MODEL V

Operation and Calibration Instructions

Part No. MRC000338

Moisture Register Products
A Div. of Aqua Measure Instrument Co.

1712 Earhart Ct.
La Verne, CA 91750
Tel: +1 (909) 392 5833
Fax: +1 (909) 392 5838
E-mail: sales@aquameasure.com
www.MoistureRegisterProducts.com

Model V

Operating Instructions
And
Calibration Charts

REV	E.O.	DESCRIPTION	PART NUMBER	DATE
A	31673	MANUAL	MRC000338	9-96

TABLE OF CONTENTS

Operating Instructions

The electrode of the Model V is placed directly beneath the handle. The adjustment knob on the panel adjusts the meter pointer to “0” and compensates for battery voltage. The pointer knob on the panel is for the built-in electrical reference standard and must be in the “OUT” position for moisture testing.

1. **Turn On:** By pressing the switch bar in the handle.

2. **Adjust Zero:** By turning the adjustment knob to bring the meter pointer exactly to the “0” line. Hold electrode at least 3” away from any object. Pointer position should be checked before each test or series of tests.

3. **Measure Sample:** Press the electrode firmly against the veneer to be tested, while holding the switch button “ON”. Make sure the entire electrode is in contact with the sample. Rock instrument slightly to obtain dial readings. Apply constant pressure in order to obtain reproducible readings.

4. **Read the Dial:** The meter is equipped with an arbitrary numerical scale of 50 equal divisions. THIS IS NOT A MOISTURE CONTENT SCALE. The dial reading will increase as the moisture content in the veneer increases. Refer the dial reading to a calibration chart or curve for the veneer being tested. If your dial is equipped with two scales, the upper scale will read percent moisture content for a specific veneer.

Use of Reference Standard and Trimmer

This instrument has a built in electrical reference standard to check the calibration setting of the circuit and a trimmer to make corrections when necessary. The instrument should be checked on the STANDARD approximately once a week.

The STANDARD is inserted into the circuit by the standard switch. The TRIMMER is located on the side of the instrument case and is exposed when the “TRIMMER ADJUSTMENT” plate is swung aside.

1. **Test the Standard:** With the pointer knob in “OUT” (left) position, zero instrument in normal manner. Rotate switch to “IN” (right) position. The meter pointer should read within the red circle marked on the meter scale. If too high or too low, the TRIMMER should be adjusted.

2. **Adjust Trimmer:** If the standard reading was too high, rotate the TRIMMER very slightly to the left. If too low, rotate to the right. Rotate standard switch “OUT” and readjust the meter pointer to “0”

3. **Test Standard Again:** Repeat these procedures until the correct reading is obtained. This TRIMMER will compensate for minor variations in the circuit over a period of time, but cannot correct for worn out batteries, etc. If the meter can be zeroed but the STANDARD reading cannot be adjusted properly, the instrument should be returned to the factory for service.

Care and Maintenance of Instrument

Keep instrument in carrying case when not in use. Keep electrode clean by using an alcohol type solvent. Dirty electrode contacts may cause low readings. The meter pointer should rest exactly over “0” to the extreme left of the dial when switch is “OFF”. If pointer has been moved, reset pointer by slowly turning the screw located at the base of the pointer on the face of the meter case.

Battery Recharging

Your Tan – LVB moisture meter has been fitted with a Nickel Metal Hydride replacement battery to provide you with better battery life and longer instrument operation.

This battery is designed to allow trickle charging as well as long term charging. When you first receive the instrument it is recommended that you charge it for a minimum of 24 hours or longer. You can charge it over a weekend to accomplish this.

For those applications where the instrument is used 24 hours per day, simply plug it in to charge it at times when it is not being used. This type of battery should not be periodically completely discharged.

Repairs

The construction of your Model V is as rugged as possible. However, like all electronic equipment, it should be kept clean and receive careful handling at all times. It should be serviced periodically. We urge you not to attempt any repairs on this instrument. Our factory is the only place equipped to properly repair and service your instrument. We suggest that you send your instrument to us for low-cost servicing. The factory does not pay shipping charges for instruments sent to us for repair.

Static

This instrument is completely transistorized. Transistors are affected by static electricity and may be damaged if subject to a static charge. As this instrument is designed for use on stationary veneer, you probably will not encounter static except on hot, low humidity days. If testing under these conditions, do not slide the electrode along the
veneer as this might create a static charge. Instead, lift the instrument from veneer after each test and place the instrument down on sample for next test. Guarantee does not apply on Transistors damaged by a static charge.

