

WOOD MOISTURE TESTER WITH TEMPERATURE COMPENSATION

LI9050

MANUAL

1 SAFETY PRECAUTIONS

- Not suitable to be put in the sun or in the high light
- Avoid using it in over-high or over-low temperature environment
- Avoid humidity

2 PRODUCT DESCRIPTION

This instrument is a conductivity moisture meter specifically designed for the timber industry. The instrument has eight calibration scales, enabling the user to take accurate moisture measurements in 150 wood species. Moisture measurements can be taken using the integral pin electrodes, or using the heavy duty moisture probe. When used with the temperature probe, the moisture measurements are automatically corrected with respect to temperature.

**3 PREPARATIONS**

This instrument is switched on by pressing "⏻" momentarily and switched off by pressing "⏻" and holding for 3 seconds or more. The instrument will switch off automatically after 5 minutes, the default automatically switch off time can be setting range 1 to 9 minutes (see Set-up automatically switch-off time).

4 PERFORM A MEASUREMENT**Measuring Instruction**

Remove the cap to expose the needle electrodes OR Connect the heavy duty moisture probe socket on the right hand side of this instrument and switch-on by pressing "⏻".

Select the appropriate wood calibration scale (A, B, C, E, F, G, H or J) by referring to the enclosed wood calibration table and pressing "▶".

Push the needle pins or the heavy duty moisture probe pins into the wood and observe the reading.

Use without the Temperature Probe

The instrument is calibrated for wood at 20°C (68°F). In general, timber that is warmer than 20°C will give higher readings and timber colder than 20°C will give lower readings. An approximate manual correction of 0.5% moisture content per 5°C may be subtracted from timber that is above 20°C. For timber that is below 20°C, a manual correction of 0.5% moisture content per 5°C may be added to the measured value.

5 AUTOMATICALLY TEMPERATURE CORRECTION (ATC)

Switch the instrument on and select the appropriate wood calibration scale as detailed in the measuring instruction.

Using a hammer and nail of nominal 3 mm diameter, make a hole in the wood to be tested.

Remove the nail and push the Temperature Probe into the hole until the tip is at the required depth.

Connect the Temperature Probe into the instrument via the "Temp" socket. Then using this instrument to measure timber can obtain the automatically temperature corrected (ATC) moisture value. If you need to read the current temperature of timber press "T" button, the LCD will display the temperature.

Press "T" button. The LCD will display the other °C or °F temperature.

Pressing "▶" button the LCD displays moisture value again. (Temperature Range: -35°C ~ 80°C).

6 SET-UP AUTOMATICALLY SWITCH-OFF TIME

Pressing "⏻" + "▶" buttons at the same time can change the default automatically switch-off time.

Depress the "⏻" button, don't release and press the "▶" button will change automatically switch-off time from 1 to 9 minutes; 0 disables automatic switch-off.

7 CALIBRATIONS

There are two checked calibrations in the cap of the instrument.

Use the needle to touch the two poles of calibration.

When checking the calibration, the A scale should be selected and the temperature probe must be disconnected.

Correctly calibrated the instrument will register %H2O values in the range 17.7 to 18.5 (at the "T" calibration) and in the range 25.5 to 26.5 (at "B" calibration). (If the tolerance is above +/-1 the instrument can't accurately measure the moisture of timber. In this case open the back cover, to adjust the rheostat and make its tolerance meet the range.)



8 CALIBRATION TABLES FOR WOOD

NOTES:

The calibration data in this table are based on standard tests by oven-drying of commercial samples of the various wood species, between 7% and fibre saturation. Above fibre saturation point (25%-30%) readings are approximate only and generally apply to wood that has dried and been re-wetted.

The instrument is calibrated for wood at 20°C (68°F). If the temperature of wood varies by more than 5°C, the meter reading can be corrected approximately by adding 1/2% for every 5°C below 20°C or subtracting 1/2% for every 5°C above 20°C.

Readings higher by 1%-2% may be obtained where wood has been impregnated with a water-borne preservative.

High readings obtain with some ply-woods of peculiar composition must be treated with caution.

