuild, a party structure or party fence wall in a case where such work is necessary on account of defect or want of repair of the structure or wall.

which allows the Contractor  
2(2)(f) to cut into a party structure for any purpose (which may be or include the purpose of inserting a damp proof course).

If the work is not necessary on account of defect or want of repair then the owner is responsible for making good all damage occasioned by the work to the adjoining premises or to their internal furnishings and decorations.  
(See(3)(a)).

The Department of the Environment has published an explanatory booklet which considers re-plastering to be minor works and too trivial to come under the Act. Therefore, an alternative would be to apply a tight (thin) rendercoat and then remedially damp proof to 1.5 metres (minimum) using Sovereign Hey'di K11 Grey.  
(Specification available from the Technical Department).

Treatment using the Sovereign Hey'di K11 System on a party wall will not prevent capillary action (rising damp), but can be used to prevent rising damp affecting the wall plaster.

Where a dpc will be installed then plaster affected by moisture and hygroscopic salts should be removed up to a line not less than 300mm above the last detectable signs of dampness or 1m above the level of dpc, whichever is the higher.

However, K11 treatment to one side of a party wall may encourage capillary action, therefore, where there is no dpc then the K11 Grey must be taken to either 1.5m above internal floor level or 0.5m above the last indication of dampness, whichever is the highest, having taken into account floor levels on both sides of party wall.

Any guarantee should be limited to those areas actually treated.

The application of K11 Grey as a surface treatment will not prevent the installation of a chemical dpc to the party wall at a later date.

# PARTY STRUCTURE NOTICE

Our Ref

Date

Adjacent Owners  
Address

Dear Sirs

Re Injected Chemical Damp Proof Course to Party Wall

At .....

## Party Walls etc Act 1996

### Party Structure Notice

We have been instructed by ..... to install a chemical damp proof course to the above property and this will necessitate work to the party wall.

It is a requirement of the above Act that before carrying out work to a party wall the adjoining owner should be informed as follows:-

- (a) (the name and address of the building owner.)
- (b) (the nature and particulars of the proposed work including in cases where the building owner proposes to construct special foundations, plans, sections, and details of construction of the special foundations together with reasonable particulars of the loads to be carried thereby; and)
- (c) (the date on which the proposed work will begin.)

The Act requires that we give two months notice of commencement.

Please complete and forward the enclosed consent notice within 14 days, which contains an **alternative earlier commencement date which we would prefer if mutually agreeable**. Otherwise it will be assumed that you have dissented from the notice and the matter is to be disputed.

If the intention is to dispute the proposed works then a counter notice must be served within one month of the above Party Structure Notice date.

# PARTY STRUCTURE NOTICE CONSENT FORM

Our Ref

Date

To Approved Contractor  
Address

Dear Sirs

**Re Address of Property**

1. We formally accept your Party Structure Notice dated ..... and  
consent to these works being carried out commencing .....

Name (Print) .....

Signature .....

Date .....

2. We formally accept your Party Structure Notice dated and consent to these  
works being carried out. We would prefer a commencement  
date of ..... if this is mutually acceptable.

Name (Print) .....

Signature .....

Date .....

3. We will be disputing that this work is necessary and a Counter Notice will  
be served within one month of the Party Structure Notice date.

Name (Print) .....

Signature .....

Date .....

## TANKING TREATMENT

Lateral penetrating damp in below ground situations can be resolved for both old properties and new buildings using Sovereign Hey'di K11 Tanking System which has proved highly effective against extreme water pressures throughout the world.

Tanking systems are applied to either the positive pressure side or the negative pressure side of a substrate. Positive tanking pressure is achieved when the hydrostatic water pressure is pushing the tanking onto the substrate.

Negative tanking pressure is where the tanking system is applied to the other side of a wall and the hydrostatic water pressure will try to push the tanking off the substrate. Successful tanking on the negative side is difficult and requires a more comprehensive specification.

When tanking existing basements internally, then products such as asphalt, self adhesive membranes or liquid applied membranes all require a supporting vertical brick or blockwork lining wall, which is normally backfilled with sand/cement mix and a minimum 50mm sand/cement floor screed. Such systems incur space penalties unlike the Sovereign Hey'di Systems, which can be applied direct to the substrate with a final thickness of less than 5mm without the necessity of a supporting back filled wall. The treatment can be applied to both walls and floors.

Tanking is the creation of a watertight envelope. If there is hydrostatic water pressure present or possible high water table in the future then the floor must also be tanked to complete the watertight integrity.

A written tanking specification service is available from the Technical Department.

### Sovereign Hey'di K11 System

Sovereign Hey'di K11 is an alkali-resistant synthetically modified cement which is mixed with styrene-butadiene SBR and water, producing a waterproof coating against both moisture and hydrostatic ground water.