Guarantee

Your Model V is guaranteed against mechanical and electrical defects for a period of six months from date of purchase. All workmanship and parts, except batteries, are covered by this guarantee. Any damage to the instrument, due to accident, neglect, or misuse is not covered. Instruments qualifying for service under this guarantee will be repaired at no expense, except for shipping charges. This guarantee is invalid if anyone other than the factory attempts repairs or takes the instrument apart, except to replace the batteries.

Hints on Veneer Testing

Temperature: The calibrations are based on veneer having a temperature of 80 degrees Fahrenheit. No correction factors are required for veneers between 50 and 110 degrees F. Higher temperatures than 110 degrees will slightly raise readings, lower than 50 degrees will slightly reduce dial readings.

Penetration: Model “V” has a penetration depth of 1/8” into the sample. Thinner veneers should be stacked to at least 1/8” in order to utilize the calibration charts.

Thin Veneers: If it is absolutely necessary to test samples less than 1/8” in thickness, place a piece of 1/2” or thicker Styrofoam plate underneath the samples during test. The Styrofoam serves as a neutral base and prevents the high frequency current from passing down through the sample and picking up the moisture content of the

backing material. As the thickness of sample in the first 1/8" of field increases, the reading will also increase. Hence, separate charts must be run for each variation in thickness to be tested.

NOTE THE THICKNESS CONVERSION CHART LOCATED AT THE BACK OF THIS BOOKLET: The Conversion Chart will enable you to read out Moisture Percentages for Veneers less than 1/8" in thickness without having to prepare calibration charts for those thicknesses. We have provided instructions for the use of the Thickness Conversion Chart.

How to Use the Calibration Charts

Each calibration chart page contains data for 4 kinds of veneer. The first column is for numerical dial readings as obtained on the meter dial. The other columns are actual moisture contents for the veneer listed at the top of each column.

In the proper column for the veneer being tested, locate the figure which is across from the numerical dial reading obtained in the test. The figure is "Percent Moisture Content by Dry Weight".

How to Make a Calibration Chart

1. **Select Samples:** Select about ten samples of the veneer to be calibrated. Samples should be cut 3" square by 1/8" thick. Having samples of various moisture contents will save considerable time. Otherwise the samples should either be exposed to different humidity, wetted or dried until they have reached different moistures. Time should be allowed for them to stabilize before further testing.

2. **Read – Weigh Samples:** After samples have been stabilized, record the readings for all samples on all ranges. Carefully weigh all samples and record the weight as "Wet Weight".

3. **Dry Samples:** Place the samples in a drying oven and dry at 105 degrees C. until there is no further loss in weight.

4. **Read – Weigh Samples:** Record bone dry readings on all samples and ranges. Weigh each sample, record the weights as "Dry Weight".

5. **Compute Moistures:** Compute the moisture percentages using formula:

   $$\frac{\text{WET WEIGHT – DRY WEIGHT X 100}}{\text{DRY WEIGHT BY DRY WEIGHT}} = \%\ \text{MOISTURE}$$

6. **Chart the Readings:** The instrument dial readings and the moisture percentages are now plotted on a graph sheet and an average curve drawn though the points. Select the best range. From the curve, prepare a chart showing dial readings versus moisture contents and copy this new chart on one of the blank pages in the back of this book.
   If you do not have the laboratory facilities for preparing a new calibration chart, the factory will make one if you will supply several square feet of samples. Contact the factory for price and delivery.

Appendix 1

Species of Veneer

Alder
Basswood
Birch
Cativo
Cedar, Borneo
Cedar Shingles
Cherry
Cottonwood, Heart
Cottonwood, Sap
Elm
Fir, Douglas
Fir, White
Gum, Black
Gum, Red
Gum, Sweet
Htrimo
Kahikatea
Larch, Western
Limba
Luan ½”
Luan 3/16” & 3/8”
Mahogany, African
Mahogany
Maple
Matai
Meranti, White
Meranti, Tembaga
Mersawa
Mengkulang
Oak, 1/16”
Oak, Red, White
Obuchie
Okuome
Pecan
Pine
Pine, Southern
Poplar, 1/8”
Poplar, Yellow
Rosewood, Brazilian
Saprimo

Spruce
Spruce, Engle Man
Spruce, Sitka
Sycamore
V.G. Redwood
Walnut
Walnut, 1/16”
White Ash

