Associated Calibration & Training Ltd

Moisture Meter Guide

ETI manufactures a range of portable, pin-type (resistance) moisture meters for both the professional and the craftsman. Pin-type moisture meters are acknowledged as a reliable way to obtain percentage moisture readings in a wide range of building materials. The relationship between moisture content and electrical resistance provides consistent and accurate results over the range of 4% to the fibre saturation point, which is approximately 30%, dependant on the material.

WME - wood moisture equivalent

ETI moisture meters are calibrated for wood but are also suitable for measuring other building materials. When testing wood, the instruments measure the actual percentage moisture content. However, when testing other building materials, the instrument measures the WME value of the material. The WME is the moisture level that would be attained by a piece of wood in equilibrium with the material being tested. As the critical moisture levels for wood are known, the WME measurements enable the moisture meter user to establish if materials are in a dry, borderline or damp condition.

Building materials

Some moisture is unavoidable and may even be necessary in certain building materials, but too much can cause mould, decay and other problems. ETI moisture meters are cost effective instruments that can easily determine moisture levels - allowing the user to diagnose problems and make informed decisions with regard to remedial actions.

Problems in measuring moisture

The main problems arise from the 'structure' of the material being tested, in particular, the presence of other conductive material that can effect the reading. Therefore when measuring the moisture content of a material it is important to appreciate a number of factors:

- surrounding environment
- density of the material
- grain size or direction
- ability of a material to absorb moisture

Why measure moisture in floors & walls?

Many flooring materials use water-based adhesives, which are more likely to fail today than the older, traditional, solvent-based adhesives. Moisture can cause laminates to fail, tiles to lift and hardwood floors to warp or split. A newly poured concrete floor slab is usually the slowest-drying element of a building. Therefore it is important to measure the moisture content accurately to ensure a successful floor.

Measuring the moisture content of walls is a traditional method for locating damp and other related problems, i.e. damaged pipework, breached damp-proof courses etc. It is important to ascertain the cause of the dampness, i.e. rising damp, penetrating damp or condensation before any remedial action is undertaken.