Application Brief

SII

SII NanoTechnology Inc.
RBM Tsukiji Bldg.
Shintomi 2-15-5, Chuo-ku, Tokyo 104-0041, Japan
URL: http://www.siint.com

SFT NO.17 JUL.2000

SFT3000 Measurement of Sn-Bi Coating

1. Overview

This application brief lists information you should know for measuring a Sn-Bi coating with the SFT3000. Conditions that should be set will vary depending on the type of base.

2. Analysis Conditions

The table below shows conditions for creating calibration curves for each base. Verify by following the description in the operation manual.

	Select method of calculation	Required Changes
Cu system	Use all elements (do not normalize)	Turn NF on
Systems other than Cu	Base elements not used	Turn NF on

3. Analysis Results

In creating a calibration curve, infinite thickness samples are required for Sn, Bi, and the base. In addition we recommend calibration with a known sample using a minimum one point standard sample (One Standard Correction).

4. Known Sample Correction

The following standard samples are available. Select the standard sample that most closely matches the target measurement thickness.

	Thickness	Bi %	Target measurable thickness range
#1	8 um	3	5 to 15 um
#2	13 um	3	7 to 20 um

5. Measurement Dispersion

The following table shows measurement dispersion for each standard sample. Results should be considered as target values at a measurement range of Bi% and thickness of 10 measurement repetitions.

Sample	Collimator	Time	Thickness Range	Bi% Range
#1	0.1 mm	30 sec	0.39	1.18
#2	0.2 mm	30 sec	0.13	0.36
#1	0.1 mm	30 sec	0.38	0.93
#2	0.2 mm	30 sec	0.20	0.23

6. Measurable Range

The measurable range is approximately 3 um or greater when the percent of bismuth is about 3%.