



SOVEREIGN SOVEREIGN MOISTURE MASTER



A new state of the art meter capable of measuring the moisture content of various substrates using both pad and pin sensors.

In addition there now is a Relative function that can be used to obtain comparative readings above and below a set datum.

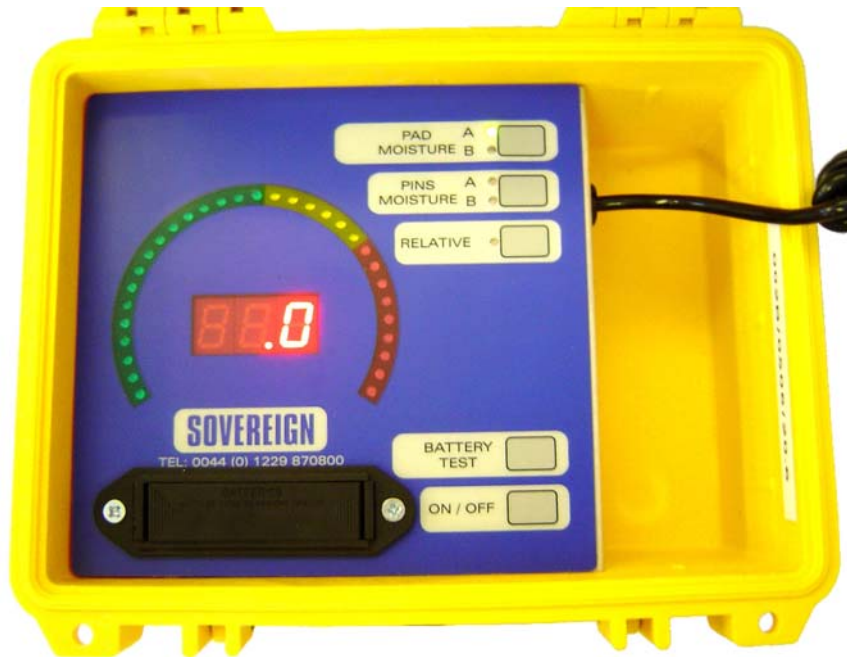
A bright traffic light series of LEDs display instant visual information and below this a numerical readout is available for recording specific readings.

Contained within the security case the unit sensor probe is permanently attached to the meter and there are no other costly auxiliary attachments required that can be mislaid or lost.

The unit is contained inside a high visibility **Peli** security case.



Say...  **SOVEREIGN**
For your Remedial Needs



Select Pad
Range A for fibrous materials
Range B for solid materials

Select Pins
Range A for fibrous materials.
Range B for solids materials

Relative allows the surveyor to establish a datum that can be used for comparative readings above and below the datum.

Displays remaining % power.

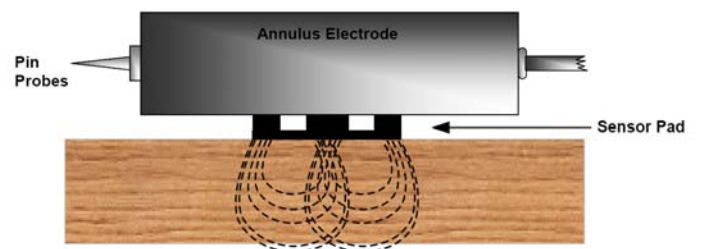
ON/OFF and auto off. (see Technical Specification)
 Low battery warning "Bat"

The Pad Sensor

Using advanced capacitive power-loss techniques the moisture content can then be assessed for various substrates. This is displayed using green, red and yellow LEDs, and also numerically as a % moisture content. An audio signal is also activated in the amber and red zones.

Advantages.

- Non-destructive.
- Large areas can be covered quickly.
- Minimal affect from dissolved salts.
- Variations in electrical properties will be largely averaged out over the field generated by the pad.



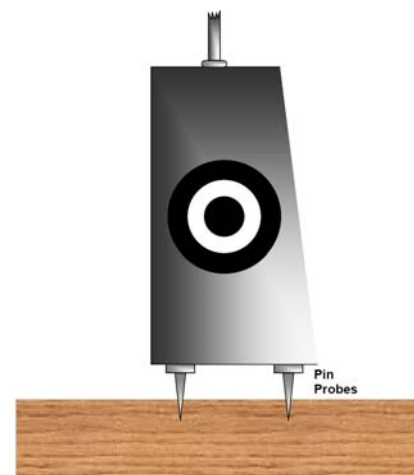
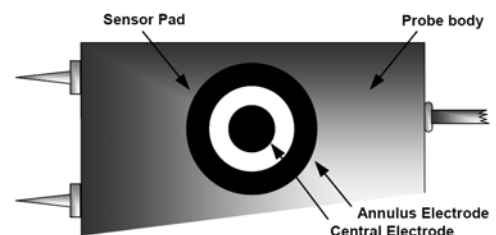
The substrate is penetrated by the electric field emanating from an electrode coupled to a stable low frequency oscillator.

