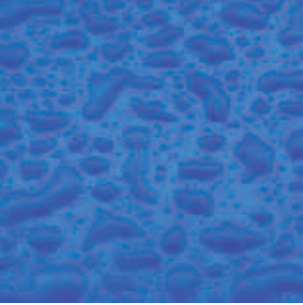
The background of the entire page is a close-up photograph of water droplets of various sizes on a blue surface. The droplets are rendered in a lighter shade of blue, creating a textured, bubbly effect against the darker blue background. The text is centered and reads:

# electro osmotic damp proofing

GUARDING YOUR PREMISES AGAINST DAMP



# rising damp - the symptoms

Who hasn't experienced it at some point - the mustiness of damp walls in old buildings with no or insufficient insulation? And when the plaster begins to fall off the walls, salt blisters with paint flaking



appear on the facade and spots of mould make rooms impossible to live in, this is usually the end phase of a process which has been going on for some years. At this point it would be wrong to treat these damaged areas "cosmetically", i.e. with only mortar and a bit of paint, and hence have to put up further with a very unhealthy living climate with higher energy costs. This stage of damage requires thorough corrective action in order to prevent the total dilapidation of the respective sections of the house. In many cases this is attempted with a great deal of time and expense.



With the wall-cutting method the masonry is cut through mechanically and horizontal isolating material inserted into the joints. Injection methods require innumerable little drilled holes in order to chemically bring about an injection of the walling.

An even more complex and costly method is laying the foundation walls completely bare and then applying sufficient isolating material.

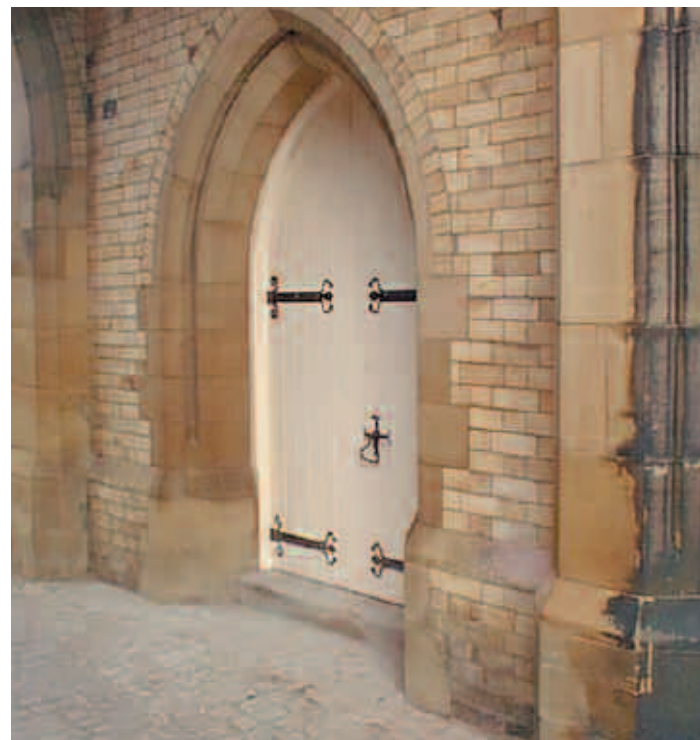
In carrying out such extensive operations on the substance of the existing building, which is often historical, structural problems and subsidence damage cannot be excluded.

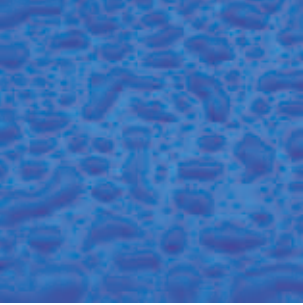


# looking closely at how nature works



The way to dry walls through application of a natural principle. The electrical potential which originates when water rises in a masonry wall causes water molecules to wander always from the plus to the minus pole. One speaks here of electrical osmosis. This natural principle was discovered by the physicist Reuss some 200 years ago and adapted by Lectros during the middle of the 70's for the drying out of walls. Since then, this method has been constantly subjected to comprehensive series of tests and just as constantly adapted to the current state of the art. Dry walls - and thus a proper level of living quality - can be attained easily and with 100% certainty by using the Lectros Osmotic system. Through consistent further development over the last 30 years Lectros has been able to constantly extend its leading position in Europe among the various companies offering electrophysical wall-drying methods.