Appendix 2
Calibration Charts

Dial Reading	Alder	Basswood	Birch	Cativo
4	-	-	-	-
5	-	0.2	-	-
6	-	0.9	-	1.0
7	0.0	1.8	-	2.3
8	1.6	2.8	-	3.3
9	3.2	4.2	-	4.4
10	4.7	6.0	0.0	5.2
11	6.0	7.4	0.7	6.0
12	7.4	8.3	1.4	6.8
13	8.7	9.0	2.0	7.4
14	9.8	9.6	2.7	7.9
15	10.9	10.2	3.3	8.4
16	11.9	10.7	4.0	8.9
17	12.8	11.1	4.6	9.2
18	13.6	11.5	5.2	9.6
19	14.4	11.9	5.8	10.0
20	15.1	12.2	6.3	10.3
21	15.6	12.6	6.9	10.6
22	16.2	12.9	7.5	10.8
23	16.6	13.1	8.0	11.0
24	17.1	13.4	8.5	11.3
25	17.5	13.6	9.0	11.5
26	17.8	13.9	9.5	11.7
27	18.2	14.1	10.0	11.9
28	18.6	14.3	10.4	12.1
29	18.9	14.5	10.8	12.2
30	19.2	14.7	11.3	12.4
32	19.7	15.0	12.0	12.7
34	20.2	15.3	12.7	13.0
36	20.7	15.6	13.3	13.2
38	21.2	15.8	13.9	13.4
40	21.6	16.1	14.4	13.6
42	22.0	16.3	14.8	13.8
44	22.4	16.5	15.2	13.9
46	22.8	16.7	15.5	14.1
48	23.2	16.9	15.8	14.2
50	23.6	17.0	16.0	14.3

Dial Reading	Cedar, Borneo	Cedar Shingles	Cherry	Cottonwood, Heart
4	-	1.2	-	-
5	-	3.6	-	0.4
6	-	5.2	-	1.6
7	-	6.7	-	3.0
8	-	7.7	0.7	4.1
9	2.0	8.8	2.1	5.4
10	4.8	9.5	3.4	6.4
11	6.4	10.1	4.6	7.2
12	7.8	10.7	5.7	8.1
13	8.8	11.1	6.8	8.8
14	9.7	11.6	7.9	9.6
15	10.4	12.0	8.8	10.3
16	11.0	12.4	9.8	10.8
17	11.6	12.7	10.6	11.3
18	12.0	13.0	11.4	11.8
19	12.6	13.3	12.3	12.2
20	13.0	13.5	12.9	12.6
21	13.3	13.8	13.6	13.0
22	13.6	14.1	14.2	13.3
23	14.0	14.3	14.7	13.6
24	14.3	14.6	15.2	13.9
25	14.6	14.8	15.8	14.2
26	14.9	15.0	16.2	14.4
27	15.2	15.2	16.6	14.7
28	15.4	15.4	17.0	15.0
29	15.7	15.6	17.3	15.2
30	15.9	15.8	17.6	15.4
32	16.3	16.2	18.3	15.8
34	16.7	16.5	18.8	16.2
36	17.1	16.9	19.3	16.4
38	17.4	17.2	19.8	16.8
40	17.8	17.5	20.3	17.1
42	18.1	17.8	20.7	17.3
44	18.3	18.1	21.1	17.6
46	18.6	18.4	21.5	17.8
48	18.8	18.6	21.9	18.0
50	19.1	18.9	22.3	18.2

Dial Reading	Cottonwood, Sap	Elm	Fir, Douglas	Fir, White
4	-	-	-	-
5	-	-	-	-
6	1.2	0.2	-	0.2
7	3.2	1.3	-	2.2
8	4.8	2.3	0.6	3.8
9	6.6	3.3	2.0	5.4
10	8.0	4.3	3.4	6.7
11	9.2	5.1	4.6	7.8
12	10.4	5.9	5.8	8.8
13	11.4	6.6	6.8	9.8
14	12.2	7.2	7.9	10.7
15	13.0	7.8	8.8	11.5
16	13.6	8.5	9.7	12.1
17	14.4	9.0	10.6	12.7
18	14.8	9.6	11.4	13.2
19	15.3	10.1	12.0	13.7
20	15.9	10.6	12.7	14.2
21	16.2	11.1	13.2	14.6
22	16.5	11.6	13.8	15.0
23	16.8	11.9	14.3	15.2
24	17.1	12.3	14.8	15.6
25	17.4	12.6	15.2	16.0
26	17.7	12.9	15.6	16.2
27	18.0	13.2	15.9	16.5
28	18.2	13.4	16.2	16.7
29	18.4	13.6	16.6	17.0
30	18.6	13.9	16.8	17.2
32	19.0	14.2	17.4	17.6
34	19.3	14.6	17.9	18.0
36	19.6	14.9	18.3	18.4
38	19.9	15.1	18.7	18.7
40	20.1	15.4	19.0	19.0
42	20.4	15.6	19.4	19.4
44	20.6	15.8	19.6	19.6
46	20.7	16.0	19.9	19.8
48	20.9	16.2	20.2	20.1
50	21.1	16.4	20.4	20.3