The Pin Sensor.

The pins are pushed into the substrate and measures DC resistance between the pins.

- Can be used in confined spaces.
- Not affected by uneven surfaces.

There may be slight variations in readings because the pad will give an average reading over a large area, whereas pins will give the highest reading in contact with the pins. For this reason the pad sensor is considered more accurate.



User Calibration Check.

Ensure the lid is in the upright position and there is nothing behind the Calibration Check Unit – including fingers!

Pad Sensor. Select **Pad A** and place the pad sensor against Calibration Check annulus ring. Reading should be 17.5 to 18.5 for latest software. (April 2007).

Pin Sensor. Select **Pins A** and place the pins onto the gold coloured pads. Reading should be 23/24.

Using the Relative position.

To obtain a datum hold the sensor in place and select Relative. The readout will automatically return to zero and to the illuminate the last “green” LED. The sensor can then be used in other areas and to produce readings that are either above or below the datum. Lower readings will be in the green sector and higher readings will be amber or red sector. This enables the surveyor to quickly cover large areas taking comparative readings to a known datum.

Audio Alarm On/Off

The audio alarm will activate when the LEDs light in the Amber or Red sectors.

Setting the AudioAlarm.

To switch the alarm on select Pins and hold down for more than 5 seconds and the LEDs will indicate ON

To deselect the Audio Alarm.

To switch off the Alarm select Pins and hold for more than 5 seconds and the LEDs will indicate OFF

TYPICAL APPLICATIONS

Masonry (Brick/Stone/Plaster) using Range B.

For assessing potential **rising damp** preferably use the Pad Sensor on **Range B** as a method of establishing a moisture profile (see back page). Moisture content of less than 5% w/w at the **base** of a wall is considered acceptable. Readings above this level require further investigation to eliminate other causes such as condensation, bridging or penetrating damp.

On **Range B** above 9% the LED display will read **SA+** indicating full-scale deflection and the readings are going towards saturation. Diagrams of various moisture profiles are illustrated overleaf.

Where the moisture profile (see 1. back page) is “**indicative**” of rising damp, then it can be reported as such. Where there is contention as to the cause, a Calcium Carbide (Speedy) meter test can be carried out locally on site giving **total** moisture content, but this will not differentiate between free and hygroscopic moisture. Therefore, when a definitive answer is required the readings should be confirmed by quantitative analysis. Arrangements can be made with the technical department at Sovereign Chemicals to forward samples for gravimetric analysis and technical reports of both free moisture content and hygroscopic moisture content.

Floor Screeds using Range B.

Use the pad sensor on **Range B** to establish the moisture content in floor screeds. The results require careful interpretation, as they are only representative of the site conditions *at the time of survey*. The test procedure in BS 8203:1996 Annex A should be used to confirm a relative humidity of 75% or less before installation of resilient floor coverings. Advice is available from the technical department for concrete bases and sand:cement screeds lacking effective damp proof membranes.