# drying out walls by electro osmosis

We dry out damp masonry walls with minimal construction costs by applying the natural principle of water movement by means of electrical osmosis. Extremely low-cost operation of the system prevents dampness from rising again into the structural material. This protective method of sanitation by simply concealing wiring necessitates hardly any invasion of the building structure; only the old plaster work which has in any case been damaged by dampness and salt needs to be removed. The system functions perfectly in any type of masonry (brick, stone, composite walls and also concrete) and despite permanent operation energy consumption remains negligibly low. The electro-osmotic system functions maintenance-free. Lectros systems run on a very low voltage and minimal amperages (mA range), and as a result its operation is completely safe for people, animals and plants and very cost effective.



## Description of the system

### 1 Control Unit

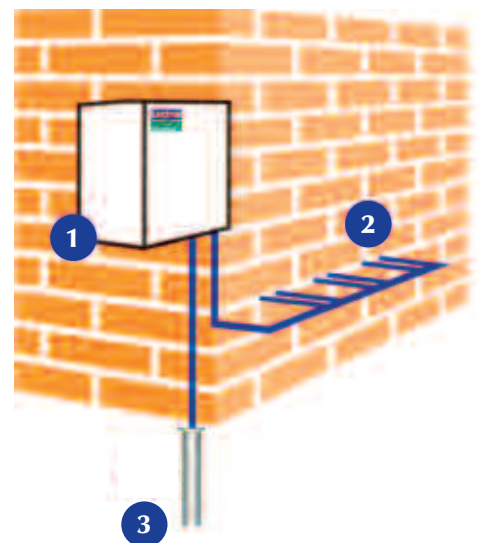
The heart of the system: The robust Lectros power unit is automatically adapted to the degree of dampness in the wall. The electrical voltage remains constant and thus guarantees an optimal drying process which can be easily monitored via our digital diagnostic power supply (optional extra).

### 2 Anodes (the main conductor)

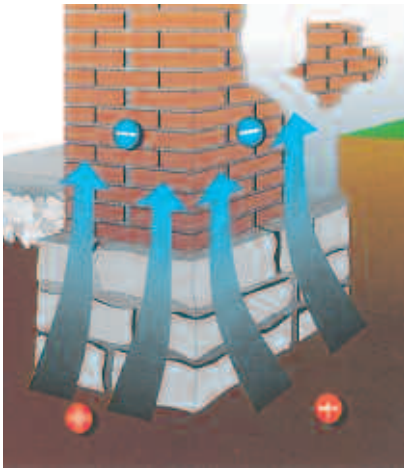
With the extensive use of commercially pure titanium coated with a platinum group element, this ensures outstanding reliability and resistance to physical and chemical attack.

### 3 Earth Rods

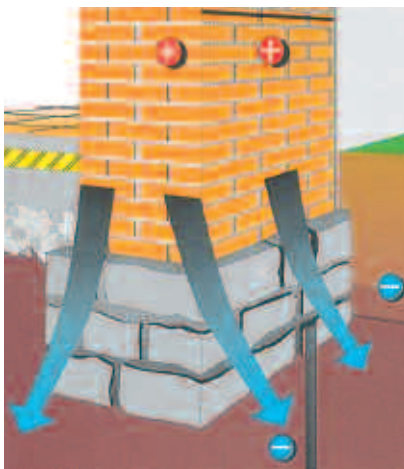
For installation in the ground. The simple handling and special material composition are advantages which can hold up against any comparison.