Dial Reading	Gum, Black	Gum, Red	Gum, Sweet	Htrimo
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	0.7	2.4	4.0	-
9	1.8	3.9	5.8	-
10	2.8	5.1	7.2	0.0
11	3.6	6.2	8.2	1.0
12	4.6	7.2	9.1	1.8
13	5.4	8.1	9.9	2.5
14	6.2	8.9	10.6	3.2
15	6.9	9.7	11.2	3.8
16	7.6	10.4	11.7	4.3
17	8.2	11.0	12.2	4.8
18	8.8	11.5	12.6	5.2
19	9.4	12.0	13.0	5.6
20	9.8	12.4	13.4	6.0
21	10.3	12.8	13.8	6.4
22	10.7	13.2	14.1	6.7
23	11.1	13.5	14.4	7.0
24	11.4	13.8	14.6	7.3
25	11.8	14.2	15.0	7.6
26	12.0	14.4	15.2	7.9
27	12.4	14.7	15.4	8.2
28	12.6	15.0	15.7	8.4
29	12.9	15.2	16.0	8.6
30	13.2	15.4	16.2	8.9
32	13.6	15.8	16.5	9.4
34	14.0	16.1	17.0	9.7
36	14.4	16.4	17.2	10.1
38	14.8	16.7	17.8	10.4
40	15.1	17.0	17.9	10.8
42	15.4	17.2	18.2	11.1
44	15.8	17.4	18.4	11.3
46	16.0	17.6	18.6	11.5
48	16.2	17.8	18.9	11.6
50	16.5	18.0	19.1	11.7

Dial Reading	Kahikatea	Larch	Limba	Luan ½”
4	-	-	-	-
5	-	-	-	-
6	-	-	-	1.0
7	-	-	-	2.1
8	-	-	-	3.0
9	-	0.5	1.0	4.0
10	3.2	1.4	2.1	4.7
11	4.5	2.4	3.6	5.3
12	5.5	3.3	4.3	5.8
13	6.2	4.2	5.3	6.4
14	6.8	5.2	6.4	6.9
15	7.4	6.0	7.2	7.3
16	7.9	7.0	8.1	7.7
17	8.4	7.8	9.0	8.1
18	8.8	8.6	9.7	8.6
19	9.2	9.4	10.6	9.0
20	9.6	10.2	11.2	9.3
21	9.8	11.0	11.7	9.6
22	10.1	11.8	12.3	10.0
23	10.4	12.5	12.8	10.2
24	10.6	13.2	13.2	10.5
25	10.9	14.0	13.6	10.8
26	11.1	14.6	14.0	11.1
27	11.3	15.2	14.4	11.3
28	11.5	15.8	14.8	11.5
29	11.7	16.4	15.2	11.7
30	11.9	17.0	15.6	12.0
32	12.2	18.0	16.2	12.3
34	12.5	18.8	16.8	12.6
36	12.8	19.2	17.3	12.9
38	13.0	20.2	18.0	13.1
40	13.2	21.0	18.5	13.4
42	13.4	21.6	19.0	13.6
44	13.6	22.2	19.5	13.9
46	13.8	22.7	20.0	14.1
48	14.0	23.3	20.5	14.2
50	14.2	23.8	21.0	14.3