Building material measuring: selected scale A and measure building material, referring the following table can obtain the building material moisture value.

Std Scale A	Build	Species Group							Chip-board
		B	C	E	F	G	H	J	
%H2O									
6	3								
7	4.8	9.2	9.4	8.6	6.8	6.7	11.0	10.1	
8	7.0	10.0	10.3	9.3	7.4	7.4	11.5	11.0	
9	8.7	10.8	10.9	9.7	7.9	8.1	12.1	11.6	8.5
10	10.5	11.7	11.5	10.4	8.6	8.8	12.7	12.2	9.4
11	12.2	12.7	12.6	11.3	9.5	9.7	13.4	13.4	10.5
12	13.3	13.6	13.7	12.1	10.5	10.5	14.0	14.3	11.5
13	14.8	14.5	14.5	12.7	11.2	11.2	14.5	15.1	12.5
14	16.2	15.3	15.5	13.4	11.8	11.8	15.0	16.0	13.5
15	16.6	16.3	16.7	14.1	12.5	12.6	15.6	17.0	14.4
16	17.2	16.9	17.5	14.8	13.0	13.2	16.0	17.7	14.9
17	18.8	17.7	18.8	15.7	14.3	13.9	16.6	18.5	15.3
18	19.6	18.2	19.7	16.3	15.0	14.5	17.0	19.1	16.1
19	20.2	19.0	21.0	16.9	15.9	15.2	17.6	20.0	16.7
20	20.6	20.0	22.6	17.8	16.9	16.1	18.4	21.3	17.2
21	20.9	20.8	23.5	18.5	17.6	16.8	19.1	22.3	18.3
22	21.5	21.5	24.5	19.3	18.3	17.4	19.7	23.2	19.1
23	22.1	22.9	26.4	20.2	19.8	18.6	21.2	24.5	19.9
24	22.7	23.5	27.4	20.8	20.4	19.0	22.0	25.8	20.5
25	23.2	24.2	27.8	21.2	21.0	19.4	22.7	26.3	23
26	23.6	25.3	29.0	22.4	22.3	20.1	23.9	27.3	
27	24.0	26.6	30.0	23.3	23.5	20.8	24.9	28.2	
28	24.2	27.9	31.2	24.2	24.6	21.6	25.7	29.2	
29	24.4	29.3	32.5	25.6	26.0	22.9	26.9	30.2	
30	24.6	30.8	33.7	26.8	27.5	24.1	28.2	31.1	
32	25.0								
37	25.8								
39	26.1								
40	27.2								
46.5	33.0								

