

# Damp Meter & DPC Injection Equipment

**DAMP METER:** Handheld LED device to indicate damp in masonry and wood. The DPC INJECTION SYSTEM delivers damp proofing solution at pressure.



Code 49420/50332

## Chemical Safety

(See Guide No 679)

**Damp** – proofing fluid is a toxic, highly flammable chemical so handle it with care. In particular...

**ALWAYS** keep fluid in the container provided, storing them in a cool, safe place out of the reach of children and pets.

**NEVER** smoke or allow naked lights into the work area.

**NEVER** let fluid get on your clothes, skin or eyes. Change contaminated clothing and wash off splashes immediately using plenty of clean water.

**NEVER** allow fluid to contaminate drains, streams, ponds, etc.

**Dispose of empty containers and unused fluid safely.**

**NEVER** eat, drink or smoke in the work area and always wash you hands and exposed skin as soon as you finish work.

**If anyone in contact with damp - proofing fluid feels unwell, seek medical help IMMEDIATELY!**

Urgent medical advice can be obtained from:

Contact: 9am - 5pm Out of office hours

Crown Chemicals 01159 460060 0385 355 237

Remedial H - 01229 34244

National Poisons Centre 0181 407 7600 or 0222 33101

Damp - proof course injection fluid is silicone in a sprit base and is highly flammable.

**Information on COSHH regulations is available from your local HSS Hire.**



## ...any comments?

If you have any suggestions to enable us to improve the information within this guide please e-mail your comments or write to the Safety Guide Manager at the address below

e-mail: [safety@hss.com](mailto:safety@hss.com)

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and anti-clockwise to decrease. Finding the right pressure is largely a matter of trial and error but, for most jobs, 60 to 80psi is adequate.

To safeguard the loss of fluid unnecessarily, only operate 1 lance at a time until you are confident to operate more at once.

Read the pressure gauge with the lance taps closed. When open, the pressure will fall as fluid is taken up by the wall, to actually inject the fluid, just open the lance taps.

At the correct pressure, fluid should sweat from the wall surfaces after a few minutes, showing the masonry is saturated. If the pressure is too low, this may never happen.

If the fluid is flowing but the brick's surface remains dry, it is possible that fluid is escaping into the hollow of or via a crack in the brick. If this happens, close the lances tap immediately and re-drill at another location.

## EQUIPMENT CARE

**Keep the equipment clean.** You will find less of a chore if you clean up regularly rather than wait until the end of the hire period.

**Never let the pump run dry.** Switch to a fresh container of fluid, before the one in use is empty. Use the leftover fluid to top up the new container.

**Never run the pump for long periods with the lance taps closed or disconnected.** The pump will overheat.

**The pump may also overheat if there is insufficient flow through the system** - due to using too few lances at too low a pressure.

**When not in use, store the equipment somewhere clean, dry and safe from the thieves.**

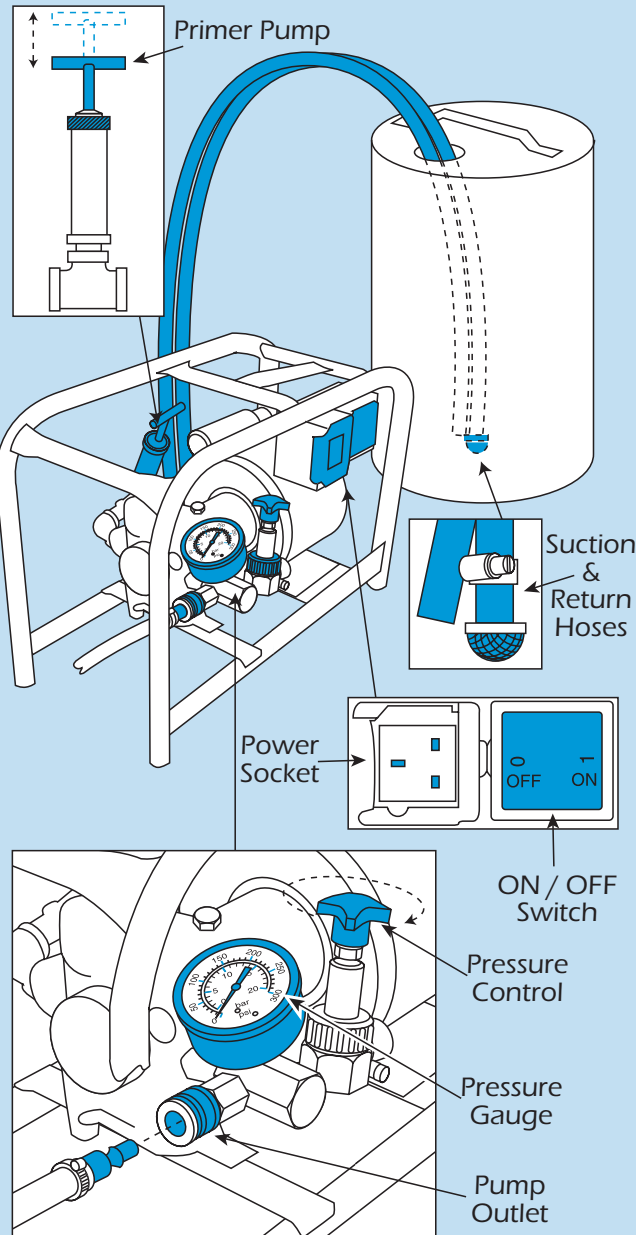
## FINISHING OFF

**Switch OFF** the pump, turn off the lance's taps, loosen their wing-nuts and remove from the wall.

**Flush out the system.** Insert lances, suction and return hoses in a container of paraffin or white spirit. Turn the pump ON, open the lance taps and leave the system running.