Dial Reading	Luan 3/16", 3/8"	Mahogany, African	Mahogany	Maple
4	-	-	-	-
5	-	-	-	-
6	-	-	2.3	-
7	-	-	4.7	-
8	0.4	1.2	6.4	0.2
9	1.8	3.0	7.8	1.2
10	3.0	4.8	9.0	2.2
11	4.0	6.2	10.0	3.0
12	4.9	7.4	10.8	3.8
13	5.7	8.8	11.4	4.6
14	6.4	9.8	12.0	5.6
15	7.0	10.8	12.6	6.0
16	7.6	11.6	13.0	6.7
17	8.1	12.4	13.4	7.3
18	8.6	13.0	13.8	7.9
19	9.1	13.6	14.2	8.4
20	9.6	14.2	14.5	8.8
21	10.1	14.7	14.8	9.2
22	10.4	15.1	15.1	9.6
23	10.8	15.4	15.3	9.9
24	11.2	15.6	15.6	10.2
25	11.6	15.9	15.8	10.6
26	11.8	16.2	16.0	10.8
27	12.2	16.4	16.2	11.1
28	12.4	16.6	16.4	11.3
29	12.7	16.8	16.6	11.5
30	13.0	17.0	16.8	11.8
32	13.4	17.3	17.1	12.2
34	14.0	17.6	17.4	12.5
36	14.4	17.9	17.7	12.8
38	14.8	18.2	18.0	13.0
40	15.4	18.4	18.2	13.4
42	15.6	18.7	18.4	13.6
44	15.9	18.9	18.6	13.8
46	16.1	19.2	18.7	14.0
48	16.4	19.4	18.9	14.1
50	16.7	19.6	19.0	14.3

Dial Reading	Matai	Meranti, White	Meranti, Tembaga	Mersawa
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	1.0
9	0.4	-	0.0	2.6
10	1.3	0.4	3.0	4.2
11	2.1	2.0	5.3	5.6
12	2.8	3.6	8.1	7.0
13	3.5	5.0	10.0	8.2
14	4.2	6.5	11.6	9.6
15	4.9	8.0	12.9	10.7
16	5.5	9.2	14.0	11.7
17	6.1	10.3	14.9	12.7
18	6.6	11.3	15.7	13.6
19	7.1	12.5	16.4	14.5
20	7.6	13.4	16.9	15.3
21	8.0	14.3	17.4	16.1
22	8.5	15.2	17.9	16.8
23	8.9	16.0	18.3	17.4
24	9.3	16.6	18.7	18.0
25	9.8	-	-	-
26	10.2	17.9	19.3	18.8
27	10.6	-	-	-
28	11.0	18.9	19.8	19.5
29	11.4	19.3	-	-
30	11.8	19.9	20.3	20.1
32	12.5	20.7	20.8	20.5
34	13.2	21.3	21.2	20.9
36	14.0	22.0	21.5	21.2
38	14.6	22.6	21.9	21.5
40	15.2	23.2	22.3	22.0
42	15.7	23.7	22.6	22.1
44	16.2	24.2	22.9	22.2
46	16.6	24.7	23.1	22.2
48	16.8	25.1	23.4	22.4
50	17.1	25.5	23.7	22.5

Dial Reading	Mengkulang	Oak 1/16”	Oak, Red/White	Obuchie
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	0.0	4.8
8	0.0	-	1.2	6.6
9	1.8	0.7	2.6	8.0
10	3.6	1.7	3.8	9.0
11	5.0	2.7	4.8	9.8
12	6.6	3.7	5.8	10.4
13	7.9	4.7	6.8	11.0
14	9.1	5.6	7.6	11.5
15	10.1	6.5	8.4	12.0
16	11.2	7.4	9.2	12.4
17	12.0	8.2	9.8	12.8
18	12.8	9.1	10.4	13.2
19	13.6	9.9	10.9	13.4
20	14.2	10.6	11.4	13.8
21	14.8	11.3	11.8	14.1
22	15.3	12.0	12.2	14.4
23	15.7	12.6	12.6	14.6
24	16.0	13.1	12.9	14.9
25	-	-	13.2	15.1
26	16.7	14.0	13.5	15.4
27	-	-	13.8	15.6
28	17.3	14.8	14.0	15.8
29	-	-	14.3	16.0
30	17.8	15.6	14.5	16.2
32	18.1	16.1	14.9	16.5
34	18.6	16.6	15.3	16.8
36	19.0	17.1	15.6	17.1
38	19.3	17.5	15.9	17.4
40	19.8	17.9	16.2	17.6
42	20.1	18.2	16.4	17.9
44	20.4	18.6	16.6	18.1
46	20.4	18.9	16.9	18.3
48	20.6	19.2	17.0	18.5
50	20.8	19.5	17.3	18.7