Timber species group table: Common names of timber as BS888 & 589:1973

Abura.....	E	Chestnut	C	Mahogany, WestIndian	B	Pine, Ponderosa	C
Afara.....	A	Coachwood.....	G	Makore	B	Pine, Radiata	C
Aformosa.....	G	Cordia, American Light	F	Mansoia.....	B	Pine, Red	B
Afzelia.....	E	Cypress, E African.....	A	Maple, Pacific.....	A	Pine, Scots.....	A
Agba	J	Cypress, Japanese		Maple, Queensland.....	B	Pine, Sugar	C
Amboyna	G	(8-18%mc)	J	Maple, Rock	A	Pine, Yellow.....	A
Ash, American.....	B	Cypress, Japanese		Maple, Sugar.....	A	Poplar, Black.....	A
Ash, European.....	A	(18-28%mc)	C	Matai.....	E	Pterygota,African	A
Ash, Japanese.....	A	Dahoma	A	Meranti, Red (dark/light).....	B	Pyinkado	E
Ayan	C	Danta	C	Meranti, VWhite.....	B	Queensland Kauri	J
Baguacu, Brazilian	F	Douglas Fir	B	Merbau	B	Queensland Walnut.....	C
Balsa	A	Elm, Japanese Grey Bark.....	B	Missanda	C	Ramin	G
Banga Wang.....	A	Elm, English.....	E	Muhuhi.....	J	Redwood, Baltic (European).....	A
Basswood.....	G	Elm, Rock	E	Muninga.....	G	Redwood, Californian	B
Beech, European	C	Elm, White	E	Musine	J	Rosewood, Indian.....	A
Berlina	B	Empress, Tree	J	Musizi	J	Rubberwood	H
Binvang	E	Erimado	F	Myrtle, Tasmanian.....	A	Santa Maria	H
Birch, European.....	J	Fir, Douglas	B	Naingon	C	Sapele.....	C
Birch, Yellow.....	A	Fir, Grand.....	A	Oak, American Red.....	A	Sen	A
Abura.....	E	Fir, Noble	J	Oak, American VWhite.....	A	Seraya, Red.....	C
Afara.....	A	Gegu, Nohor	H	Oak, European	A	Silky Oak, African.....	C
Aformosa.....	G	Greenheart.....	C	Oak, Japanese	A	Silky Oak, Australian	C
Afzelia.....	E	Guarea, Black	J	Oak, Tasmanian.....	C	Spruce, Japanese	
Agba.....	J	Guarea, White.....	H	Oak, Turkey.....	E	(8-18%mc)	J
Amboyna	G	Gum, American Red	A	Obeche.....	G	Spruce, Japanese	
Ash, American.....	B	Gum, Saligna	B	Odoko.....	E	(18-28%mc)	C
Ash, European.....	A	Gum, Southern.....	B	Okwen	B	Spruce, Norway (European) ..	C
Ash, Japanese.....	A	Gum, Spotted.....	A	Olive, E African	B	Spruce, Sitka	C
Ayan	C	Gurjun	A	Olivillo.....	G	Stringybark, Messmate	C
Baguacu, Brazilian	F	Hemlock, Western	C	Opepe.....	H	Stringybark, Yellow	C
Balsa	A	Hiba	J	Padang.....	A	Sterculia, Brown.....	A
Banga Wang.....	A	Hickory.....	F	Padauk, African.....	F	Sycamore.....	F
Basswood	G	Hyedunani.....	B	PangaPanga	A	Tallowwood.....	A
Beech, European	C	Iroko.....	F	Persimmon	G	Teak.....	F
Berlina	B	Ironbank	B	Pillarwood.....	F	Totara	E
Binvang	E	Jarrah	C	Pine, American long leaf	C	Turpentine.....	C
Birch, European.....	J	Jelutong	C	Pine, American pitch	C	Utile.....	J
Birch, Yellow.....	A	Karpur	A	Pine, Bunya	B	Walnut, African	J
Bisselon.....	E	Karri	A	Pine, Caribbean Pitch	C	Walnut, American	A
Bitterwood	F	Kauri, New Zealand	E	Pine, Corsican.....	C	Walnut, European.....	C
Blackbutt.....	C	Kauri, Queensland.....	J	Pine, Hoop	C	Walnut, New Guinea	B
Bosquiea	A	Keruing	F	Pine, Huon	B	Walnut, Queensland	C
Boxwood, Maracaibo.....	A	Kuroka	A	Pine, Japanese Black.....	B	Wawa	G
Camphorwood, E African	C	Larch, European	C	Pine, Kauri.....	E	Wandoo	J
Canarium, African	B	Larch, Japanese	C	Pine, Lodgepole	A	Whitewood	C
Cedar, Japanese.....	B	Larch, Western	F	Pine, Maritime	B	Yew	C
Cedar, West Indian.....	J	Lime	E	Pine, New Zealand White.....	B		
Cedar, Western Red	C	Loliondo	C	Pine, Nicaraguan Pitch.....	C		
Cherry, European.....	J	Mahogany, African.....	J	Pine, Parana	B		

9 MAINTENANCE

- When the instrument is not in use, keep it in its pouch together with its accessories.
- Store the kit in a stable, dust-free environment out of direct sunlight.
- Remove the batteries from the instrument if it is to be stored for periods of more than one month, or when the low battery power symbol appears in the display.

- Check the condition of accessories used with the instrument on a regular basis and replace them if they become worn or damaged.

10 DISCLAIMER

The right of technical modifications is reserved.

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