**After approx five minutes, switch OFF**, disconnect the hoses from the pump, take everything out of the paraffin/white spirit and leave to drain.

## DPC Pump



## BASIC TECHNIQUES

Having checked that all lance taps are closed, **insert the injection lances into 10mm diameter holes previously drilled in the wall and secure by turning the wing - nuts clockwise.**

**Turn the pump ON** and set the fluid pressure turning the pressure control clockwise to increase

## GENERAL SAFETY

For advice on the safety and suitability of this equipment contact your local HSS Hire Shop.

This equipment has been designed to be used by an able bodied adult. If you suffer from either a temporary or permanent disability, you must seek expert advice before using this equipment.

Keep children, animals and bystanders, together with anyone prone to suffer from allergies, away from the work area.

Never use this equipment if you are ill, feeling tired, or under the influence of alcohol or drugs.

This equipment should only be used by a competent person who has read and understood these instructions.



**Safety Goggles MUST be worn by everyone in the work area.**



**Some materials being injected may contain substances who's vapour, when inhaled, can be harmful to health. A suitable mask must be worn when using this equipment.**



**Wear sensible clothing and footwear that covers as much exposed skin as possible, plus rubber gloves.** Tie back long hair and avoid loose garments and jewellery that could get in your way.

**Always switch OFF and unplug the pump prior to cleaning, moving or changing the fluid container.**

**Ensure the work area is well lit and ventilated. Do not work near sources of ignition.**

**Always switch OFF and unplug the equipment when not in use. Never leave it switched ON and unattended.**

**Never carry or pull the equipment by its power supply cable or fluid hoses.**

**Always check the condition of the equipment before use.** If it shows signs of damage or excessive wear, return it to your local HSS Hire.

Information on COSHH regulations is available from your local HSS Hire.

## ELECTRICAL SAFETY

HSS pump units are designed to plug straight into a standard 230V 13A power socket.

**If the equipment fails, or if its flex or plug becomes damaged, return it.** Never try to repair it yourself.

**Keep flexes out of harm's way,** and clear of the work area.

**Extension leads should be fully unwound and loosely coiled, away from the equipment.** Never run them through water, over sharp edges or where they could trip someone.

**Keep the equipment dry, using electrical equipment in very damp or wet conditions can be dangerous.**



**To reduce the risk of electric shock, use a suitable RCD (Residual Current Device) available from your local HSS Hire. Or power the equipment from a mains circuit with a built in RCD.**

**Ensure the pump and power socket are switched OFF before plugging into the power supply.**

## DAMP METER

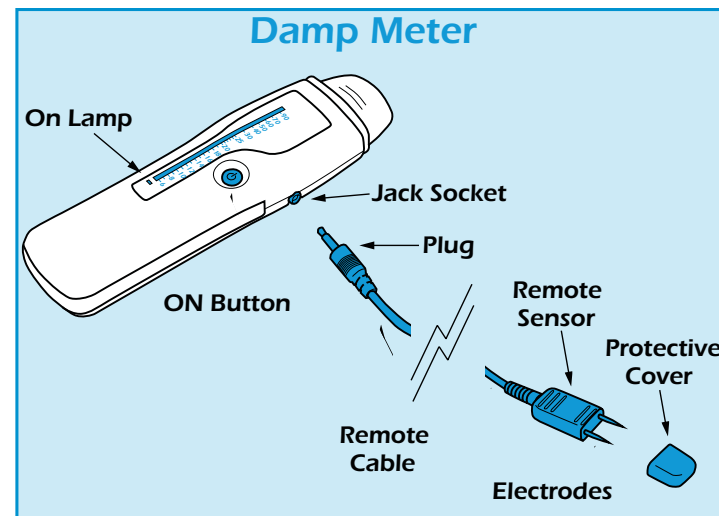
To find out how damp masonry really is, use a damp meter, available from your local HSS Hire Shop.

Remove the Damp Meter from its case, complete with the remote cable.

To switch the unit ON press the ON / OFF button and the unit will perform a self test. The unit will switch itself OFF automatically after 30 seconds of non-activity.

The ON lamp will illuminate, to indicate the unit is ready. You can now reveal the twin electrodes by carefully removing the protective cover.

