

Specification

Display: LCD

Meter Measurement Range:

Wood: 6 ~ 42%

Hard Material: 0.2 ~ 2.0%

Temperature: 0 ~ 40°C, or 32 ~ 99°F

Resolution:

Wood: 1%

Material: 0.1%

Temperature: 1°C/2°F

Accuracy:

Wood: reading < 30% : ±2%
reading ≥ 30% : ±4%

Hard Material: reading < 1.4% : ±0.1%
reading ≥ 1.4% : ±0.2%

Temperature: Not specified

OL = Out of Limits



Introduction

Testing for dampness using a conductivity 'pin' type meter is intended to allow the user to compare readings in order to interpret the pattern and deduce the likely cause(s).

Do not use the meter to justify expensive building works without consulting a qualified expert as high conductivity readings can be caused by 'salts', foil backed plasterboard, aluminium paints etc.

Visual Clues

Make a plan of the walls and any related area you are intending to test, inspect them looking for the following symptoms then mark them on your plan.

- Water stains, discoloured paint, paper.
- White crunchy salts on the surface, paint being pushing off or mould on the wallpaper.
- Black or green tide mark, often a wavy line along the wall (note the height) at low level.

- Loose crumbly plaster, or hollow sound when tapped with the knuckles.
- Skirting board creasing, inward or outward or splitting into cubes.
- Is the plaster right down to the floor ('bridging' the DPC) - tap the skirting boards with your knuckles, they should sound hollow at the base.
- Soft, sagging, bouncy or rotting floor boards (check air bricks – size and number)
- Insect holes (measure the diameter, use a magnifier)
- Chimney breast stains (which floor, any ventilation?)
- Solid floor damp - check the wall to floor joint at the edges.
- Water leaks from kitchen or bathroom fixtures or machines.
- Leaking gutters, downpipes, drains. Defective pointing or flashing.
- High external ground levels relative to DPC.

How to Take Readings WALLS



Testing

1. Press the meters pins lightly on the surface of the walls and note readings. Take readings in damp affected areas every 100mm (4") up and across the wall to establish the extent of the problem.
2. In the areas of highest readings try to push the pins further into the wall. Are these readings higher, is the plaster soft or hard or too hard to penetrate?
3. Take readings from an unaffected area in the same room to see how much of the reading is 'normal' for that building at that time of year. A steady, low background reading in an old building does not necessarily indicate a problem.

Analysis

1. Rising dampness is generally indicated by readings which start in the skirting board and continue to between 150mm (6") and 500mm (20 ") up the wall, with a sharp cut off, from high reading (say 2%) to zero over the space of 50mm (2") or less.
2. Penetrating dampness can occur at any height from the ground, look for external defects and high readings around the defect, gradually declining away from the affected area. Typically caused by poor mortar joints ('pointing'), leaking gutters, blocked drains, downpipes or overflow pipes, pipes or wires penetrating the wall, plants or creepers attached to the wall, gate posts, abutting garden walls and faulty hollow render.
3. Condensation is usually indicated by mould, generally black or green in colour with low meter readings spread evenly across the wall.
4. Cold spots can give rings or patches of mould, these are often caused by isolated small outside defects in solid walls or by dirty wall ties or gaps in cavity insulation in cavity walls.
5. Chimney breast staining, sometimes spread into adjacent alcoves, is caused by 'salts', resins and chemicals being slowly washed through the walls as the result of moisture in the chimney. The moisture can come from open pots, poor flashings, poor chimney stack pointing, leaking back boilers or condensation. Condensation in chimney voids can be caused by lack of ventilation in the flues, breasts or in covered pots.

FLOORS



Timber

1. Check timber floors and skirting boards with the meter and read the timber scale. Check the air bricks, size, position (above ground?) and number.
2. Any readings over 12% are a cause for concern: above 18% timber is vulnerable to decay by wood rotting fungi.
3. If necessary take readings through the carpet and underlay.
4. Jump up and down to assess the stability of the floor.
5. Look for insect holes – insects prefer damp timber.

Solid

1. Check solid floors and skirting boards with the meter and read the timber and masonry scales. Check the edge of the floors, where they join the walls. This joint is often damp due to poor finishing.
2. Any readings over 1.5% in a solid floor are a cause for concern, there may not be a waterproof membrane beneath the concrete or the surface screed or there may be a water leak.
3. If necessary an overnight test can be carried out by sticking down a patch of clear plastic sheeting with insulation tape, moisture under the plastic sheet the next day indicates a damp problem.

4. Water leaks are very common in kitchens and bathrooms and can spread through concrete and screeds up the walls, giving rising damp symptoms.
5. Check the outside ground level, which should be below the inside floor level. The damp proof course should be a minimum 150mm (6") above outside ground level.

Summary

- Draw a sketch of the area and walls
- Take lots of readings
- Note the readings
- Look for the pattern

During your tests look for any obvious causes of damp such as the following;

Internally: Water leaks from kitchen or bathroom fixtures or machines.

Externally: Leaking gutters, downpipes or drains. Defective pointing or flashing. High external ground levels relative to or above the damp proof course. Blocked air bricks.

If your readings indicate that you have a serious damp problem that you are unable to pinpoint and rectify by simple means you should have your property checked by an 'expert' and correct the issue accordingly.