



THE AMERICAN ASSOCIATION FOR
LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

TRACE LABORATORIES, INC.

Hunt Valley, MD

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 9th day of April 2009.

A handwritten signature in black ink, appearing to read "Peter Abney", written over a horizontal line.

President
For the Accreditation Council
Certificate Number 1251.03
Valid to December 31, 2010



For the tests or types of tests to which this accreditation applies,
please refer to the laboratory's Chemical Scope of Accreditation.

SCOPE OF ACCREDITATION TO ISO/IEC 17025: 2005

TRACE LABORATORIES, INC.
5 North Park Drive
Hunt Valley, MD 21030
Mrs. Sarah D. Brammer Phone: 410 584 9099

CHEMICAL

Valid To: December 31, 2010

Certificate Number: 1251.03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following types of tests:

<u>Test</u>	<u>Test Method</u>
Copper Purity	ASTM E53
Corrosion	IPC-TM-650, 2.6.15; IPC-J-STD-004
CTE (using TMA)	IPC-TM-650, 2.4.41 ASTM E381 ASTM D3386 MIL-STD-883, 5011
Density/Specific Gravity	ASTM D792
DSC	IPC-TM-650, 2.4.25 ASTM D3417 ASTM E794 ASTM E831 ASTM E1356
FTIR	ASTM D2702 (Qualitative only) ASTM D3677 (Qualitative only)
Heavy Metals by ICP/OES (As, Ba, Cd, Cr, Hg, Pb, Sb, Se)	ASTM F963 (sections 4.3.5, 8.3); ASTM E 1613; 16 CFR 1303; CPSC- CH-E1001-08
Ion Chromatography	IPC-TM-650, 2.3.28, 2.3.28.1 MIL-STD-883, 5011 DELPHI/DELCO Q-1000, Method 119 DELPHI/DELCO Q-1000, Method 127 IPC-J-STD-004
pH	MIL-STD-883, 5011 ASTM D1293, Method B

<u>Test</u>	<u>Test Method</u>
Porosity - Vapor SEM/EDS (Semi-Quantitative)	IPC-TM-650, 2.3.24.2 Trace Method O-20
Solids Content	ASTM D3529 IPC-TM-650, 2.3.34; IPC-J-STD-004
Solvent Immersion (Resistance to Solvent Chemicals)	IPC-TM-650, 2.3.4 MIL-STD-202, Method 215 MIL-P-55110 MIL-PRF-55110 MIL-PRF-31032 IPC-SM-840 IPC-4101 IPC-TM-650, 2.3.1.1 DELPHI/DELCO Q-1000, Method 214
TGA	MIL-STD-883, 5011 ASTM D3850
Thermal Conductivity	ASTM E1530 ASTM C518
Viscosity	IPC-TM-650, 2.4.34 IPC-TM-650, 2.4.34.4 IPC-TM-650, 2.4.34.1 MIL-STD-883, 5011 ASTM D1084 IPC-J-STD-004
XRF	ASTM B568

On the following products or materials:

Adhesives & Sealants; Cement, Concrete & Related Products; Clay, Ceramics & Related Products; Coatings; Dyes & Inks; Lubricants; Metals & Alloys; Plastic & Rubber Products, Circuit Boards & Circuit Board Products & Components, Aircraft Components, and Automotive Components.

Facility studies performed according to IPC-QL-653A "Certification of Facilities that Inspect/Test Printed Boards, Components and Materials."