# electro osmosis - how it works

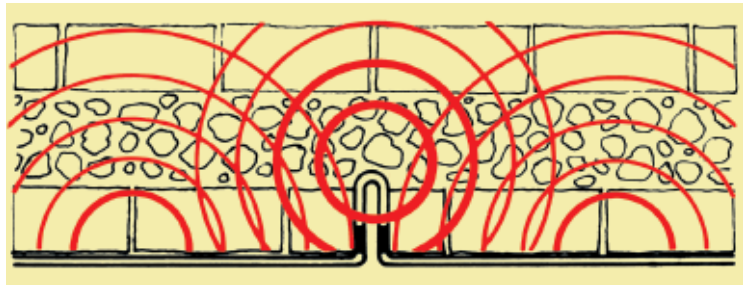


Wall without protection.



Wall after osmotic system has been installed.

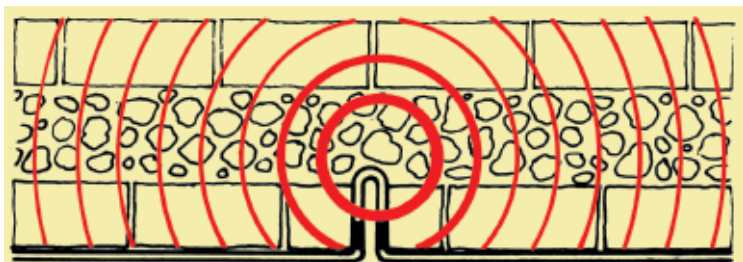
After the titanium damp course has been fitted a small voltage is applied to the titanium via the power unit. Immediately all the titanium wire in contact with the wall and anode sections will conduct electricity. The nett result is equivalent to having one continuously conducting anode so enabling a very rapid build up in wall potential, and rapid drying out times.



Initial switch on conditions. Total electrical conduction.

After a period of time an insoluble film of titanium dioxide will build up at the titanium/wall interface. Once this film has become established there is very little further electrical conduction from the titanium wire. The anodes will naturally continue to conduct so maintaining the wall potential.

To summarise, it can be said that the Lectros system is virtually self-healing - scratch or abuse the titanium and it will quickly form another protective skin.



Normal operation. Only anodes conduct.

# the lectros system

The Lectros Osmotic Damp Proofing System can be analysed using simple electronic equipment. This is a major step forward for architects, specifiers, etc., on all building types whether listed dwellings or commercial property. If fitted with the Lectros Digital Diagnostic Power unit the contractor can at anytime go into the property and analyse how the Lectros osmotic damp proofing system is working. If fitted with a standard power unit the same can be achieved using a multi-meter.

In normal damp proofing situations a destructive examination would be required to determine whether a chemical or mortar system is working correctly.

The Lectros System can be monitored for:-

- a) ***The wall charge (static electricity)***
- b) ***The current into the system***
- c) ***The voltage the system is taking***

All these things can then be printed out onto a graph, and analysed by Lectros International Limited. A hard copy would be available for the householder or architect etc. They would then have a fully documented history on their property, of the effectiveness of the damp proof course.



# electro osmosis the certain cure

## ***What causes the problem?***

Any masonry structure unprotected by a properly installed modern damp course is prone to rising damp.

## ***How can the system stop the rot of rising damp?***

Simply by reversing the process scientifically.

## ***My walls are old and very solidly built - will it still work?***

Expertly installed, the system works in virtually all known types of building structure - whatever their age.

## ***Will it cause an upheaval to install?***

On the contrary, installation is neat and very quick.

## ***Will you be bringing chemicals into my property?***

No! This system is chemical free.

## ***How much does it cost to run?***

About as little as an electric door bell.

## ***How come the connecting wires don't corrode?***

The secret of the system's long trouble-free life is in its extensive use of commercially pure titanium, coated with a platinum group element enabling us to give a 30 year guarantee.



GUARDING YOUR PREMISES AGAINST DAMP

# the lectros story in the beginning



Work carried out by  
Turner Presentations.



