VERUS CHECKBOX II

Instructions for calibrating wood moisture meters

Instructions for use with Protimeter Mini, Timbermaster and Surveymaster and other resistance type moisture meters with 12 or 25mm pin spacing.

PRINCIPLE OF OPERATION

The VERUS Model II Checkbox electronically simulates specimens of timber at 3 different moisture contents for the European redwood species group so that meters can be tested (calibrated) for accuracy. The electronic principle used in VERUS calibrators has far greater accuracy than attempting to maintain wood specimens at specific moisture content in order to calibrate a meter, which was a system used in the past.

NOTES ON SPECIES

Resistance type meters such as Protimeter Mini and Timbermaster, measure various species according to their electrical resistance characteristics. Where similar characteristics occur, these are grouped for convenience, eg. species group A, B, C, etc. The VERUS Model II Checkbox is set at group A - European redwood (pinus sylvestris) as used by the Protimeter Mini.

CHECK CALIBRATION OF MOISTURE METERS AS FOLLOWS

Meters are affected by extremes of heat or cold, so, to ensure accurate calibration, meters should have been at room temperature for at least an hour before being calibrated with the Checkbox. The effects of temperature on VERUS Calibrators are negligible compared with the considerable effects of high and low temperatures on wood.

When using the Standard Hand Probe take readings across 2 sockets horizontally (25mm pin spacing) or when using the built in pins in the meter take readings vertically (12mm pin spacing). *At no time is pressure needed to obtain a reading*, if pressure is needed, it is likely that the probe pins are corroded, replace or clean with emery cloth.

At each reading observe the display for several seconds to detect any slight change in reading. Steady readings are obtained if the meter, lead and probe are operating correctly. If readings are within ± 0.3% with digital displays (1% on LED displays) of the percentage marked on the Calibrator, then the meter is satisfactory. The difference

between the meter reading and the value printed on the calibrator is the percentage error, no additional calculations are necessary. If fluctuation or excessive errors occur, refer to the 'Fault Diagnosis' section later in these instructions.

TEMPERATURE EFFECTS

It is important to ensure that wood specimens are at approximately 17 to 23°C if readings are to be meaningful. If the temperature of the *wood* deviates substantially from this range the meter reading can be corrected by adding 1% to scale reading for every drop of 10°C (and vice versa). Any adverse effects of temperature on *moisture meters themselves* will immediately be demonstrated by deviation from the Calibrator's marked values.

ACCURACY	
Calibrator accuracy	Better than ± 0.2% over a 14-27% range
Effect of temperature:	Less than 100 ppm/°C
VERUS standards	All models calibrated against traceable references to UKAS accredited electrical calibration laboratory certificate.

MOISTURE METER FAULT DIAGNOSIS	
Symptom	**Reason/Remedy**
Reading creeps very slowly towards low end of scale.	Replace meter battery
Sudden fluctuations in readings associated with movement of operator's hands	Continuity fault in lead, probe, or connecting socket. Reconnect, or replace component if this is unsuccessful
Reading 'flips' between one reading	True value falls between two readings on LED

and the adjacent one	meters, no remedy, no fault

For any additional query, contact VERUS quoting the Checkbox serial number and the make and model of your moisture meter.

VERUS offers a calibration service for both moisture meters and Checkboxes. The certificates supplied with each calibration meets requirements of UKAS, ISO 9000, and other quality schemes.

VERUS INSTRUMENTS LTD

mail@verus.co.uk
www.verus.co.uk

JH/JW/03/14