The chemicals in the slurry react, penetrate and fill off or block the capillaries, bonding onto the prepared surface.

### Areas of Application

The K11 System is used for the positive and negative waterproofing of below ground structures such as cellars, underground car parks, swimming pools, service tunnels, potable (drinking) water tanks, garage inspection pits and lift shafts, for example

Modified specifications are commonly used above ground for storage tank bund walls, prevention of penetrating damp, the area below an injected chemical damp proof course and as a damp proof course between foundation slab and screed/rising masonry.



## K11 Coatings above ground in lieu of DPC

### Special Requirements of the Contract

A coating of Hey'di K11 Grey slurry can be applied internally to walls where it is not feasible, for whatever reason, to inject a chemical damp proof course. This will not stop rising damp through capillary action, but it will prevent any moisture through rising and/or penetrating damp from affecting the internal plaster and will allow the wall to breathe. It is particularly useful on very thick walls.

The specification is for a single coat application of K11 Grey slurry applied onto a polymer modified render coat to a minimum height of 1.5m, or extending 0.5m beyond last signs of dampness, whichever is the higher. Where the system is not continuous then incorporating a vertical isolating damp proof course, or a 1m (minimum) return, will be necessary to abutting walls protected with a horizontal damp proof course.

On party walls, properties where floor levels vary, or where there is a high external ground level, check both sides of the wall to ensure the application is to 1.5m above the highest floor level. Apply a second coat to areas that are earth retaining.

We would then recommend walls be plastered with Sovereign Renderlite Renovating Plaster, which has excellent thermal qualities ideal for this situation.

### Preparation

Mechanically prepare the walls, removing existing plaster, etc, and rake out all loose mortar to approximately 10-12mm. Brush apply Sovereign Hey'di Antisulphate diluted 1:1 with water and allow to soak in before continuing. Mix Sovereign SBR Bonding Agent: water 1:1 with fresh Ordinary Portland Cement to a yoghurt consistency and brush apply a thin Bonding Coat. Render up while this is still tacky. Apply a tight render coat using sharp washed sand: cement 4:1 gauged with Sovereign SBR Bonding Agent: water 1:4. Leave overnight. Alternatively where the quality of the sand is in doubt then use Sovereign Sulphate Resistant Ready Render gauged with SBR Bonding Agent: water 1:4.

**A training video is available on the New CD for applying the Sovereign Hey'di K11 system**

## SOVEREIGN HEY'DI TECHNICAL SPECIFICATION

**K11 TANKING SYSTEM APPLICATION**

The render should still be damp, but if it has dried then dampen down using 9 parts water to 1 part Sovereign SBR Bonding Agent.

Using a plasterers paddle and electric variable speed drill, mix K11 Grey with Sovereign SBR Bonding Agent diluted 1 part Sovereign SBR Bonding Agent to 2 parts water, until a thick plastic consistency is obtained. Apply the Hey'di K11 slurry using a block brush at a rate of 2 kg/m<sup>2</sup>, going down the wall as far as possible and overlapping 20cm onto any solid floors.

A second coat should be applied to any sections of the wall that are earth retaining. This can be applied as soon as it is practical, i.e. when it can be applied without dragging the first coat off. Leave overnight.

Where solid floors exist, at all vertical and horizontal joints a 25mm angled fillet must be formed using Sovereign Hey'di Barrier Mortar mixed with water as gauging prior to applying the K11 Grey. Barrier Mortar should be applied to a damp surface so it may only be necessary to damp the area with clean water.

Where a sound asphalt topping is in place the K11 Grey coating should again be applied down the wall as far as possible, but once cured the new floor/wall junction should be sealed by forming an angled fillet using Sovereign Pro-Stick 2000.

Note 1: Do not mix more K11 than 1 man can apply in 20 minutes.

Note 2: **Never apply K11 in conditions below +5°C over a 24 hour period.**

**FIXINGS**

In above ground situations the fixing hole can be partially filled with Sovereign Pro-Stick 2000 which when the fixture is screwed into place will prevent penetrating damp. Around the perimeter of windows, a flexible sealant compatible with the frames should be incorporated to effect a seal.

**CUSTOMER CARE**

When plastering onto cured K11, then a Bonding Coat must be applied as follows:-

Bonding Coat consists of Sovereign SBR Bonding Agent: water 1:1 mixed with cement to a thin creamy consistency. Apply a thin coat by brush and plaster or render up while the Bonding Coat is still tacky.

# DRY ROT TREATMENT SPECIFICATION

Eradicate causes of dampness and promote rapid drying out of the structure to establish permanent cure. Ensure there is adequate ventilation, especially to sub floors and roof voids.

