

I. Making Final Adjustments to the Calibration Line.

The secret to getting a good final adjustment is in sampling. If you get representative samples you will get a good calibration.

A) Collecting data – you should run the system long enough to see the %Total Solids change a minimum of 1.5 to 3.0 % Ts. During that time period, you should write down the Microwave value and the value of the sample. You will get a table of numbers like table 1.

Sample Number	Lab	Microwave	Sample Number	Lab	Microwave
1	72.1	73.2	11	73.6	75.1
2	73.5	75.0	12	71.5	72.5
3	72.3	73.4	13	73.7	75.3
4	71.1	72.0	14	71.2	72.1
5	71.1	72.1	15	73.6	75.2
6	72.3	73.4	16	71.6	72.6
7	71.5	72.5	17	72.2	73.3
8	72.6	73.8	18	72.0	73.1
9	72.6	73.9	19	71.1	72.1
10	72.0	73.1	20	72.6	73.8

B) Analyzing the data – you should enter the Lab and Microwave values into any simple statistical program capable of simple Regression Analysis. There will be a Regression line computed by the statistics program

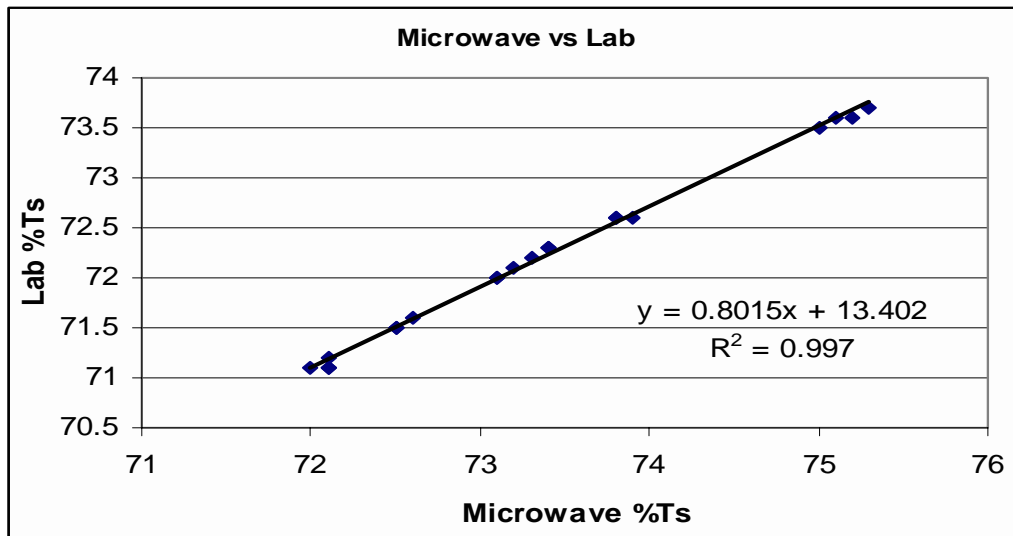


Figure 9 Regression plot for Calibration

Correcting Regression Line: Lab = 13.4 + 0.8015 (HK-2/Microwave)

C. Correcting the slope and offset – you will use the Regression line to correct the slope and offset by the following method:

The Old Values are found in Display 41

Old Slope Value (A1 Old) = -0.23500
Old Offset Value (A0 Old) = 70.0

Display 41
A0=70.0 A1=-0.235
scroll cursor next

Correcting Slope of Regression Line = 0.8015
Correcting Offset of Regression Line = 13.4

New Slope Value (A1 New) =

(A1 Old) x Correcting slope of Regression line (m)

New Offset Value (A0 New) =

(A0 Old) x Correcting slope of Regression line (m) + Correcting offset of Regression line.

A1 New = -0.235 x 0.8015 = -0.1883

A0 New = 70.0 x 0.8015 + 13.4 = 69.5

Display 42
A0=69.5 A1=-0.1883
scroll cursor next

Enter the A1 New and A0 New into display, see display 42.