Dial Reading	Okuome	Pecan	Pine	Pine, Southern
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	1.0
8	0.6	-	-	2.2
9	1.6	-	-	3.6
10	2.6	-	-	4.8
11	3.2	1.2	-	5.9
12	3.8	3.2	-	7.0
13	4.4	4.8	-	8.0
14	4.9	5.8	0.2	9.0
15	5.4	6.8	1.1	9.8
16	5.8	7.5	1.9	10.7
17	6.2	8.1	2.7	11.4
18	6.6	8.7	3.5	12.2
19	7.0	9.2	4.2	12.8
20	7.3	9.6	4.8	13.3
21	7.6	10.1	5.5	13.8
22	7.9	10.6	6.0	14.4
23	8.2	11.0	6.6	14.7
24	8.5	11.4	7.1	15.1
25	8.8	11.8	7.6	15.5
26	9.0	12.1	8.0	15.8
27	9.3	12.5	8.4	16.2
28	9.6	12.8	8.8	16.5
29	9.8	13.1	9.1	16.8
30	10.0	13.4	9.5	17.1
32	10.5	14.1	10.1	17.7
34	10.9	14.7	10.7	18.2
36	11.3	15.4	11.2	18.7
38	11.7	15.9	11.6	19.1
40	12.0	16.5	12.2	19.6
42	12.4	17.0	12.6	20.0
44	12.7	17.5	12.9	20.4
46	13.0	18.0	13.1	20.8
48	13.4	18.6	13.6	21.2
50	13.6	19.0	14.0	21.6

Dial Reading	Poplar 1/8”	Polar, Yellow	Rosewood	Saprimo
4	-	-	-	-
5	-	-	-	0.4
6	-	-	-	1.6
7	-	0.6	0.0	2.8
8	-	1.9	0.4	3.9
9	-	3.2	0.8	5.0
10	-	4.4	1.4	6.0
11	0.0	5.4	1.8	6.8
12	1.7	6.4	2.3	7.7
13	3.2	7.4	2.8	8.5
14	4.4	8.2	3.2	9.2
15	5.5	9.0	3.8	9.9
16	6.4	9.6	4.2	10.5
17	7.3	10.3	4.8	11.1
18	8.1	10.9	5.3	11.6
19	9.0	11.4	5.8	12.0
20	9.7	11.9	6.3	12.4
21	10.5	12.4	6.9	12.8
22	11.2	12.7	7.4	13.2
23	11.7	13.0	8.0	13.5
24	12.3	13.4	8.6	13.8
25	12.8	13.7	9.2	14.2
26	13.2	14.0	9.7	14.4
27	13.6	14.2	10.4	14.7
28	14.0	14.4	11.0	15.0
29	14.3	14.7	11.6	15.2
30	14.6	14.9	12.3	15.4
32	15.2	15.3	13.4	15.8
34	15.7	15.6	14.4	16.2
36	16.2	16.0	15.4	16.6
38	16.6	16.2	16.4	17.0
40	17.1	16.6	17.2	17.3
42	17.4	16.8	18.0	17.6
44	17.8	17.0	18.6	17.9
46	18.2	17.2	19.2	18.2
48	18.5	17.4	19.6	18.4
50	18.8	17.6	20.0	18.6

Dial Reading	Spruce	Spruce, Engle Man	Spruce, Sitka	Sycamore
4	-	-	-	0.0
5	-	-	-	1.6
6	-	-	-	2.6
7	1.1	-	-	3.6
8	2.7	0.7	-	4.4
9	4.4	2.1	-	5.4
10	5.8	3.4	-	6.0
11	7.0	4.8	0.4	6.6
12	8.1	6.0	1.1	7.2
13	9.2	7.2	1.8	7.6
14	10.1	8.4	2.5	8.1
15	11.0	9.6	3.3	8.5
16	11.7	10.8	4.0	8.8
17	12.4	11.8	4.8	9.2
18	13.0	12.9	5.7	9.5
19	13.5	14.0	6.6	9.8
20	14.0	14.8	7.4	10.0
21	14.4	15.8	8.3	10.3
22	14.8	16.6	9.3	10.6
23	15.2	17.2	10.3	10.7
24	15.4	17.8	11.4	11.0
25	15.8	18.4	12.7	11.2
26	16.0	18.8	14.0	11.4
27	16.3	19.2	15.4	11.5
28	16.5	19.6	16.7	11.6
29	16.7	19.9	17.7	11.8
30	16.9	20.2	18.4	12.0
32	17.3	20.8	19.9	12.2
34	17.6	21.4	21.0	12.5
36	17.8	21.9	22.1	12.7
38	18.1	22.4	23.1	12.9
40	18.3	22.8	24.0	13.0
42	18.5	23.2	24.9	13.2
44	18.6	23.6	25.8	13.4
46	18.8	24.0	26.6	13.5
48	19.0	24.4	27.4	13.6
50	19.1	24.8	28.2	13.8

