



SPECIFICATIONS FOR THE USE OF CHEMICAL INJECTION D.P.C. FOR CONTROL AND CURE OF RISING DAMP

To be read in conjunction with Survey Report

Rising Damp (BS.6576.1985)

When a building has walls of brick or stone, water from the foundations will rise up the walls as a result of capillary action. In modern buildings a damp proof course (D.P.C.) is inserted just above ground level to stop rising damp in this way. If the D.P.C. is defective, deteriorates or is bridged during or after construction of the building, then rising damp with its attendant problems will develop. Old buildings very rarely have a damp proof course at all.

Rising damp discolours decorations, causes wallpaper to peel off, paint to blister and flake and moulds and mildew to grow. These problems are often exaggerated by salts efflorescing on the surface. These salts can extract moisture from the air and make matters even worse.

Apart from the dis-figuration and deterioration which rising damp causes, a damp house is a cold house and therefore an expensive house to heat. Rising damp is also a common cause of dry rot which once started can so often spread over a considerable area.

Complete Treatment

With rising damp there are two problems. Firstly the ground water in the foundations must be prevented from rising up the walls. This is done by creating a chemical damp proof barrier with a chemical injection mortar, or gel or similar. Secondly the damage caused by rising damp to masonry, plaster, and surface decorations must be made good, usually by replastering.

Installation of a damp proof course without carrying out the necessary curative treatment of walls, or for that matter any consequence of rising damp such as fungal decay, cannot give a completely satisfactory treatment.

Control of Rising Damp with Chemical Injection Mortar (Triton Injection Mortar)

In essence the method is simple. Holes are drilled into the walls affected by rising damp. A chemical injection mortar mixed with water is injected into the holes. The active chemicals in the product are activated in the presence of moisture and water and produce a crystalline water repellent barrier which prevents further penetration of water through the capillary system of the walls.

The Drilling Operation for Injection Mortar

The recommended diameter of the drilled holes should be approximately 18mm. If the holes are drilled from both sides they should be not more than 230mm centres. They should be offset 115mm at the most opposite sides of the wall to ensure that the holes cross in the centre of the wall at not more than 115mm centres. If the drillings are made from one side of the wall only then these drillings should be not more than 115mm centres and drilled to a depth the thickness of the wall less 50mm. They should be drilled in a straight line in a downwards direction at an angle of 20-30°. When the holes have been drilled they may be flushed out with clean water to remove the bore dust as well as to wet the hole to receive the mortar and to create an initial suction. If the wall is very dense and appears to be dry, then the holes should be filled several times to create a key for the mortar. It is better that the watering operation is carried out immediately prior to the injection of the mortar.

After injection the chemical D.P.C. slurry sets to form solid plugs of mortar in the wall. Before it sets the surface of the mortar should be smoothed off level with the wall to give a neat finish and dust from the drillings can be rubbed into match the colour of the masonry. The job is then completed. There is no need as with silicone fluid injection methods to fill the holes as a separate operation..

Control of Rising Damp with TRI-GEL Method

TRITON TRI-GEL is a unique chemical damp proofing product based on an established and time proven active ingredient. TRI-GEL is formulated in a special way to produce a thixotropic gel. This gel consistency allows placement in horizontally drilled holes without dripping or the use of pressure. Traditional silicone type pressure injection can be slow and awkward, TRI-GEL is quick and easy to apply which means improved work rates.

Description and Use

TRI-GEL is a water-based damp proofing treatment for walls affected by rising dampness. TRI-GEL is injected into the mortar bed between bricks, stones, or blocks via horizontally drilled holes to form a continuous barrier to the passage of moisture from the ground. The UNIQUE formulation allows faster injection without the need for electric D.P.C. pumps. Being water based and water soluble, TRI-GEL is able to diffuse naturally into damp substrate. After injection, TRI-GEL reacts to form a water-repellent Silicone resin network within the capillaries of the substrate. This network is permeable to water vapour which means that the walls can 'breathe' and dry out naturally.

The Drilling Operation of TRI-GEL

TRI-GEL is injected into 12mm diameter holes; drilled horizontally into the chosen mortar bed at 100-120mm centres or at the perp joint, mortar bed junction (brickwork).