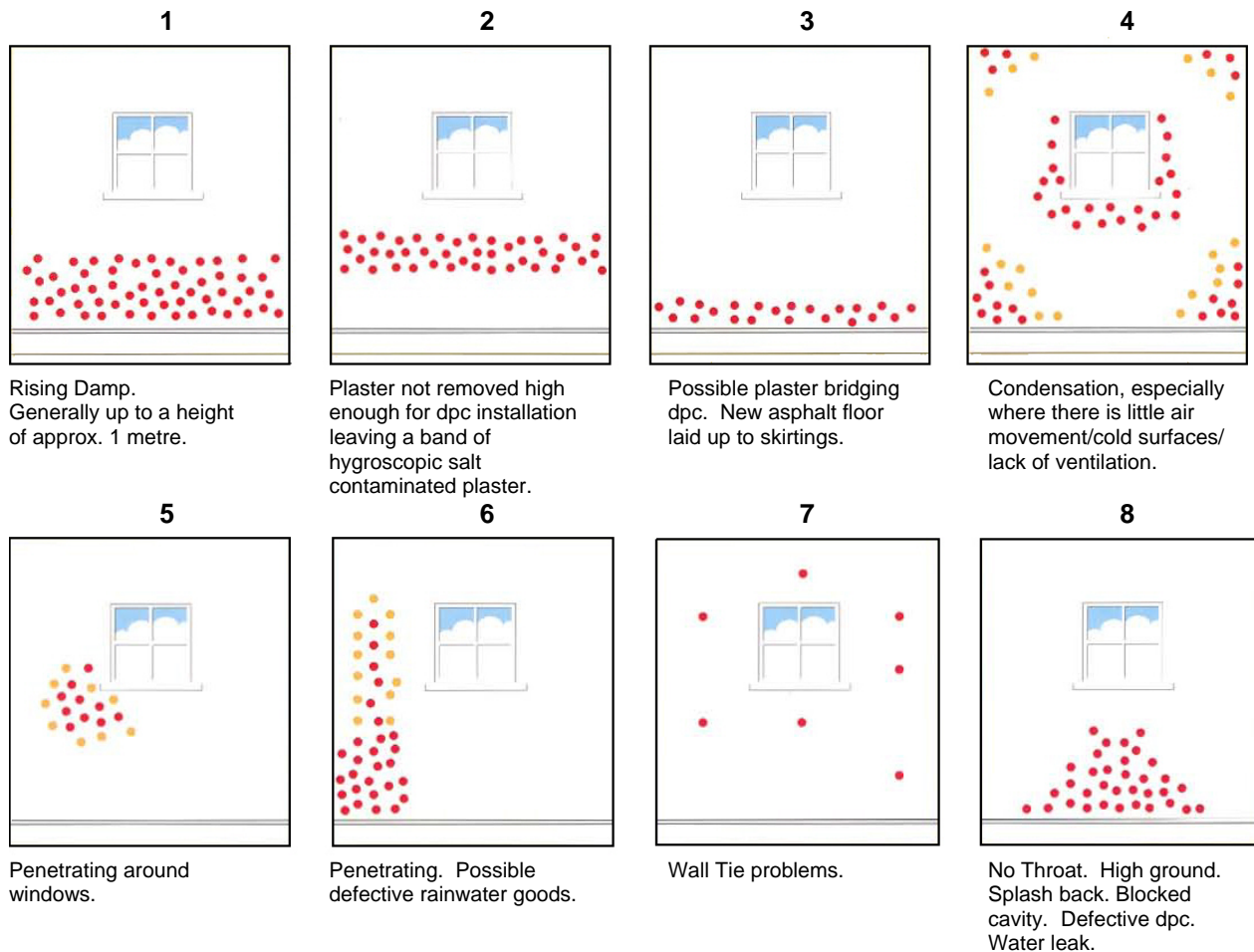
Timber using Range A.

Use either the Pad Sensor or the Pin Sensor on **Range A** to establish the moisture content. However, the Pad Sensor will provide a better *average* reading, especially at the lower and higher ends of the coverage, or where the pins have difficulty in penetrating hard timber species. Fungal attack cannot occur in timber with moisture content below 20% w/w, therefore where the moisture is above acceptable levels measures should be taken to promote drying out. If drying out is expected to take more than 8 weeks, precautionary chemical treatment may be considered.

On **Range A** above 30% the LED display will read **SA+** indicating full scale deflection and the readings are going towards saturation.

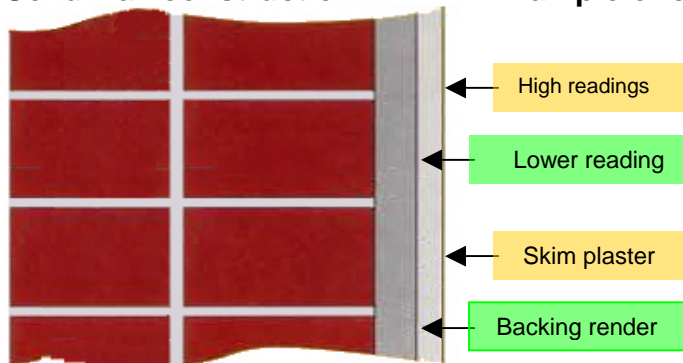
Contact the Sovereign Technical Advice Line, 0845 603 0722, for information on timber treatments.

Moisture Profiles



Solid wall construction

Example of condensation



With surface condensation the moisture content will reduce as testing moves towards the fabric of the building (unless there is another source of dampness). The surface temperature can be checked in potential cold spots and automatically compared against dew point.

Condensation problems can be drastically reduced or completely resolved by installing a Sovereign ConCure 20/20 unit in the loft space.

Technical specification.

Range A (Pins and Pad): Timber: From 1% to 30% (beyond is to fibre saturation - **SAt**).

Range B (Pins and Pad): Concrete, brick, plaster: From 1-8% (beyond is towards saturation - **SAt**).

Assessments should be made at temperatures above +5° C. Spurious readings may occur below 4° C as moisture becomes denser.

Display: LED Traffic light –green, amber, red and digital readout. **Size and weight** 235 x 115 x 190mm, 1.2 Kg.

Batteries Use 4 AA 1.5V. Operating temperature range: -10 to +45°C.

Auto OFF: 1. Both **Pins** and **Pad** after 5 minutes.

Calibration: For calibration checks see second page. Calibration point is dependant upon Software used.

: Contact Tech Dept for previous calibration figures.

: Contact the technical department if units are outside these readings.

Dated Apl 2007: Technical specification may change without notice as new developments are incorporated.