Dial Reading	V.G. Redwood	Walnut	Walnut 1/16”	White Ash
4	-	-	-	-
5	-	-	-	-
6	0.0	0.0	-	-
7	2.9	1.0	-	-
8	5.0	1.9	0.6	-
9	7.0	2.8	1.8	-
10	8.6	3.7	2.9	0.6
11	9.9	4.4	4.0	4.0
12	10.0	5.2	5.0	5.5
13	12.0	6.0	6.0	6.8
14	12.8	6.8	7.0	7.8
15	13.6	7.4	8.0	8.7
16	14.4	8.0	8.8	9.5
17	15.0	8.6	9.6	10.2
18	15.6	9.0	10.4	10.9
19	16.1	9.6	11.2	11.6
20	16.5	10.0	11.9	12.1
21	17.0	10.4	12.6	12.7
22	17.4	10.7	13.2	13.2
23	17.6	11.0	13.6	13.8
24	18.0	11.4	14.1	14.2
25	18.2	11.6	14.6	14.7
26	18.6	11.9	14.9	15.1
27	18.8	12.2	15.2	15.6
28	19.0	12.4	15.5	16.0
29	19.2	12.6	15.8	16.4
30	19.4	12.8	16.0	16.8
32	19.8	13.2	16.4	17.5
34	20.0	13.6	16.8	18.2
36	20.3	13.9	17.2	18.8
38	20.6	14.2	17.4	19.4
40	20.8	14.5	17.7	20.0
42	21.0	14.9	18.0	20.5
44	21.3	15.0	18.2	20.9
46	21.4	15.1	18.4	21.4
48	21.6	15.4	18.6	21.8
50	21.8	15.6	18.7	22.2

Thickness Conversion Chart Instructions

Use this chart only for sample thickness less than 1/8". For thickness 1/8" or greater, use the calibration columns in the main section of the book.

Place sample on the Styrofoam backing plate and make test.

Find the Instrument dial reading in the column below marked "INSTRUMENT DIAL READING" and trace horizontally across to the column for the thickness of sample tested. The number listed is the "CONVERTED DIAL READING"

Use the "Converted Dial Reading" with the proper veneer specie column in the main section of this book to find percent moisture.

EXAMPLE: When testing a 1/64" sample of white fir veneer, a dial reading of 24 is found. Entering the thickness conversion chart for this dial reading and tracing across horizontally to the 1/64" sample thickness column, a "Converted Dial Reading" of 30 is found. Using this "Converted Dial Reading" for white fir veneer, a Percent Moisture of 17.2% is found.

Appendix 3
Converted Dial Readings for Sample Thickness

Dial Reading	3/32”	1/16”	1/32”	1/64”
4	-	-	-	-
5	5	6	6	7
6	6	7	7	8
7	8	9	9	10
8	8	9	9	10
9	9	10	10	11
10	10	11	12	13
11	11	12	13	14
12	12	13	14	15
13	13	14	15	17
14	14	15	16	18
15	15	16	17	19
16	16	17	18	20
17	17	18	19	22
18	19	19	21	23
19	20	20	22	24
20	21	21	23	25
21	22	22	24	27
22	23	24	25	28
23	24	25	26	29
24	25	26	27	30
25	26	27	29	32
26	27	28	30	33
27	28	29	31	34
28	29	30	32	35
29	30	31	33	37
30	31	32	34	38
32	33	34	36	40
34	35	36	38	43
36	37	38	41	45
38	39	40	43	48
40	41	43	45	50
42	43	45	48	-
44	45	47	48	-
46	48	49	50	-
48	50	-	-	-
50	-	-	-	-

Appendix 4
Calibration Charts

Dial Reading	% Moisture	% Moisture	% Moisture
	Western Hemlock 1/16”	Western Red/White Cedar 1/16”	Western Pine 1/16”
6	-	-	1.2
7	-	.9	4.3
8	.4	2.6	5.8
9	1.6	4.4	7.2
10	2.5	6.0	8.2
11	3.4	7.4	9.2
12	4.4	8.6	10.0
13	5.3	9.9	11.5
14	6.2	11.0	11.5
15	7.2	12.0	12.2
16	8.0	13.0	12.8
17	8.8	14.0	13.4
18	9.7	14.8	14.0
19	10.6	15.6	14.6
20	11.2	16.2	15.0
21	12.0	17.0	15.6
22	12.8	17.6	16.0
23	13.6	18.2	16.4
24	14.2	18.7	16.9
25	15.0	19.2	17.4
26	15.6	19.6	17.8
27	16.2	20.1	18.2
28	16.8	20.5	18.6
29	17.3	20.8	19.0
30	17.8	20.8	19.0
32	18.6	21.8	20.0
34	19.4	22.3	20.6
36	20.0	22.8	21.3
38	20.5	23.2	21.9
40	21.0	23.6	22.4
42	21.4	24.0	22.9
44	21.8	24.3	23.4
46	22.2	24.6	23.8
48	22.5	24.8	24.2
50	22.8	25.0	24.6