Holes should be drilled to within 20-40mm of the far face of the wall being treated. Treatment can be carried out from one or both sides of the wall as appropriate and convenient. Cavity walls would normally be treated from both sides. The holes should be filled to within 10-20mm of the front face of the wall and capped with a plug of sand and cement mortar incorporating TRIMIX 1 or with a D.P.C. wall plug. Spillage's should be washed away with water before they dry.

NB One of these two methods of installing a new damp proof course, will be used, as per the Survey Report Details.

Preparation of Area to be treated

Any contributory defects to the fabric noted in the Report should be attended to by a builder to ensure all is made watertight. Ideally, any external rendering or plinths should be removed to a height of 150mm above proposed D.P.C. level to ground.

Internal wall plasters to areas where D.P.C. is to be installed MUST be removed to a minimum of 1 metre high. This is to remove the possibility of retained hygroscopic salts within the plasters. Any skirtings set aside for reuse must be treated prior to re-fixing. New skirtings must be pretreated and primed.

Cavities should be checked for obstructions and cleared. The plastering specification set out later in the leaflet is designed to reduce the effects of hygroscopic salts in the masonry which could migrate to the surface of the new plaster. This specification must be followed in order to obtain a dry surface. (In some circumstance it may be necessary to leave a period of 2 weeks between removal of plaster and replastering.

NOTE:

PARTY WALL ACT 1996

Where a D.P.C. is to be installed to party wall the owner of the property is to notify his/her neighbour(s) of all proposed works, and obtain the neighbours consent to said works. A neighbour cannot unreasonably withhold consent.

Damp Proof Membrane

In most circumstances it is necessary to apply a vertical D.P.M. In some cases to assist with the performance of the D.P.C., depending on the wall construction type (i.e. random flint and rubble), and in particular to prevent damp penetrating laterally from high ground levels, variations in levels or abutments, such as boundary garden walls or steps etc.

Plastering Specification for use with Chemical Injection Mortar Damp Proof Course, or TRI-GEL D.P.C. method.

Any delay between insertion of the D.P.C. and plastering would be beneficial. Any crystalline growth should be brushed off prior to plastering.

1. Apply a backing coat of either Tilcon's Limelite Renovating Plaster or British Gypsum Hardwall plaster as they have been designed for use with damp proof work, no other additives should be used.
2. Apply a suitable finish plaster. (Plaster specifications are available on request). Either Limelite finish or if Hardwall plaster is used, a multi-purpose finish.

Plaster products to be used as per manufacturers printed specification and recommendations observing British Code of Practice BS.4049 and BS.5492.

- NB** (i) It should be noted that this method of damp proofing is not suitable usually for walls built of chalk. We reserve the right to refuse to fit a chemical D.P.C. should the walls be found to be unsuitable or impossible to drill.
- (ii) A chemical injection mortar or gel D.P.C. must not be used where a silicone or aluminium stearate damp proof course has already been used as these materials inhibit the action.

NOTE:

Replastering must stop at least 1" (25mm) above finished floor level, or at damp proof course level, whichever is higher.

Drying out the wall

Insertion of a chemical injection D.P.C. does not create an immediate D.P.C. Depending on the moisture content of the wall it may take 1 or 2 weeks for the chemicals released to form a continuous D.P.C. and after this period the wall may start to dry.

The length of time for a wall to dry depends on humidity, temperature of the air and thickness of the wall but could be 9 months to 2 years.

Insertion of a D.P.C. to walls that are wet will only stop further dampness rising from the ground and will not affect dampness already there. Existing dampness in the wall above the new D.P.C. will dry out by a slow process of evaporation. It is essential that the evaporation process is not impeded by decorative finishing. Wallpaper will inevitably peel and mould and mildew growth will appear.

Redecoration

Delay as long as possible. Only suitable 'trade' water based paints (not plastic emulsions) should be used for the first 12-18 months. Walls must not be papered within this period.

Bensleys Timber Maintenance Co Ltd. reserve the right to alter the specifications for treatment if circumstances require