Cut out and remove decayed timber to a distance of 0.5m beyond the last sign of decay as a safety margin. This may be increased for vulnerable timber like wall plates and less for floorboards and adjacent timber. If structural timbers are affected organise a structural survey. Where the removal of lightly infested timber will be disproportionately costly, then in situ treatment with Sovereign Deepkill Paste may be possible, providing the timber is structurally sound and can be permanently brought below 20% moisture content. However, specialist advice must be sought

Cut away plaster and rendering and remove skirting, linings, architraves, bond timbers, etc. on infected masonry to a distance of at least 0.5m beyond the last sign of infection. Remove mycelium from exposed masonry and clean down with a wire brush.

Surface spray exposed masonry, etc. with Sovereign Fungicidal Wall Solution Extra.

Irrigation of masonry by application via holes drilled into masonry may be carried out to reinforce surface spraying to:-

- A** Establish a 'cordon sanitaire' around the outbreak to protect woodwork in close vicinity or where full stripping out is not feasible.
- B** Saturate the base of an infected wall lacking a damp proof course.
- C** Where timber is embedded and cannot be removed then 'cordon sanitaire' is the only practical answer. Such timber should also be treated with Deepkill Paste and be identified separately in quotations and exempt on guarantees if the timber moisture content cannot be brought permanently below 20%.

**D** Other special circumstances such as infected party walls.

**NB** *Irrigation should only take place after considering the long-term implications and we would advise discussion with our Technical Department before this is undertaken.*

Isolate all timber from damp oversite or masonry, soil, etc. by using a damp proof membrane. Oversite should be cleared of timber, debris and paper, etc. Spraying the oversite may not always be justified under C.O.S.H.H. Regulations. All replacement timber to be pre-treated in accordance with BS5268 1989, or given two brush applications of Sovereign Sovaq FLX FI (Fungicide/Insecticide). All ends and surfaces of timber cut and worked after treatment to be re-treated by 2 liberal brush coats of preservative. All existing timber in infected area to be cleaned and spray treated to saturation on all surfaces with Sovereign Sovaq FLX FI at the rate of 1 litre per 4 - 5m<sup>2</sup>. Deeper penetration to vulnerable timber such as wall plates can be achieved by using Sovereign Deepkill Paste at the rate of 1.25 m<sup>2</sup>/l. Gauging liquid for sand: cement renders may incorporate Sovereign Fungicidal Wall Solution Extra: water 1:24 as a further precaution during drying out period.

NB. Any limitations/restrictions and special considerations that may apply should be included in the survey report.

**Consult current literature for latest status of remedial products.**

## WET ROT TREATMENT SPECIFICATION

Eradicate cause of dampness and promote drying out of the structure to establish permanent cure. Ensure there is adequate ventilation, especially for sub floors and roof voids.

Cut out all decayed wood to 0.5m beyond last sign of attack as a safety margin.

Clean timber in situ.

Clean up site. Remove decayed timber from site.

Isolate all timber from damp oversite or masonry, soil, etc. by using a damp proof membrane. Oversite should be cleared of timber, debris and paper, etc. Spraying the oversite may not be justified under C.O.S.H.H. Regulations.

All replacement timber to be treated in accordance with BS5268 1989. All ends and surfaces of timber cut and worked after treatment to be retreated by 2 liberal brush coats of Sovereign Sovaq FLX Fungicide/Insecticide.

If the timber will dry out in less than 8 weeks no further treatment is necessary. Where there is doubt then all existing timber in the infected area to be spray treated on all surfaces to saturation with Sovereign Sovaq FLX F/I at the rate of 1 litre per 4-5 m<sup>2</sup>. Deeper penetration to vulnerable timber such as wall plates, etc., can be achieved by using Sovereign Deepkill Paste (bodied mayonnaise type emulsion) at the rate of 1.25m<sup>2</sup>/l.

NB. Any limitations/restrictions and special considerations that may apply should be included in the survey report.

**Consult current literature for latest status of remedial products.**

### Floors

Lift two lines of floorboards, one each parallel and nearest to the skirting boards at both sides of the room at right angles to the joists in the treatment areas. Lift complete lines of floorboards at approximately 0.5m spacings across total width/length of treatment areas.

Clean down all accessible surfaces of floorboards, joists and wallplates by vacuum cleaner and brushing. Substantially weakened timber must be replaced with pre-treated timber where necessary. Remove dust and debris from treatment area. Treat all accessible timbers by applying under pressure, Sovereign Sovaq FLX F/I to saturation at the rate of 1 litre per 4-5m<sup>2</sup>. Special attention should be paid to treatment of end grain areas. Treat both surfaces of lifted floorboard and relay.