Work carried out by Lectros,  
South Africa.



Founded in 1978 by Mr. & Mrs. Gerald Adams, Lectros International Limited has more than 30 years of success in the industry of controlling rising damp, clear proof of the competence of Lectros in the market place.

Our competitors have continued to be envious of our work on some of the most prestigious buildings throughout Europe.

Buildings such as  
H.M. Queen - Crown Properties  
Ripley Castle  
Marketfield Hall  
Broughton House  
Chatsworth Estate  
Manchester University  
The Bishops Palace - Ely Cathedral  
The Presidential Residence, Dublin  
... just to name a few.

Electro Osmosis has found increasing acceptance as an alternative to fluids and physical damp proof courses. When fitted correctly active osmotic systems give observably the fastest results.

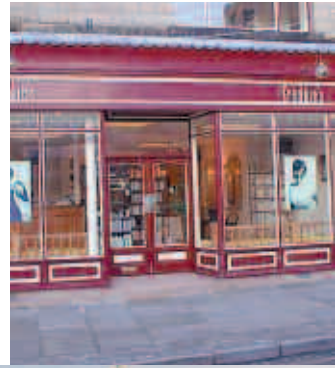
GUARDING YOUR PREMISES AGAINST DAMP





Work carried out by UK Remedial.

# the lectros story so far



The Lectros Osmotic Damp Proofing System has been installed in over 200,000 properties over the last 30 years, again proof of the effectiveness and reliability of the Lectros Osmotic System. Whether it be one-family houses, commercial properties or listed buildings, the Lectros System is the easiest, cleanest and safest system to control the effects of rising damp.



In an ever conscious world striving for greener, safer products, the Lectros System leads the field. The system is chemical free and more importantly COSHH FREE - safe for the environment and no health risks.



Urmston Chapel, Manchester. Work carried out by Protim.

The Lectros patented electrical damp proof system is the safe choice for you, your property and the environment.

The Presidential Residence, Dublin

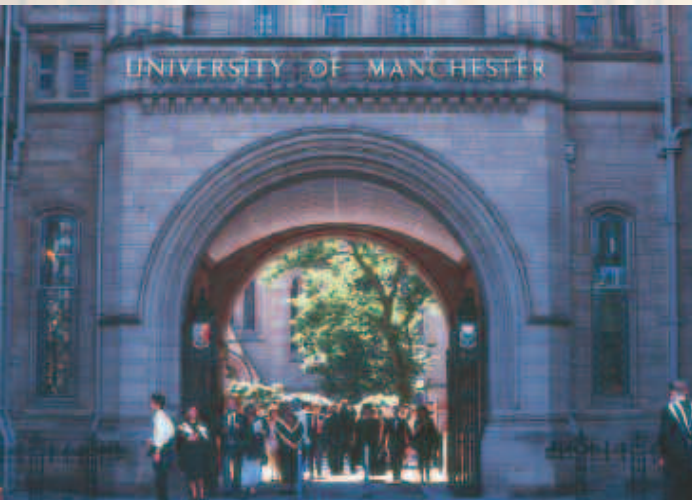


GUARDING YOUR PREMISES AGAINST DAMP

# the lectros story continues

Architects throughout the United Kingdom have no hesitation in specifying the installation of the Lectros Osmotic Damp Proofing System. It is Lectros International Limited's intentions as the innovators of the finest system available to continuously research and, where possible improve on active electro osmotic systems.

*University of Manchester.  
Work carried out by Maysand Ltd.*



Many contracts have been successfully carried out on properties under the supervision of both English Heritage and The National Trust, another indication of the success of the Lectros Osmotic Damp Proofing System.



Many Councils throughout the UK specify the Lectros Osmotic Damp Proofing System. Councils such as Trafford Borough Council, Scunthorpe Borough Council and North East Derbyshire Borough Council, to name just a few.



*Manchester Museum.  
Work carried out by Trafford TDS Ltd.*



GUARDING YOUR PREMISES AGAINST DAMP