Dial Reading	% Moisture	% Moisture	% Moisture
	Ponderosa Pine .075	**Sugar Pine .075**	**Butternut 1/32”**
8	-	0.5	1.6
9	-	1.7	3.2
10	-	2.8	4.4
11	1.6	3.7	5.3
12	3.0	4.6	6.2
13	4.1	5.5	7.1
14	5.2	6.4	7.9
15	6.2	7.2	8.6
16	7.1	8.1	9.4
17	7.9	8.8	10.0
18	8.8	9.6	10.7
19	9.5	10.4	11.3
20	10.2	11.1	12.0
21	11.0	11.8	12.6
22	11.8	12.6	13.2
23	12.5	13.3	13.8
24	13.2	14.0	14.4
25	14.0	14.8	15.1
26	14.6	15.4	15.6
27	15.3	16.1	16.2
28	16.0	16.9	16.8
29	16.7	17.6	17.3
30	17.4	18.2	17.9
32	18.6	19.6	18.9
34	19.9	21.0	20.0
36	21.1	22.2	21.0
38	22.4	23.5	22.0
40	23.6	24.8	23.0
42	24.8	26.0	24.1
44	25.9	27.3	25.0
46	27.1	-	26.1
48	-	-	27.0
50	-	-	28.0

Dial Reading	% Moisture	% Moisture	% Moisture	% Moisture
	Gum, Tupelo 1/32”	Hackberry 1/32”	Hickory 1/32”	Teak 1/32”
8	-	-	-	-
9	-	1.6	-	-
10	-	3.2	-	1.0
11	1.4	4.4	2.0	-
12	2.5	5.3	3.4	3.4
13	3.6	6.2	4.5	4.4
14	4.4	7.0	5.3	5.2
15	5.3	7.7	6.0	6.0
16	6.0	8.4	6.8	6.6
17	6.6	9.0	7.3	7.3
18	7.2	9.7	7.9	7.9
19	7.8	10.4	8.4	8.5
20	8.4	11.0	8.9	9.0
21	8.9	11.6	9.4	9.6
22	9.4	12.1	9.8	10.1
23	9.9	12.7	10.2	10.6
24	10.4	13.2	10.7	11.2
25	10.9	13.8	11.2	11.7
26	11.4	14.4	11.5	12.2
27	11.9	14.9	12.0	12.6
28	12.4	15.4	12.4	13.2
29	12.8	16.0	12.8	13.6
30	13.3	16.5	13.2	14.1
32	14.2	17.5	13.9	15.0
34	15.0	18.5	14.6	15.9
36	15.9	19.4	15.3	16.8
38	16.7	20.4	16.0	17.6
40	17.6	21.4	16.6	18.5
42	18.4	22.3	17.3	19.2
44	19.1	23.2	18.0	20.1
46	19.8	24.1	18.6	20.8
48	20.6	25.0	19.2	21.6
50	21.3	26.0	19.8	22.5

Notes:

Moisture Register Products manufacture Continuous On-Line Systems and Hand-Held Portable Meters that are designed for optimum performance, essential convenience and complete reliability to accomplish a multitude of applications in a wide range of industries.

Our Continuous On-Line Systems offer Near Infrared and Radio Frequency Sensors to constantly measure your process moisture. These systems assist you in analyzing, recording and controlling moisture on your product line.

Our Hand-Held Portable Moisture Meters offer on the spot measurement as well as flexibility for use on a variety of materials such as:

Moisture Register Products has portable moisture meters for use on a wide variety of materials, some of which are listed below.

LUMBER	**VENEER**
PLASTER WALL	**DRY WALL**
GYPSUM BOARD	**TEXTILES**
NONWOVENS	**PAPER PRODUCTS**
CORK	**AIRCRAFT RADOMES**

Moisture Register Products and AQUA Measure Instrument Company are fully committed in providing products and services at a quality level that continues to improve and that meets our customer's expectations.

www.MoistureRegisterProducts.com