### Other considerations:

- A** Common Furniture Beetle - Where infestation is more than 30% of timber cross section, consider using Sovereign Deepkill Paste.
- B** House Long Horn – Use Sovaq FLX I or Deepkill.
- C** Deathwatch Beetle – (i) Attack to sapwood, use Sovereign Sovaq FLX I.  
(ii) Deep penetration as (i) above or use Deepkill, and/or drill and inject Sovaq/Deepkill into cavities. Resolve problems with associated moisture ingress/fungal attack.
- D** Lyctus Powderpost Beetle. Where this is an active attack replacement rather than treatment will normally be necessary. Sovaq FLX I and/or Deepkill can be used after removing any protective coating, e.g., varnish.

**E** Wood Boring Weevils. These will only attack damp, decayed timber and eradicating the damp problem will remove the infestation. The insects may migrate to other rooms and Sovaq FLX I will resolve this possibility, but should only be undertaken at the client's instructions.

### Roof Treatment – Floored or Unfloored

For “Floorboards, Joists and Plates” substitute “Roof Void Timbers”, in Floors Treatment.

### Interior Joinery

Carefully ease skirting, picture rail, architrave, etc, as indicated in the report, away from fixing, apply insecticide to unpainted surfaces and through flight holes. Re-fix and make good.

### Stairs

Treat all accessible surfaces. Inject insecticide through old flight holes. Include joinery (as above) if possible. Where access to the area is not possible then drill through risers and treat using a back spray nozzle. Under COSHH Regulations treatment can only be justified to 300mm past the last evidence of flight holes. Extensions for ‘precautionary’ treatment must be at the client's instructions.

NB. Any limitations/restrictions and special considerations that may apply should be included in the survey report.

**Consult current literature for latest status of remedial products.**



## ABBREVIATED SAFETY DATA

## Environmental Timber Treatment Products

Product	OEL	Principal Hazard Content	Principal Hazardous Properties	Protective Equipment	LD50
<b>Deepkill Timber Paste</b>	NK	Permethrin IPBC	Irritant	C.D.E.F.	4672/ 1470
<b>Sovaq Fungicidal Wall Solution Extra</b>	NK	IPBC DDAQ	Causes burns *	C.D.E.F.	1470
<b>Sovaq FLX I</b>	NK	Flurox	Irritant *	C.D.E.F.	N/A
<b>Sovaq FLX FI</b>	NK	IPBC/Propi Flurox	Irritant *	C.D.E.F.	N/A

## Chemical Damp Proof Course Products

Product	OEL	Principal Hazard Content	Principal Hazardous Properties	Protective Equipment	LD50
<b>Injection Cream</b>	100ppm 125ppm (15 min)	Petroleum Distillate		F.B.D.	-
<b>Aquaject Injection Fluid Concentrate</b>	200ppm	Siloxane	Irritant *	C.D.F.K.	-
<b>Aquaject Injection Fluid Super Concentrate</b>	200ppm	Methanol	Flammable Irritant Harmful *	C.D.F.K.	-
<b>Injection Fluid (Low Odour)</b>	220ppm	De-Aromatised White Spirit	Harmful	C.D.F.K.	-
<b>Envirotech Injection Fluid</b>	330ppm	Synthetic Isoparaffin	Harmful	C.D.F.K.	-

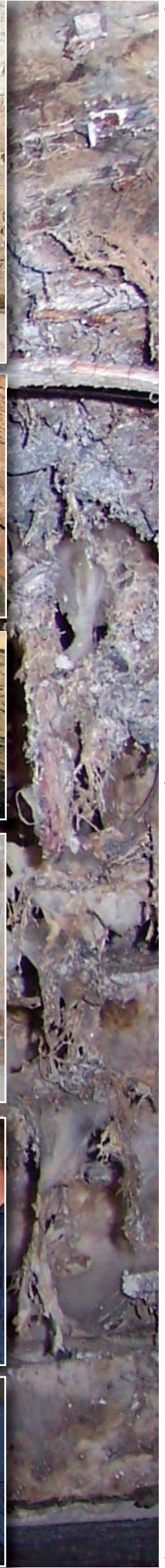
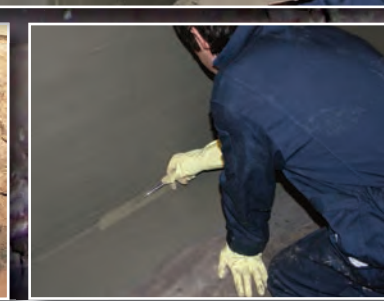
\* Refers to concentrate only - diluted products not classified

## Protection Codes

A - Ear defenders/ear plugs   B - Safety glasses/visor   C - Goggles   D - Gloves  
E - Respirator   F - Coverall   G - Dust hood   H - Apron   I - Hard hat  
J - Knee protectors   K - Mask

Full individual Safety Data Sheets are available on request









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