If using the remote sensor, this should be plugged into the jack socket on the side of the unit before switching



ON. Switch the unit ON then once ready, remove the electrodes protective cover. of dampness. Push the electrodes against the surface of the material being tested, allowing the tips to penetrate the surface. Test awkward areas using the remote sensor attachment The lights and scales indicate the percentage of moisture within the material being tested, on a scale of 1 to 100.

These percentages should be read alongside information on the materials natural moisture

content. This is most important when dealing with wood products. When using the unit to detect rising damp, if the light stays in the green area, the moisture content is normal and rising damp should not be suspected. The yellow area indicates a suspicion of dampness. If the light is in the red area, there is a damp problem that will need to be rectified. The higher the reading, the greater the saturation

Note; Rising damp is not always caused by a failed damp course. It may occur if the damp course has been 'bridged' or by rain penetration. Where rising damp is suspected, check firstly for bridging e.g. external build up of soil above the damp course and rain penetration usually caused by either faulty rain wear (guttering) or pointing.

## INSTALLING A CHEMICAL DPC

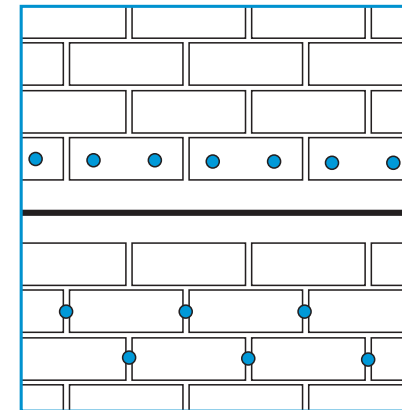
**Decide where the dpc is to go.** It must be below any internal timber, but above solid floors. Outside it should be a minimum of 150mm above ground level.

Remove any skirting boards, **hack internal plaster and external rendering off the wall** to a height of about 450mm above the highest reading of damp.

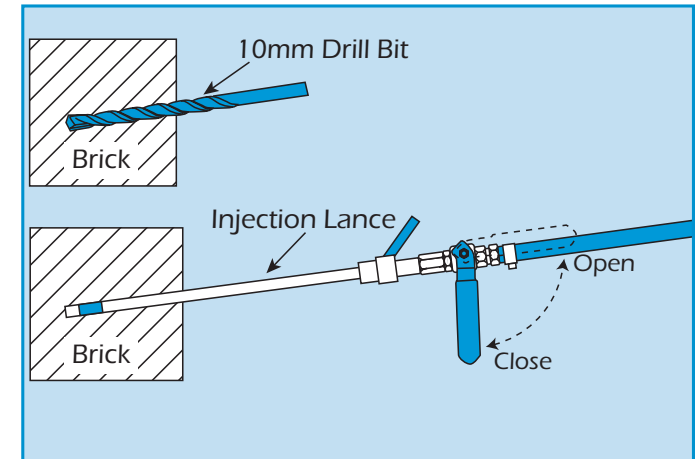
**Any effected internal plaster MUST be removed** as it will contain Hygroscopic salts, these salts naturally attract moisture and will encourage dampness even when the new DPC is installed.

Next, **drill holes for the injection lances** using a hammer drill and a 10mm masonry bit (HSS pumps have a built-in power socket for the drill).

**In normal brickwork, bore two 75mm deep holes in the side face of each brick (1 for end bricks)** at dpc level, depending on the brick's porosity. If the wall is of engineering brick or stone, drill into the mortar joins above, below and between two courses of brickwork at dpc level.



**Solid 230mm thick brick walls may also have to be treated from both sides.** Alternately, treat the outside in the normal way, then deepen the holes to 90mm and re-inject to saturate the inner face.



With the holes done, you may **begin injecting damp-proofing fluid.** Tackle the wall in sections, ensuring each is saturated with fluid before moving on to the next – you will see fluid sweating from the wall's face.

**When you have finished, fill the holes with dpc plugs** (from your local HSS Hire Shop)

**The exterior can also be re-render.** In this case, though, first treat the surface with waterproofing fluid to stop moisture by - passing the new dpc via the render.

**The wall must now be left to dry** for six to twelve months though a de-humidifier will speed this up. As a rough guide, the affected wall will take approx one month per 25mm of thickness to dry.

**Re plaster** the wall's interior face, once the wall has dried, using a suitable 'tanking' plaster. Treat skirting boards with preservative before refitting.

## GETTING STARTED

**Insert the pump's suction and return hoses into the fluid container.** The return hose circulates unused fluid, so never use the pump until it is in place.

**Connect the injector assembly to the pump outlet.** Pull back the outlets outer sleeve, push in the feed pipe until it clicks, then release the sleeve to secure the connection.

**To prime the system, set the pressure control to minimum by turning anti-clockwise, then ensure all lance taps are closed. Plug the pump into its power supply and switch the supply ON.**

**Switch the pump ON and pump the primer** to start the fluid circulating, allow it to circulate until there are no air bubbles

**Taking one lance at a time, place its tip into the fluid container and open its tap to bleed out any air. Once all 6 are ready, turn OFF the pump.**